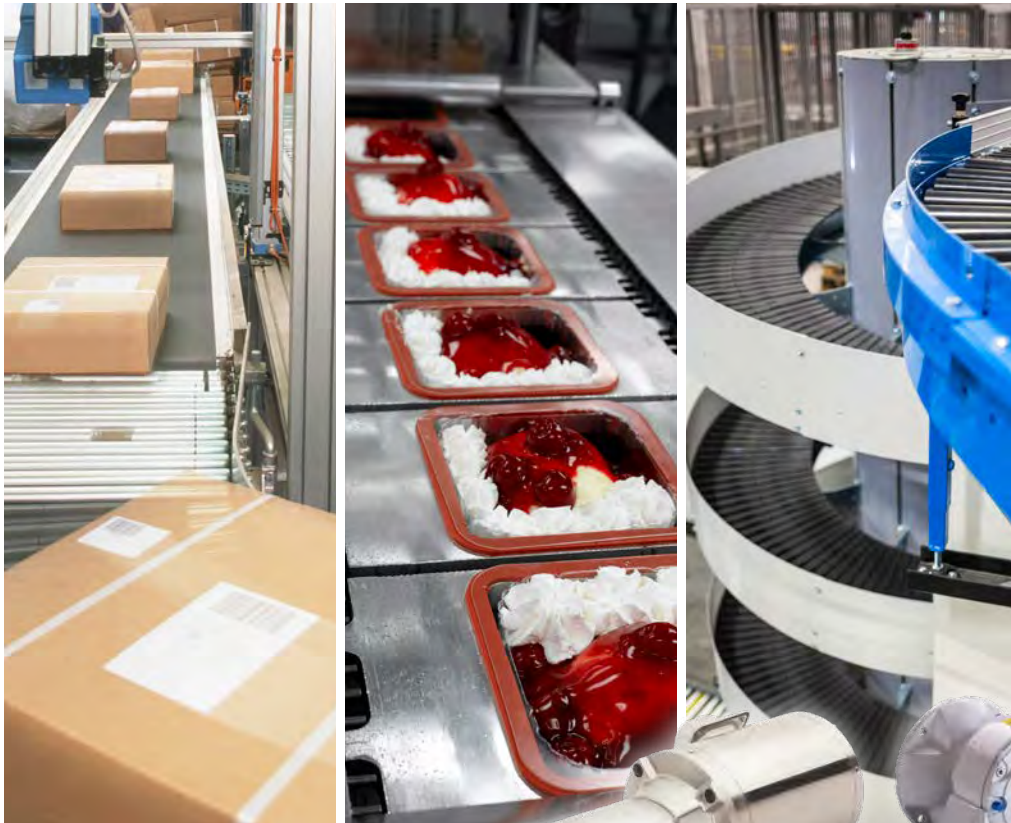


# Worm, Helical and Bevel Gear Drives



# Boston Gear

Boston Gear offers the industry's largest line up of reliable speed reducers, gearing and other quality drivetrain components.

With more than 125 years of frontline experience, Boston Gear is recognized globally as a premier resource for extremely reliable, high-performance power transmission components. Boston Gear offers the industry's most comprehensive product array featuring more than 30,000 standard products combined with the ability to custom engineer unique solutions when required. Product lines include standard enclosed gear drives, custom speed reducers, AC/DC motors, DC drives and Centric brand overload clutches and torque limiters.

VISIT US ON THE WEB AT  
**BOSTONGEAR.COM**



VISIT US ON THE WEB AT **REGALREXNORD.COM**



|                                                                 |                |
|-----------------------------------------------------------------|----------------|
| <b>Introduction</b>                                             | <b>1-5</b>     |
| <b>Product Selection Reference Guide</b>                        | <b>6-9</b>     |
| <b>A 700 Series SINGLE Reduction Worm Gear</b>                  | <b>11-66</b>   |
| • STAINLESS STEEL Worm Gear                                     | 53-63          |
| • STAINLESS STEEL FSP5 Multiplier                               | 64             |
| <b>B 700 Series DOUBLE Reduction Worm Gear</b>                  | <b>67-101</b>  |
| <b>C 700 Series DOUBLE Reduction — Helical Worm</b>             | <b>103-126</b> |
| <b>D 700 Series Accessories</b>                                 | <b>127-132</b> |
| • PosiVent® Option                                              | 129            |
| <b>E 700 Series Operating Instructions</b>                      | <b>133-139</b> |
| • Lifetime Warranty                                             | 140            |
| <b>F 113 and 309 Series SUB-FRACTIONAL Horsepower Worm Gear</b> | <b>141-148</b> |
| <b>G 800B Series — In-Line Helical</b>                          | <b>149-195</b> |
| <b>H 800BR Series — Helical Worm</b>                            | <b>197-238</b> |
| <b>I HM Series DOUBLE C-FACED Helical Multiplier</b>            | <b>239-246</b> |
| <b>J 200 Series – Helical</b>                                   | <b>247-269</b> |
| <b>K 600B Series – Helical</b>                                  | <b>271-303</b> |
| <b>L RA-Right 90 – Spiral Bevel</b>                             | <b>305-308</b> |
| <b>M R/VR100, 200 – Spiral Bevel</b>                            | <b>309-314</b> |
| <b>O FSP5/5A Motor Multiplier</b>                               | <b>315-318</b> |
| <b>P Motors and Adjustable Speed Drives</b>                     | <b>319-330</b> |
| <b>Q Engineering Section</b>                                    | <b>331-342</b> |





## 700 Series Features

- Precision ground worm threads maximize gearbox efficiency. At low ratio's efficiencies of 90 to 95% are common.
- The 700 Series' large oil reservoir provides efficient heat dissipation and lubrication for longer operating life.
- Its multi-position mounting flexibility allows for installation in virtually any position.
- Housings are straddle-milled, top and bottom, for precise alignment of horizontal and vertical bases.
- Internal baffles assure positive, leak-free venting.
- The 700 Series' rugged housing, fabricated of fine-grained, gear-quality cast iron, provides maximum strength for maximum durability, as well as greater precision during worm and gear alignment.
- Boston Gear's 700 Series high-strength bronze worm gear is straddle mounted between heavy-duty tapered roller bearings to increase thrust and overhung load capacities, sizes 713-760.
- Our 700 Series' high strength steel output shaft assures capacity for high torque and overhung loads.
- Pipe plugs allow easy fill, level, and drain in any mounting position
- The 700 Series' super-finished oil-seal diameters on both input and output shafts extend seal life.
- Both 2D and 3D CAD drawings are available from ECatalog/3D Drawings at [www.bostongear.com](http://www.bostongear.com)
- Their availability via Reducer Express™, Boston Gear's innovative guaranteed delivery program, means never having to wait.

## 200 Series Optimount™ Features

- Superior machining affords highly accurate alignment for exceptional performance - an especially important consideration when purchasing a speed reducer for use as an integral part in OEM equipment.
- Standard hollow output shafts allow gear drives to be connected directly to the drive train, increasing overall efficiency.
- Optional shaft and base kits allow conversion of the reducer to a stand-alone gear drive for greater flexibility.
- Washdown units are available in white or stainless steel epoxy coatings, both USDA certified and approved.
- Horizontal and vertical base mounted configurations make the Optimount™ series extremely versatile.
- Their availability via Reducer Express™, Boston Gear's innovative guaranteed delivery program, means never having to wait.
- CAD drawings are available from ECatalog/3D Drawings at [www.bostongear.com](http://www.bostongear.com)





## 800 Series Features

- Because the 800 Series is dimensionally interchangeable with many U.S. and European in-line helical gear drives, it offers maximum flexibility.
- The standard NEMA C-face design will accept any standard NEMA motor, making it exceptionally versatile.
- Ratios up to 70:1 in just two stages means increased efficiency and reduced case size.
- Accessible oil seals simplify routine product maintenance.
- 800 Series drives come pre-filled with synthetic lubrication for your specific mounting position. Sizes 3 and 4 are lubricated for life which promotes trouble-free operation.
- An original Boston Gear design available from our ISO 9001:2015 certified speed reducer facility.
- Washdown duty units in white or stainless steel epoxy coatings make these gear drives ideal for the most severe washdown environments.
- CAD drawings are available from ECatalog/3D Drawings at [www.bostongear.com](http://www.bostongear.com)
- Their availability via Reducer Express™, Boston Gear's innovative guaranteed delivery program, means never having to wait.

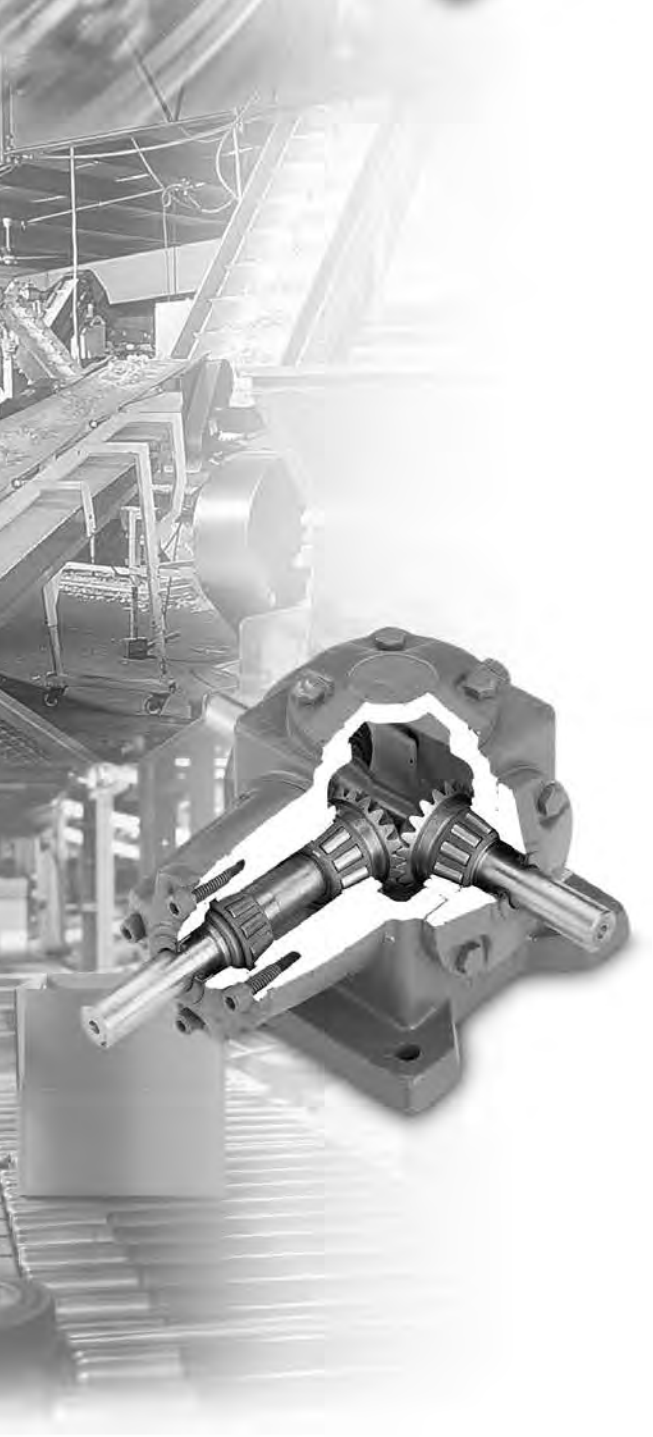
## 600 Series Features

- A selection comprising six common sizes permits use in many different applications.
- All Models are a more compact quill style
- Single, double, and triple reduction models provide a wide array of ratios for increased versatility.
- Base-mount and output-flange-mount models further increases versatility.
- The 600 Series is assembled in Boston Gear's ISO 9001:2015-certified facility to ensure precise quality control.
- Available in White BK and Stainless Steel Bost-Kleen™ options.



## Right 90 Series Features

- Our spiral-bevel gear drives are designed for performance that's reliable, efficient, and as noise-free as possible.
- Input and output shaft flanges simplify mounting and installation.
- These gear drives can be used to either reduce or increase speed.
- Single and double-projecting output shafts for application flexibility.
- Ground alloy steel shafts are mounted on precision ball bearings for smooth operation.
- Pre-lubrication designed to last for the life of the drive improves performance and reduces maintenance.
- Boston Gear's Guaranteed Same Day Shipment Program ensures that you get what you need when you need it.



## R100/R200 Series Features

- These spiral-bevel gear drives are designed for operation that's as reliable as it is quiet.
- Their shafts are heat treated and alloy-steel mounted on heavy-duty, tapered roller bearings for smoother operation.
- Their housings are made of precision-machined cast iron to ensure accurate, permanent alignment of the gears for superior performance.
- Double-bearing input support extends horsepower capacity and increases durability.
- Because the R-VR Series is available through Boston Gear's Guaranteed Same Day Shipment Program, it's the one you can count on to be there when you need it.

## ***Our Quality Policy***

Driven by the voice of the customer and total associate involvement, Boston Gear will strive, through continuous improvement, to provide products and services that meet or exceed customer expectations.

### **www.bostongear.com**

Boston Gear's new, easy to navigate web site offers a variety of tools designed to simplify the selection and ordering process. Powered by advanced Internet XML technology, [www.bostongear.com](http://www.bostongear.com) offers 24 hour access to the industry's premier source for power transmission information:

- **ECatalog/3D Drawings** – Boston Gear's award winning open and enclosed gearing configurator. Based upon your applications requirements, select from over 84,000 parts, view specifications, even download CAD drawings
- **Products** – get the most current product information, features, benefits, or application data
- **Literature** – all of Boston Gear's catalogs, brochures, specification sheets, and installation manuals are available for immediate down loading
- **Distributor Locator** – find your local stocking Boston Gear distributor

Whether you're looking to design a worm gear speed reducer to fit your application, get information on Boston Gear's newest products, or receive the latest news about the company, [www.bostongear.com](http://www.bostongear.com) is your answer.

## **The Second Century of Service**

Started in 1877 as a machine shop making gear cutting machines, Boston Gear has led the growth of the power transmission industry for more than a century. In its early years, Boston Gear introduced the concepts of gear standardization and stock gears – innovations of enormous benefit to power transmission system designers, specifiers and users.

Boston Gear was the early pioneer in enclosed drives, a category it still dominates with dependable, high-performance products like Worm, Helical and Bevel Gear Drives.

Today, Boston Gear provides the widest range of integrated motion control products from one source. The convenience of this single-source capability is yours when you deal with Boston Gear.

## **Engineering Services**

The Boston Gear Engineering Group can satisfy your technical needs through skillful application of standard products or development of custom designs. Creating specials is an important aspect of customer service. It is supported by R & D personnel who use microprocessor-controlled equipment to collect and monitor data on materials and product performance.

Computer-Aided-Design (CAD) systems help Boston Gear engineers create new approaches to broad industrial challenges or specific customer needs. Computer simulation and testing at critical stages ensure that their designs are practical.

## **Manufacturing Excellence**

Boston Gear manufactures more than 50,000 products in-house at our operations in Charlotte, North Carolina. Production is efficiently organized into manufacturing cells under group technology. For example, turning and grinding are combined under the control of a single operator in each cell. This approach encourages a sense of responsibility and pride of workmanship, to gain consistently high-quality output.

Computerized production control provides close supervision over scheduling and resource planning, coupled with the flexibility to fit your requirements smoothly into the master schedule. Other dedicated computer controls within the production department govern the ordering and delivery functions to keep operations lean and efficient.





# Product Selection / Reference Guide

## 700 Series Single Reduction Flanged & Non-Flanged Reducers

Ordering Information – Page 14-15

Lubrication – Pages 15, 20-33

Selection/Rating Information – Page 21

Motor Selection – Pages 340 and 348



**F700 BASIC**  
Page 34



**QC700 BASIC**  
Page 34



**F/QC700B**  
Pages 35



**F/QC700BRB**  
Page 37



**F/QC700C/D**  
Page 38



**HF/HQC 700**  
Page 40



**HF700R/L**  
Page 41



**SF700**  
Page 42



**SF700V/W**  
Page 43



**700 BASIC**  
Page 44



**700B**  
Page 45



**700A**  
Page 46



**700C/D**  
Page 47



**H700**  
Page 49

## 700 Series Double Reduction Flanged & Non-Flanged Reducers

Ordering Information – Pages 68-69

Lubrication – Pages 71, 76-81

Selection/Rating Information – Page 71

Motor Selection – Pages 340 and 348



**H700R/L**  
Page 50



**S700**  
Page 51



**S700V/W**  
Page 52



**SSF/SSH 700**  
Page 53



**FWA/QCWA700 BASIC**  
Page 82



**HFWA/HQCWA700**  
Page 83



**SFWA 700 BASIC**  
Page 85



**FWC/QCWC700 BASIC**  
Page 87



**WA700 BASIC**  
Page 92



**HWA OR HWC**  
Page 92 & 98



**WC700 BASIC**  
Page 97



**SWC700 BASIC**  
Page 100

## 700 Series Accessories And Options Posivent®

Ordering Information – Pages 128-131



## 309 & TW113A Sub-Fractional HP Reducers

Ordering Information – Pages 142-143

Lubrication – Pages 144-148

Motor Selection – Pages 340 and 348



**F309B**  
Page 143



**TW113A**  
Page 148

## Motor Multiplier®



**FSP Series**  
Pages 329-332

## HMF Helical Multiplier Series



**HMF Series**  
Selection Pages 239  
Dimensions - Page 245

## Optimount® F200 Series Hollow Shaft Helical Gear Flanged Input

Selection Pages 250-251



**Basic Model**  
**Hollow Output Shaft**  
Dimensions - Page 259



**F200H Series Horizontal**  
**Base Model Flange Input**  
Dimensions - Page 260



**F200V Series Vertical**  
**Base Model Flange Input**  
Dimensions - Page 260

## Optimount® 200 Series Hollow Shaft Helical Gear Non-Flanged Input

Selection Pages 253-258



**Basic Model**  
**Hollow Output Shaft**  
Dimensions - Pages 261



**200H Series**  
**Horizontal Base Model**  
Dimensions - Page 262



**200V Series**  
**Vertical Base Model**  
Dimensions - Page 262

## Optimount® 200 Series Accessories and Options



**Shaft Kits/Reaction Rods**  
Dimensions - Page 264



**Base Kits**  
**Vertical/Horizontal**  
Dimensions - Page 265

## F800B Series In-Line Helical Gear Flanged Input

Selection Pages 159-175



**Double Reduction**  
**Foot Mounted, Flange Input**  
Dimensions-Page 186



**Triple Reduction**  
**Foot Mounted, Flange Input**  
Dimensions-Page 187



**Double Reduction**  
**Output Flange Mount,**  
**Flange Input**  
Dimensions-Page 188



**Triple Reduction**  
**Output Flange Mount,**  
**Flange Input**  
Dimensions-Page 189

# Product Selection / Reference Guide

---

## 800B Series In-Line Helical Gear Non-Flanged Input

Selection Pages 176-185



**Double Reduction  
Foot Mounted**  
Dimensions-Page 190



**Triple Reduction  
Foot Mounted**  
Dimensions-Page 191



**Double Reduction  
Output Flange Mount**  
Dimensions-Page 192



**Triple Reduction  
Output Flange Mount**  
Dimensions-Page 193

---

## 800B Series Helical Worm Gear Reducer

Selection Pages 207-221



**Double Reduction Flange**  
Dimensions-Page 232



**Triple Reduction Flange**  
Dimensions-Page 233



**Double Reduction  
Non-Flange**  
Dimensions-Page 234



**Triple Reduction  
Non-Flange**  
Dimensions-Page 235

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## F600B Series Helical Gear Flanged Input

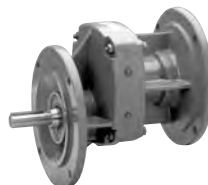
Selection Pages 278-295



**Single Reduction  
Foot Mounted, Flange Input**  
Dimensions - Page 297



**Double & Triple Reduction  
Foot Mounted, Flange Input**  
Dimensions - Page 298



**Single Reduction  
Output Flange Mounted**  
Dimensions - Page 299



**Double & Triple Reduction  
Output Flange Mounted**  
Dimensions - Page 300

---

## 600B Series Helical Gear Non-Flanged Input

Selection Pages 278-295



**Single Reduction  
Foot Mounted**  
Dimensions - Page 301



**Double & Triple Reduction  
Foot Mounted**  
Dimensions - Page 302

## Right-90 Series Spiral Bevel



**Right-90 Series**  
Pages 305-308

---

## R100/R200 VR100/VR200 Series Spiral Bevel



**R100/R200 Series**  
**Horizontal Base Model**  
Dimensions-Page 313



**VR100/VR200 Series**  
**Vertical Base Model**  
Dimensions-Page 313

---

## Motors and Brakes



**NEMA C-Face**  
**AC-Motors**  
Pages 334-339



**NEMA C-Face**  
**DC Motors**  
Pages 340-341



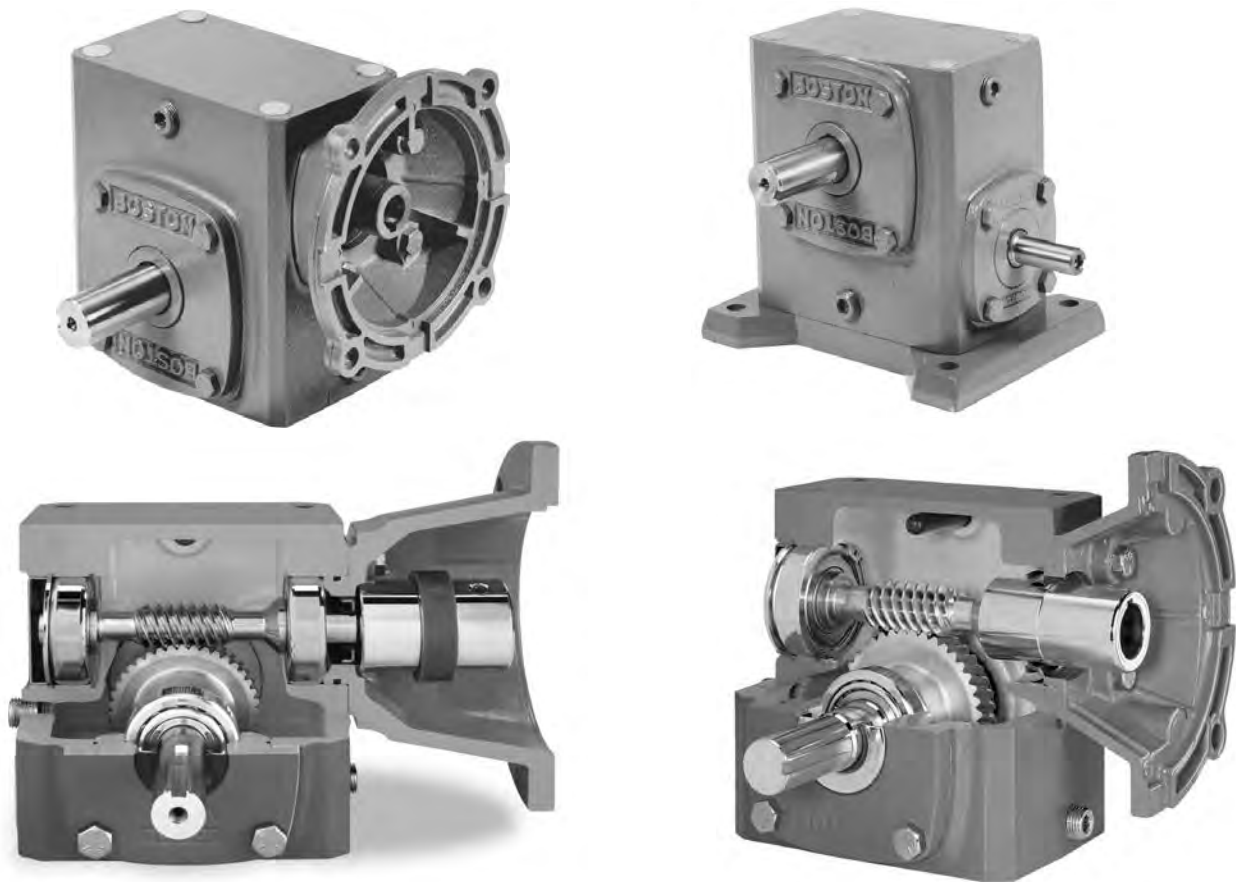
**BostKleen™ / Stainless**  
Pages 342



**Double C-Face AC Brakes**  
**CMBA Series**  
Pages 343







## Section Contents

|                                                   |                    |
|---------------------------------------------------|--------------------|
| <b>Product Reference Guide .....</b>              | <b>12-13</b>       |
| <b>Numbering System / How To Order .....</b>      | <b>14 &amp; 16</b> |
| <b>Selection Procedure.....</b>                   | <b>17</b>          |
| <b>Assemblies and Mounting Positions .....</b>    | <b>18-19</b>       |
| <b>Recommended Lubricants .....</b>               | <b>20</b>          |
| <b>Output RPM Selection Tables .....</b>          | <b>22-29</b>       |
| <b>RATIO &amp; CAPACITY Selection Tables.....</b> | <b>30-33</b>       |
| <b>REDUCER Dimensions.....</b>                    | <b>34-52</b>       |
| <b>STAINLESS Washdown Duty.....</b>               | <b>53-60</b>       |
| <b>Accessories .....</b>                          | <b>128-132</b>     |

# 700 Series Worm Gear Product Reference Guide

A

## Single Reduction Flanged Reducers & Non-Flanged Reducers

Ordering Information – Page 14-15

Selection/Rating Information–Pages 17, 22-33

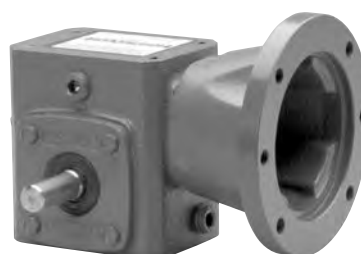
Lubrication – Page 20

Motor Selection – Pages 339 & 348



**F700 BASIC**

Dimensions — Page 34



**QC700 BASIC**

Dimensions — Page 34



**F/QC700B**

Dimensions — Page 35



**F/QC700BRB**

Dimensions — Page 37



**F/QC700C/D**

Dimensions — Page 38



**HF/HQC/SF700**

Dimensions — Page 35



**HF/HQC-R/L + SF700V/W**

Dimensions — Page 37



**700 BASIC**

Dimensions — Page 38

# 700 Series Worm Gear Speed Reducers



**700B**  
Dimensions — Page 45



**700A**  
Dimensions — Page 46



**700C/D**  
Dimensions — Page 47



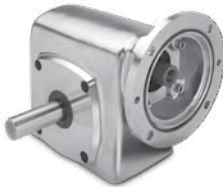
**H/S700**  
Dimensions — Pages 49



**H700R/L**  
Dimensions — Page 50



**S700V/W**  
Dimensions — Page 52



**SSF700**  
Dimensions — Page 59



**SSH700**  
Dimensions — Page 59



**SSH700V/W**  
Dimensions — Page 60



**SSH700WB**  
Dimensions — Page 62



**SSH700WD**  
Dimensions — Page 63



**SSFSP5**  
Dimensions — Page 66

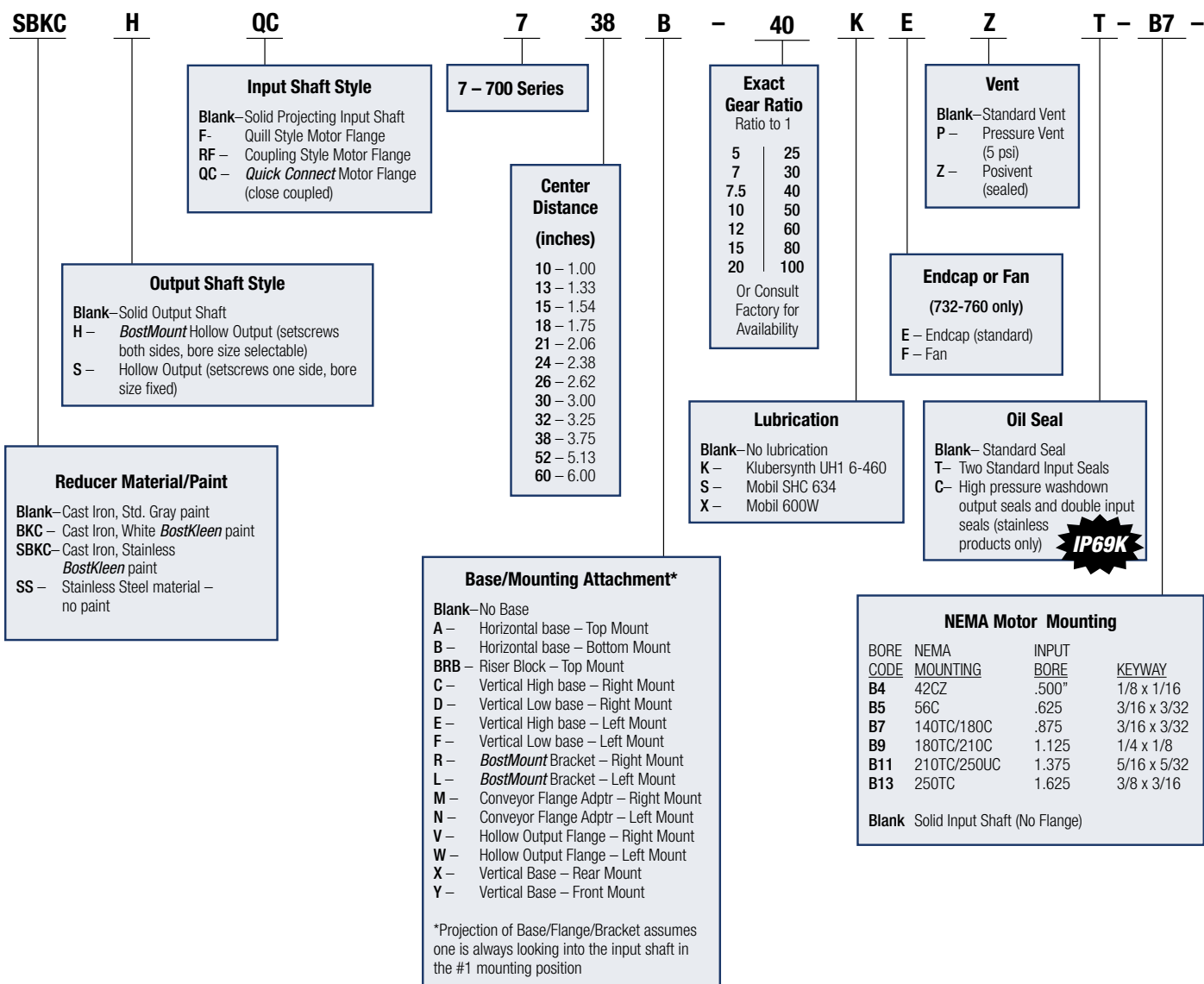
A



# 700 Series Single Reduction

## 700 Series Right Angle Worm Gearbox - Single Reduction

A



# 700 Series Single Reduction

A

HS 1 - P24 -

## BostMount Output Bore Code

For H Series Only Specified in 1/16" increments.

Example: 1 1/4" = P20

|              |               |
|--------------|---------------|
| 5/8 - P10    | 1-1/2 - P24   |
| 3/4 - P12    | 1-5/8 - P26   |
| 7/8 - P14    | 1-11/16 - P27 |
| 15/16 - P15  | 1-3/4 - P28   |
| 1 - P16      | 1-7/8 - P30   |
| 1-1/16 - P17 | 1-15/16 - P31 |
| 1-1/8 - P18  | 2 - P32       |
| 1-3/16 - P19 | 2-1/8 - P34   |
| 1-1/4 - P20  | 2-3/16 - P35  |
| 1-5/16 - P21 | 2-1/4 - P36   |
| 1-3/8 - P22  | 2-7/16 - P39  |
| 1-7/16 - P23 | 3-7/16 - P55  |

See catalog page 128 for availability by center distance.  
Consult Factory for Metric Bores

## Mounting Positions

Blank - No Lubrication Supplied

For Factory Prelubrication Indicate Mounting Position

- 1 - Standard Mounting (Worm over)  
2-6 - Refer to Mounting Positions in Catalog pages 18-19

## Output Shaft

(When facing Input and worm on top)

- G - Carbon Steel Output Projection - Left  
H - Carbon Steel Double Output Projection  
J - Carbon Steel Output Projection - Right  
GS - Stainless Output Projection - Left  
HS - Stainless Double Output Projection  
JS - Stainless Output Projection - Right

## Clutch/Brake

CMBA140TR-6 -

## Common C-Face Brakes Installed

| 115/230 VAC 60hz                             | Ft-Lb | Bore Code |
|----------------------------------------------|-------|-----------|
| CMBA56R-3                                    | 3     | B5        |
| CMBA56R-6                                    | 6     | B5        |
| CMBA140TR-6                                  | 6     | B7        |
| 208-230/460 VAC 60hz                         | Ft-Lb | Bore Code |
| CMBA56U-3                                    | 3     | B5        |
| CMBA56U-6                                    | 6     | B5        |
| CMBA140TU-6                                  | 6     | B7        |
| Other sizes available. See catalog page 343. |       |           |

## Motor

HUTF-IDB - 3

## Motor Conduit box Orientation

(When looking at fan end of motor and gearbox is in mounting position #1)

- 0 - 12 O'clock  
3 - 3 O'clock (standard for G & H shaft assemblies)  
6 - 6 O'clock  
9 - 9 O'clock (standard for J shaft assemblies)

## Common C-Face Motors Installed

| HP Rating | Bore Code | AC Voltage       |                  |
|-----------|-----------|------------------|------------------|
|           |           | 115/208-230-1-60 | 208-230/460-3-60 |
| 1/4 HP    | B5        | DRTFB            | DUTFB            |
| 1/3 HP    | B5        | ERTFB            | EUTFB            |
| 1/2 HP    | B5        | FRTFB            | FUTFB            |
|           | B5        |                  | FUT-SS           |
|           | B5        |                  | FUTF-IDB         |
| 3/4 HP    | B5        | GRTFB            | GUTFB            |
|           | B5        |                  | GUT-SS           |
|           | B5        |                  | GUTF-IDB         |
| 1 HP      | B5        | HRTF-5/8B        | HUTF5/8B         |
|           | B5        |                  | HUT5/8-SS        |
|           | B5        |                  | HUTF5/8-IDB      |
|           | B7        |                  | HUTFB            |
|           | B7        |                  | HUT-SS           |
|           | B7        |                  | HUTF-IDB         |
| 1.5 HP    | B7        |                  | JUTFB            |
|           | B7        |                  | JUTF-SS          |
|           | B7        |                  | JUTF-IDB         |
| 2 HP      | B5        |                  | KUTF5/8B         |
|           | B7        |                  | KUTFB            |
|           | B7        |                  | KUTF-SS          |
|           | B7        |                  | KUTF-IDB         |
| 3 HP      | B9        |                  | LUTFB            |
|           | B9        |                  | LUTF-SS          |
|           | B9        |                  | LUTF-IDB         |
| 5 HP      | B9        |                  | MUTFB            |

Other motors available, please see catalog pages 333 to 342.

- T - Totally enclosed non-ventilated  
TF - Totally enclosed fan cooled  
SS - Stainless  
IDB - Inverter Duty (10:1 turn down constant torque)  
B5 - 56C  
B7 - 140TC  
B9 - 180TC

# Single Reduction Numbering System / How to Order

A

| Style                                                                                                                                                                                                                                | Size                                                                                                                            | Base              | Ratio         | Lubrication | Fan | Vent | Oil Seals | NEMA Mounting | Shaft Assembly | Mounting Position | Output Bore Code |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------|-------------|-----|------|-----------|---------------|----------------|-------------------|------------------|
| <b>Style</b>                                                                                                                                                                                                                         | <b>Designates reducer or flanged reducer, projecting or hollow output shaft.</b>                                                |                   |               |             |     |      |           |               |                |                   |                  |
| C –                                                                                                                                                                                                                                  | Designates cast iron flange and base. (Standard on motor flanges 3 HP (180TC) and up and all bases except horizontal (710-726). |                   |               |             |     |      |           |               |                |                   |                  |
| Blank –                                                                                                                                                                                                                              | Single reduction reducer with projecting input and output shafts. (No code letter required).                                    |                   |               |             |     |      |           |               |                |                   |                  |
| H –                                                                                                                                                                                                                                  | Single reduction reducer with projecting input and <i>BostMount</i> hollow output shaft. (No flange) ( 713-738)                 |                   |               |             |     |      |           |               |                |                   |                  |
| S –                                                                                                                                                                                                                                  | Single reduction reducer with hollow output shaft. (Sizes 718, 721, 726 and 732).                                               |                   |               |             |     |      |           |               |                |                   |                  |
| F –                                                                                                                                                                                                                                  | Single reduction flanged reducer (Quill types) with projecting output shaft.                                                    |                   |               |             |     |      |           |               |                |                   |                  |
| HF–                                                                                                                                                                                                                                  | Single reduction flanged reducer (Quill types) with <i>BostMount</i> hollow output shaft. (Sizes 713-738)                       |                   |               |             |     |      |           |               |                |                   |                  |
| SF–                                                                                                                                                                                                                                  | Single reduction flanged reducer (Quill types) with hollow output shaft. (Sizes 718, 721, 726 and 732)                          |                   |               |             |     |      |           |               |                |                   |                  |
| QC –                                                                                                                                                                                                                                 | Single reduction flanged reducer (Coupling types) with projecting output shaft.                                                 |                   |               |             |     |      |           |               |                |                   |                  |
| HQC–                                                                                                                                                                                                                                 | Single reduction flanged reducer (Coupling types) with <i>BostMount</i> hollow output shaft. (Sizes 713-738)                    |                   |               |             |     |      |           |               |                |                   |                  |
| RF–                                                                                                                                                                                                                                  | Single reduction flanged reducer (Coupling types) with Projecting output shaft. 752 - 760 Size Only                             |                   |               |             |     |      |           |               |                |                   |                  |
| BK–                                                                                                                                                                                                                                  | Designates Cast Iron, White <i>BostKleen</i> paint                                                                              |                   |               |             |     |      |           |               |                |                   |                  |
| SBK–                                                                                                                                                                                                                                 | Designates Cast Iron, Stainless <i>BostKleen</i> paint                                                                          |                   |               |             |     |      |           |               |                |                   |                  |
| SSF–                                                                                                                                                                                                                                 | Stainless Steel Single reduction flanged reducer (Quill types) with projecting output shaft.                                    |                   |               |             |     |      |           |               |                |                   |                  |
| SSHf–                                                                                                                                                                                                                                | Stainless steel single reduction flanged reducer with <i>BostMount</i> hollow output shaft.                                     |                   |               |             |     |      |           |               |                |                   |                  |
| <b>Size</b>                                                                                                                                                                                                                          | <b>Center distance, rounded off.</b>                                                                                            |                   |               |             |     |      |           |               |                |                   |                  |
| 710 - 1.00                                                                                                                                                                                                                           | 721 - 2.06                                                                                                                      | 732 - 3.25        |               |             |     |      |           |               |                |                   |                  |
| 713 - 1.33                                                                                                                                                                                                                           | 724 - 2.38                                                                                                                      | 738 - 3.75        |               |             |     |      |           |               |                |                   |                  |
| 715 - 1.54                                                                                                                                                                                                                           | 726 - 2.62                                                                                                                      | 752 - 5.16        |               |             |     |      |           |               |                |                   |                  |
| 718 - 1.75                                                                                                                                                                                                                           | 730 - 3.00                                                                                                                      | 760 - 6.00        |               |             |     |      |           |               |                |                   |                  |
| <b>Base</b>                                                                                                                                                                                                                          | <b>Base positions relative to output shaft. Shipped separately as Base Kits. See Page 129.</b>                                  |                   |               |             |     |      |           |               |                |                   |                  |
| Blank–                                                                                                                                                                                                                               | No base kit supplied                                                                                                            |                   |               |             |     |      |           |               |                |                   |                  |
| A,B –                                                                                                                                                                                                                                | Horizontal bases                                                                                                                |                   |               |             |     |      |           |               |                |                   |                  |
| C,D,E & F –                                                                                                                                                                                                                          | Vertical Bases*                                                                                                                 |                   |               |             |     |      |           |               |                |                   |                  |
| R/L –                                                                                                                                                                                                                                | BostMount Output Bracket                                                                                                        |                   |               |             |     |      |           |               |                |                   |                  |
| X –                                                                                                                                                                                                                                  | Input Vertical Up                                                                                                               |                   |               |             |     |      |           |               |                |                   |                  |
| Y –                                                                                                                                                                                                                                  | Input Vertical Down                                                                                                             |                   |               |             |     |      |           |               |                |                   |                  |
| BRB –                                                                                                                                                                                                                                | Horizontal base with riser block                                                                                                |                   |               |             |     |      |           |               |                |                   |                  |
| V,W –                                                                                                                                                                                                                                | Flanged bases, available on “S” hollow shaft models only. Factory assembled.                                                    |                   |               |             |     |      |           |               |                |                   |                  |
| M/N –                                                                                                                                                                                                                                | Flanged bases, available on “CFA” hollow shaft models only.                                                                     |                   |               |             |     |      |           |               |                |                   |                  |
| *For E, F vertical base arrangements, see Pages 18, 19.                                                                                                                                                                              |                                                                                                                                 |                   |               |             |     |      |           |               |                |                   |                  |
| <b>Ratio</b>                                                                                                                                                                                                                         | <b>See Selection Tables for available ratios</b>                                                                                |                   |               |             |     |      |           |               |                |                   |                  |
| <b>Lubrication</b>                                                                                                                                                                                                                   | <b>Optional Prelubrication.*</b>                                                                                                |                   |               |             |     |      |           |               |                |                   |                  |
| Blank -                                                                                                                                                                                                                              | No Lubrication supplied.                                                                                                        |                   |               |             |     |      |           |               |                |                   |                  |
| K –                                                                                                                                                                                                                                  | Klubersynth UH1 6-460                                                                                                           |                   |               |             |     |      |           |               |                |                   |                  |
| S –                                                                                                                                                                                                                                  | Mobil SHC634 Synthetic Lubricant                                                                                                |                   |               |             |     |      |           |               |                |                   |                  |
| X –                                                                                                                                                                                                                                  | Mobil 600W                                                                                                                      |                   |               |             |     |      |           |               |                |                   |                  |
| *When specifying optional prelubrication, include mounting position after shaft assembly.                                                                                                                                            |                                                                                                                                 |                   |               |             |     |      |           |               |                |                   |                  |
| <b>Fan</b>                                                                                                                                                                                                                           | <b>Optional fan available on sizes 732-760 single reduction only. Shipped separately as Fan Kit. See Page 130.</b>              |                   |               |             |     |      |           |               |                |                   |                  |
| Blank -                                                                                                                                                                                                                              | No Fan Kit.      E - End Cap (standard)      F - Fan Kit                                                                        |                   |               |             |     |      |           |               |                |                   |                  |
| <b>Vent</b>                                                                                                                                                                                                                          | <b>Pressure Relief.</b>                                                                                                         |                   |               |             |     |      |           |               |                |                   |                  |
| Blank –                                                                                                                                                                                                                              | Standard Vent                                                                                                                   |                   |               |             |     |      |           |               |                |                   |                  |
| P –                                                                                                                                                                                                                                  | 5 PSI Vent                                                                                                                      |                   |               |             |     |      |           |               |                |                   |                  |
| Z –                                                                                                                                                                                                                                  | PosiVent® Pressure Compensating Bladder                                                                                         |                   |               |             |     |      |           |               |                |                   |                  |
| <b>Oil Seals</b>                                                                                                                                                                                                                     |                                                                                                                                 |                   |               |             |     |      |           |               |                |                   |                  |
| Blank –                                                                                                                                                                                                                              | Standard Seal                                                                                                                   |                   |               |             |     |      |           |               |                |                   |                  |
| T –                                                                                                                                                                                                                                  | Double Input Seals. Recommended for mounting positions 2, 3, 4, 6                                                               |                   |               |             |     |      |           |               |                |                   |                  |
| C -                                                                                                                                                                                                                                  | High pressure/wash down configuration for stainless gearboxes. Contains double input seals and axial face seals on the output.  |                   |               |             |     |      |           |               |                |                   |                  |
| <b>NEMA Mounting</b>                                                                                                                                                                                                                 | Designates flange size and input bore diameter. Flanged reducers only. Leave blank for projecting input reducers.               |                   |               |             |     |      |           |               |                |                   |                  |
| <b>Bore Code</b>                                                                                                                                                                                                                     | <b>NEMA Mounting</b>                                                                                                            | <b>Input Bore</b> | <b>Keyway</b> |             |     |      |           |               |                |                   |                  |
| B4                                                                                                                                                                                                                                   | 42CZ                                                                                                                            | .500"             | 1/8 x 1/16    |             |     |      |           |               |                |                   |                  |
| B5                                                                                                                                                                                                                                   | 56C                                                                                                                             | .625              | 3/16 x 3/32   |             |     |      |           |               |                |                   |                  |
| B7                                                                                                                                                                                                                                   | 140TC/180C                                                                                                                      | .875              | 3/16 x 3/32   |             |     |      |           |               |                |                   |                  |
| B9                                                                                                                                                                                                                                   | 180TC/210C                                                                                                                      | 1.125             | 1/4 x 1/8     |             |     |      |           |               |                |                   |                  |
| B11                                                                                                                                                                                                                                  | 210TC/250UC                                                                                                                     | 1.375             | 5/16 x 5/32   |             |     |      |           |               |                |                   |                  |
| B13                                                                                                                                                                                                                                  | 250TC                                                                                                                           | 1.625             | 3/8 x 3/16    |             |     |      |           |               |                |                   |                  |
| See page 98 for Mounting Dimensions.                                                                                                                                                                                                 |                                                                                                                                 |                   |               |             |     |      |           |               |                |                   |                  |
| <b>Shaft Assembly</b>                                                                                                                                                                                                                | Assembly shaft arrangements. See assemblies, pages 18 and 19.                                                                   |                   |               |             |     |      |           |               |                |                   |                  |
| G –                                                                                                                                                                                                                                  | Standard assembly (left)                                                                                                        |                   |               |             |     |      |           |               |                |                   |                  |
| H –                                                                                                                                                                                                                                  | Double output shaft projection                                                                                                  |                   |               |             |     |      |           |               |                |                   |                  |
| J –                                                                                                                                                                                                                                  | Opposite to standard (right)                                                                                                    |                   |               |             |     |      |           |               |                |                   |                  |
| GS –                                                                                                                                                                                                                                 | Stainless standard assembly (left)                                                                                              |                   |               |             |     |      |           |               |                |                   |                  |
| HS –                                                                                                                                                                                                                                 | Stainless double output shaft projection                                                                                        |                   |               |             |     |      |           |               |                |                   |                  |
| JS –                                                                                                                                                                                                                                 | Stainless opposite to standard (right)                                                                                          |                   |               |             |     |      |           |               |                |                   |                  |
| <b>Mounting Position</b>                                                                                                                                                                                                             | Designates the position of oil and vent plugs with respect to mounting.                                                         |                   |               |             |     |      |           |               |                |                   |                  |
| Blank–                                                                                                                                                                                                                               | For units not supplied prelubricated.                                                                                           |                   |               |             |     |      |           |               |                |                   |                  |
| 1-6 –                                                                                                                                                                                                                                | See pages 18 and 19.                                                                                                            |                   |               |             |     |      |           |               |                |                   |                  |
| <b>Output Bore Code</b>                                                                                                                                                                                                              | Specified in 1/16" increments. See page 128 for complete offering. Example 1 1/4" = P20 For H Series only.                      |                   |               |             |     |      |           |               |                |                   |                  |
| <b>How to Order</b>                                                                                                                                                                                                                  |                                                                                                                                 |                   |               |             |     |      |           |               |                |                   |                  |
| When ordering reducers please include code letters for Style, Size, Base (if required), Ratio, Fan (if required), Lubrication (if required), NEMA Mounting (if flanged reducer), Shaft Assembly and Motor (if required).             |                                                                                                                                 |                   |               |             |     |      |           |               |                |                   |                  |
| <b>EXAMPLE:</b> Required size, 721 Quill types flanged reducer, 30:1 ratio, 5/8" input bore, standard assembly, with horizontal base, no lubrication. Motor to be 3/4 HP, 1750 RPM, 230/460 Volt, 3 Phase, 60 cycle, open dripproof. |                                                                                                                                 |                   |               |             |     |      |           |               |                |                   |                  |
| F                                                                                                                                                                                                                                    | 721                                                                                                                             | B                 | –             | 30          | –   | B5   | –         | G             | –              | GUB3              |                  |
| 1. Reducer, Base and Motor Shipped separately:<br>ORDER: Reducer - <b>F721-30-B5-G</b><br>Base Kit - <b>56587</b><br>Motor - <b>GUB3</b>                                                                                             |                                                                                                                                 |                   |               |             |     |      |           |               |                |                   |                  |
| 2. Reducer, Base and Motor assembled:<br>ORDER: <b>F721B-30-B5-G-GUB3</b>                                                                                                                                                            |                                                                                                                                 |                   |               |             |     |      |           |               |                |                   |                  |

# Single Reduction Speed Reducer Selection Procedure

A

To properly select a speed reducer, the following application information must be known:

Input RPM (Ratio)  
Output Torque  
Input Horsepower  
Service Factor

## Non-Motorized Speed Reducer

1. Determine service factor from table below.
2. Determine design horsepower.  
Design Horsepower =  
Application Load x Service Factor
3. Select a speed reducer size that satisfies output RPM, service class and/or output torque requirements.
4. Check overhung load capacity.

## Motorized Speed Reducer

1. Determine service class from table below.
2. Select a reducer size that satisfies output RPM, service class and/or output torque requirements.
3. Check overhung load capacity.

## Service Factor Table

| AGMA Class of Service | Service Factor | Operating Conditions                                |
|-----------------------|----------------|-----------------------------------------------------|
| I                     | 1.00           | Moderate Shock-not more than 15 minutes in 2 hours. |
|                       |                | Uniform Load-not more than 10 hours per day.        |
| II                    | 1.25           | Moderate Shock-not more than 10 hours per day.      |
|                       |                | Uniform Load-more than 10 hours per day.            |
|                       | 1.50           | Heavy Shock-not more than 15 minutes in 2 hours.    |
|                       |                | Moderate Shock-more than 10 hours per day.          |
| III                   | 1.75           | Heavy Shock-not more than 10 hours per day.         |
|                       | 2.00           | Heavy Shock-more than 10 hours per day.             |

For complete AGMA Service Factors and Load Classifications, see Engineering Section, Pages 348 and 349.

## Single Reduction Selection Tables

Capacity Selection Tables on pages 22-29 list catalog numbers and ratios of both reducers and gearmotors. Output RPM, output torque and horsepower are all based on 1750 RPM input. Output torque and horsepower capacities at other input RPM's are listed on pages 30-33. For motorized reducer selection, select the desired output RPM and refer to the gearmotor ratings column. For non-motorized reducers, refer to the reducer gear capacity columns. For the desired HP, torque and service factor that satisfies your requirements, a 700 Series basic reducer number will be indicated. For complete catalog numbering system, descriptions and options, refer to Pages 14-15.

## Overhung Load

If the output shaft of a speed reducer is connected to the driven machine by other than a flexible coupling, an overhung load is imposed on the shaft. This load may be calculated as follows:

$$OHL = \frac{2TK}{D}$$

OHL = Overhung Load (LB.)  
T = Shaft Torque (LB.IN.)  
D = PD of Sprocket, Pinion or Pulley (IN.)  
K = Load Connection Factor

## Load Connection Factor

Sprocket or Timing Belt . . . . . 1.00  
Pinion and Gear Drive . . . . . 1.25  
Pulley and V-Belt Drive. . . . . 1.50  
Pulley and Flat Belt Drive . . . . . 2.50

An overhung load greater than permissible load value may be reduced to an acceptable value by the use of a sprocket, pinion or pulley of a larger PD. Relocation of the load closer to the center of reducer will also increase OHL capacity.

Permissible Overhung Loads and Output Shaft Thrust Loads are listed for each reducer in the Tables on pages 30-33.

## Maximum Input Speeds

|                 |          |
|-----------------|----------|
| 710, 713        | 4500 RPM |
| 715 through 732 | 3600 RPM |
| 738, 752        | 2500 RPM |
| 760             | 1750 RPM |

**NOTE:** Horsepower ratings for 1750 RPM should not be exceeded when operating at higher input speeds.

**Ratings shown reflect maximum gear capacity with Klubersynth UH1 6-460 lubricant. The use of other lubricants may reduce ratings by up to 15%.**

**Ratings are mechanical not thermal.**

# Flanged Reducer Assemblies and Mounting Positions

## Assemblies - F/QC/RF 700 Series

Standard assemblies define output shaft (slow speed) projection with respect to input shaft (high speed) and mounting surface.

Types "A" and "B" are horizontal bases.

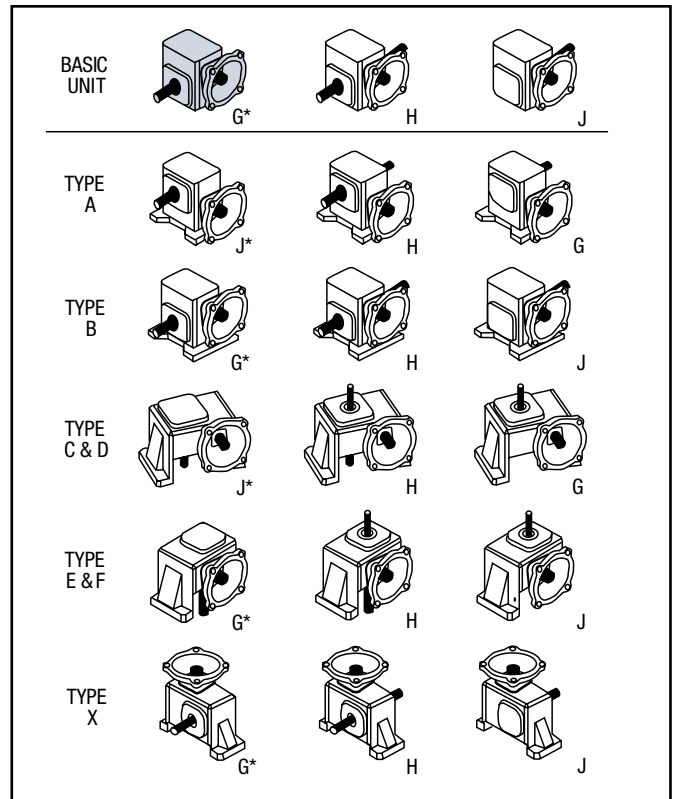
Types "C" and "E" are vertical high bases and Types "D" and "F" are vertical low bases. Types "X" is input vertical up.

Basic models and separate base kits are supplied unless otherwise specified. Assembly "H" is available at a slight additional charge.

**See Pages 14-15 for complete ordering instructions.**

Input may rotate clockwise or counter clockwise.

**FOR OTHER CONFIGURATIONS NOT SHOWN,  
CONTACT FACTORY.**



\* Standard assemblies

## Mounting Positions - F/QC/RF - SF - HF/HQC 700 Series

Standard assemblies are for Position 1. The design permits any types of assembly to be mounted in any position shown by the proper location of the vented oil filler, level and drain plugs, at the time of installation.

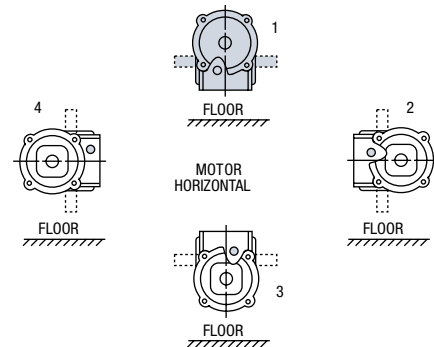
For other than Position 1, order standard and relocate vented oil filler, level and drain plugs.

For production orders Boston Gear will assemble units for the specified mounting position desired at no additional charge.

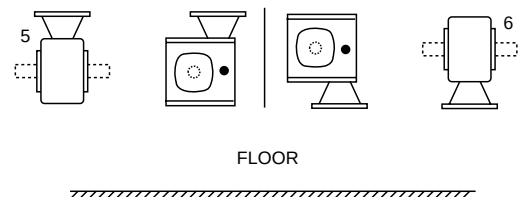
### CAUTION

**When ordering speed reducers pre-lubricated,  
the Mounting Position must be indicated to  
ensure proper oil level and seal configuration.**

### MOTOR HORIZONTAL



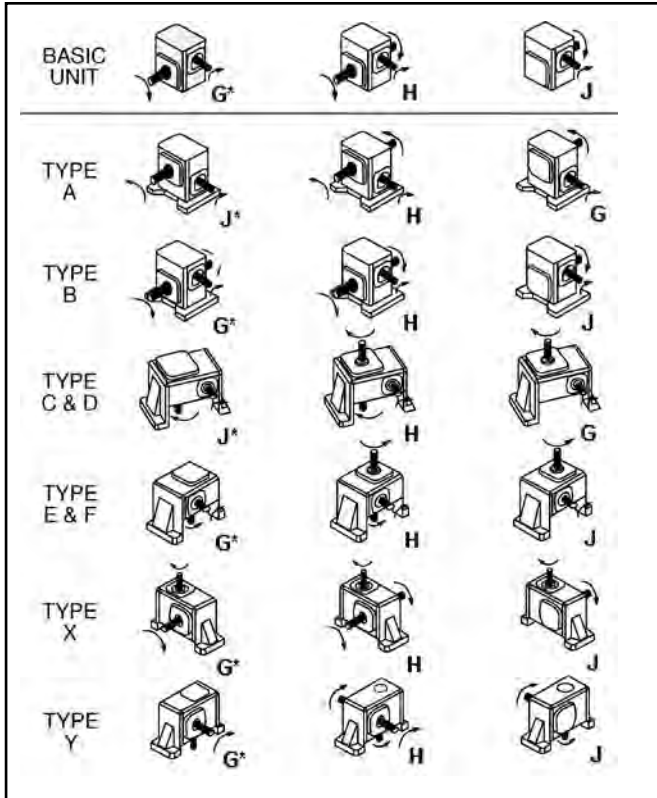
### MOTOR VERTICAL



- Indicates proper oil level.
- When mounting gearboxes in positions 2, 3, 4, 6  
Double Input Seals are required.



# Non-Flanged Reducer Assemblies and Mounting Positions



\* Standard assemblies

## Assemblies - 700 Series

Standard assemblies define output shaft (slow speed) projection with respect to input shaft (high speed) projection and mounting surface.

Types "A" and "B" are horizontal bases.

Types "C" and "E" are vertical high bases and Types "D" and "F" are vertical low bases. Type "X" is input vertical up. Type "Y" is input vertical down.

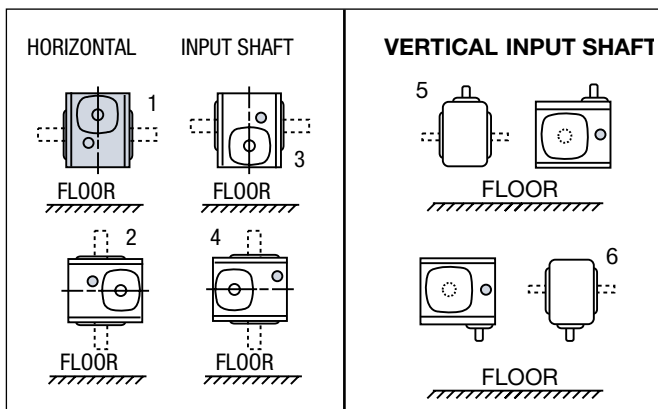
Basic models and separate base kits are supplied unless otherwise specified. Assembly "H" is available at a slight additional charge.

**See Pages 14-15 for complete ordering instructions.**

Input may rotate clockwise or counter clockwise. Arrows indicate relative rotation.

**FOR OTHER CONFIGURATIONS NOT SHOWN, CONTACT FACTORY.**

## TYPICAL MOUNTING POSITIONS (Examples shown for single-reduction models only)



- Indicates proper oil level.
- When mounting gearboxes in positions 2, 3, 4, 6 Double Input Seals are required.

Example: F715-15T-B5-G6

## Mounting Positions - 700 - S700 - H700 Series

Standard assemblies are for Position 1. The design permits any types of assembly to be mounted in any position shown by the proper location of the vented oil filler, level and drain plugs, at the time of installation.

For other than Position 1, order standard and relocate vented oil filler, level and drain plugs.

For production orders Boston Gear will assemble units for the specified mounting position desired at no additional charge.

### CAUTION

**When ordering speed reducers pre-lubricated, the Mounting Position must be indicated to ensure proper oil level and seal configuration.**

# Recommended Lubricants & Capacities

The following table indicates the types and viscosity of lubricants suitable for reducers operating at various temperatures.

Lubrication and maintenance instructions are provided with each speed reducer. These instructions should be followed for best results. It is important that the correct types of oil be used since many oils are not suitable for the lubrication of gears. Various types of gearing require different types of lubricants.

The lubricant must remain free from oxidation and contamination by water or debris, since only a very thin film of oil stands between efficient operation and failure. To assure long service life, the reducer should be periodically drained (preferably while warm) and refilled to the proper level with a recommended gear oil.

Under normal environmental conditions oil changes are suggested after the initial 250 hours of operation and thereafter at regular intervals of 2500 hours or every 6 months.

Synthetic lubricants will allow extended lubrication intervals due to its increased resistance to thermal and oxidation degradation. It is suggested that the initial oil change be made at 1500 hours and, thereafter, at 5000 hour intervals.

During the initial period of operation, higher than normal operating temperatures may be seen. This is due to the initial break-in of the gear set. The temperature of Single Reduction Worm Gear Reducers may reach approximately 225°F.

## Enclosed Worm Gear Reducers

| Recommended Oil (or equivalent)  | Viscosity Range SUS @ 100°F | Oil Type | ISO Viscosity Grade No.+ |
|----------------------------------|-----------------------------|----------|--------------------------|
| Klubersynth* UH1 6-460 Synthetic | 1950/2500                   | PAG      | 460                      |
| Mobil SHC634 Synthetic           | 1950/2500                   | PAO      | 320/460                  |

Ambient temperature range of -20F to +125F is suitable for standard configured products and ratings. Contact technical support for operating conditions beyond this range.

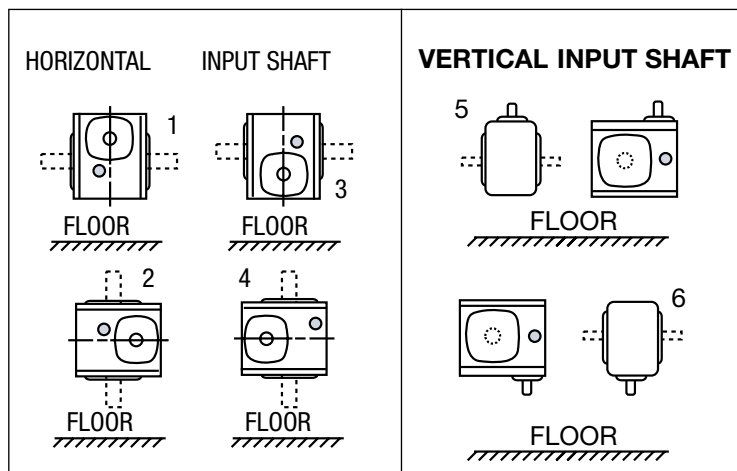
**CAUTION:** Relubricate more frequently if drive is operated in high ambient temperatures or unusually contaminated atmosphere. High loads and operating temperatures will also require the use of frequent lubrication.

- \* Synthetic recommendation is Klubersynth UH1 6-460, other lubrications may reduce efficiency and torque capacity.
- + Other lubricants corresponding to AGMA/ISO numbers are available from all major oil companies. See Page 134 for lubricant interchange.
- \*\* The Klubersynth UH1 6-460 lubricant will perform at temperatures considerably higher than 225°F. However, the factory should always be consulted prior to operating at higher temperatures, as damage may occur to oil seals and other components.

**WARNING: Different oil types should not be mixed. For example Klubersynth UH1 6-460 is not compatible with Mobil SHC634.**

**FOR SINGLE REDUCTION ONLY: REFER TO LUBRICATION AND INSTALLATION INSTRUCTIONS.**

## Oil Levels for Typical Mounting Positions (Examples shown for single-reduction models only)



- Indicates proper oil level.
- When mounting gearboxes in positions 2, 3, 4, 6 Double Input Seals are required.

## Worm Gear Lubricant Available From Boston Gear

| Type      | Klubersynth UH1 6-460 | Mobil SHC634 |
|-----------|-----------------------|--------------|
| Size      | Qt.                   | Qt.          |
| Item Code | 65159                 | 51493        |

Available in quarts only

## Oil capacity in fluid ounces for cast iron units\*

| Unit Size | Positions |       |       |       |       |
|-----------|-----------|-------|-------|-------|-------|
|           | 1         | 2     | 3     | 4     | 5 & 6 |
| 710       | 2.2       | 3.3   | 3.3   | 3.3   | 3.3   |
| 713       | 5.5       | 7.0   | 7.0   | 7.0   | 7.0   |
| 715       | 10.0      | 15.0  | 15.0  | 13.5  | 13.5  |
| 718       | 12.0      | 16.0  | 18.5  | 16.0  | 16.0  |
| 721       | 15.0      | 20.5  | 20.5  | 19.0  | 19.0  |
| 724       | 18.0      | 24.5  | 28.5  | 24.5  | 24.5  |
| 726       | 28.0      | 36.0  | 43.0  | 36.0  | 36.0  |
| 730       | 43.0      | 60.0  | 66.0  | 58.0  | 58.0  |
| 732       | 58.0      | 84.0  | 90.0  | 80.0  | 80.0  |
| 738       | 85.0      | 120.0 | 130.0 | 120.0 | 107.0 |
| 752       | 204.0     | 240.0 | 245.0 | 240.0 | 215.0 |
| 760       | 330.0     | 400.0 | 415.0 | 400.0 | 370.0 |

\*See page 56 for stainless steel units.

## Quick Reference Model Selection Chart

### Class I Service

#### Single Reduction (1.0 Service Factor)

| Reducer Ratio | Output RPM | Input Horsepower @ 1750 rpm |     |     |     |     |     |       |      |      |      |       |      |      |      |
|---------------|------------|-----------------------------|-----|-----|-----|-----|-----|-------|------|------|------|-------|------|------|------|
|               |            | 1/6                         | 1/4 | 1/3 | 1/2 | 3/4 | 1   | 1-1/2 | 2    | 3    | 5    | 7-1/2 | 10   | 15   | 20   |
| 5             | 350        | 710                         | 710 | 710 | 710 | 713 | 715 | 715   | 718  | 724  | 726  | —     | —    | —    | —    |
| 10            | 175        | 710                         | 710 | 710 | 713 | 713 | 715 | 718   | 721  | 724  | 730  | 738   | 738F | 752  | 752F |
| 15            | 117        | 710                         | 710 | 710 | 713 | 715 | 718 | 721   | 724  | 726  | 732F | 738F  | 752  | 752F | 760F |
| 20            | 88         | 710                         | 710 | 713 | 713 | 715 | 718 | 724   | 726  | 730  | 738  | 752   | 752  | 760F | —    |
| 25            | 70         | 713                         | 713 | 713 | 715 | 718 | 721 | 724   | 726  | 732  | —    | —     | —    | —    | —    |
| 30            | 58         | 710                         | 713 | 713 | 715 | 721 | 721 | 726   | 730  | 732F | 752  | 752F  | 760F | —    | —    |
| 40            | 44         | 710                         | 713 | 715 | 718 | 721 | 724 | 730   | 732  | 738F | 752  | 760   | —    | —    | —    |
| 50            | 35         | 710                         | 713 | 713 | 721 | 724 | 726 | 730   | 732F | 752  | 752F | 760F  | —    | —    | —    |
| 60            | 29         | 710                         | 715 | 718 | 721 | 724 | 730 | 732   | 738F | 752  | 752F | —     | —    | —    | —    |

**NOTE:** This chart is meant only as a guide. For actual ratings, see Pages 20-33.

### Class II Service

#### Single Reduction (1.25 Service Factor)

| Reducer Ratio | Output RPM | Input Horsepower @ 1750 rpm |     |     |     |     |     |       |      |      |      |       |     |      |      |
|---------------|------------|-----------------------------|-----|-----|-----|-----|-----|-------|------|------|------|-------|-----|------|------|
|               |            | 1/6                         | 1/4 | 1/3 | 1/2 | 3/4 | 1   | 1-1/2 | 2    | 3    | 5    | 7-1/2 | 10  | 15   | 20   |
| 5             | 350        | 710                         | 710 | 710 | 710 | 713 | 715 | 718   | 718  | 724  | 730  | —     | —   | —    | —    |
| 10            | 175        | 710                         | 710 | 710 | 713 | 715 | 718 | 721   | 724  | 726  | 732  | 738F  | 752 | 752F | 760F |
| 15            | 117        | 710                         | 710 | 713 | 713 | 718 | 721 | 724   | 726  | 730  | 738  | 752   | 752 | 760  | —    |
| 20            | 88         | 710                         | 713 | 713 | 715 | 718 | 721 | 726   | 730  | 732  | 752  | 752F  | 760 | —    | —    |
| 25            | 70         | 713                         | 713 | 713 | 718 | 721 | 724 | 726   | 730  | 732F | —    | —     | —   | —    | —    |
| 30            | 58         | 713                         | 713 | 715 | 718 | 721 | 724 | 730   | 732  | 738F | 752  | 760   | —   | —    | —    |
| 40            | 44         | 713                         | 713 | 715 | 721 | 724 | 726 | 732   | 732F | 752  | 752F | 760F  | —   | —    | —    |
| 50            | 35         | 713                         | 715 | 718 | 721 | 726 | 730 | 732F  | 738F | 752  | 760F | —     | —   | —    | —    |
| 60            | 29         | 713                         | 718 | 721 | 724 | 730 | 732 | 738   | 752  | 752F | —    | —     | —   | —    | —    |

**NOTE:** This chart is meant only as a guide. For actual ratings, see Pages 20-33.

### Class III Service

#### Single Reduction (1.75 Service Factor)

| Reducer Ratio | Output RPM | Input Horsepower @ 1750 rpm |     |     |     |     |      |       |      |      |      |       |      |    |    |
|---------------|------------|-----------------------------|-----|-----|-----|-----|------|-------|------|------|------|-------|------|----|----|
|               |            | 1/6                         | 1/4 | 1/3 | 1/2 | 3/4 | 1    | 1-1/2 | 2    | 3    | 5    | 7-1/2 | 10   | 15 | 20 |
| 5             | 350        | 710                         | 710 | 710 | 713 | 715 | 718  | 721   | 721  | 726  | —    | —     | —    | —  | —  |
| 10            | 175        | 710                         | 710 | 713 | 715 | 718 | 721  | 724   | 726  | 730  | 738F | 752   | 752F | —  | —  |
| 15            | 117        | 710                         | 713 | 713 | 718 | 721 | 724  | 726   | 730  | 732F | 752  | 752F  | 760  | —  | —  |
| 20            | 88         | 713                         | 713 | 715 | 718 | 721 | 724  | 730   | 732  | 738F | 752  | 760   | 760F | —  | —  |
| 25            | 70         | 713                         | 715 | 718 | 721 | 724 | 726  | 730   | 732F | —    | —    | —     | —    | —  | —  |
| 30            | 58         | 713                         | 715 | 718 | 721 | 724 | 730  | 732   | 738  | 752  | 752F | —     | —    | —  | —  |
| 40            | 44         | 713                         | 718 | 721 | 724 | 726 | 732  | 732F  | 752  | 752F | 760F | —     | —    | —  | —  |
| 50            | 35         | 715                         | 718 | 721 | 726 | 730 | 732F | 738F  | 752  | 760  | —    | —     | —    | —  | —  |
| 60            | 29         | 718                         | 721 | 724 | 726 | 732 | 732F | 752   | 752  | —    | —    | —     | —    | —  | —  |

**NOTE:** This chart is meant only as a guide. For actual ratings, see Pages 20-33.

# 700 Series Single Reduction Output RPM & Capacity Selection Tables

## @ 1750 RPM Input

For Ratings at Other Speeds, See Tables on Pages 30-33

A

| Output RPM | Ratio | Non-Flanged Reducers      |       |        |            |        | Flanged Reducers (Gearmotor) |                           |               |                   |    |     |    |    |     |     |      | Bore Code | Motors*<br>230/460<br>VAC<br>3 Phase<br>60 Hz |          |       |
|------------|-------|---------------------------|-------|--------|------------|--------|------------------------------|---------------------------|---------------|-------------------|----|-----|----|----|-----|-----|------|-----------|-----------------------------------------------|----------|-------|
|            |       | Gear Capacity             |       |        | Efficiency | Size   | Ratings                      |                           |               | Available Styles† |    |     |    |    |     |     |      |           |                                               |          |       |
|            |       | Output Torque<br>(lb.in.) | HP    |        |            |        | Motor HP                     | Output Torque<br>(lb.in.) | Service Class | F                 | QC | FAN | HF | SF | HQC | RF  | SS   |           |                                               |          |       |
|            |       |                           | Input | Output |            |        |                              |                           |               |                   |    |     |    |    |     |     |      |           |                                               |          |       |
| 350        | 5     | 113                       | 0.69  | 0.63   | 0.91       | 710-5  | 0.50                         | 82                        | II            |                   |    |     |    |    |     |     |      | B5        | FUTF                                          |          |       |
|            |       |                           |       |        |            |        | 0.33                         | 55                        | III           |                   |    |     |    |    |     |     |      |           |                                               | B4       | AEUTF |
|            |       |                           |       |        |            |        | 0.33                         | 55                        | III           |                   |    |     |    |    |     |     |      |           |                                               | B5       | EUTF  |
|            |       |                           |       |        |            |        | 0.25                         | 41                        | III           |                   |    |     |    |    |     |     |      |           |                                               | B4       | ADUTF |
|            |       |                           |       |        |            |        | 0.25                         | 41                        | III           |                   |    |     |    |    |     |     |      |           |                                               | B5       | DUTF  |
|            |       |                           |       |        |            |        | 0.17                         | 27                        | III           |                   |    |     |    |    |     |     |      |           |                                               | B4       | ACUT  |
|            |       |                           |       |        |            |        | 0.17                         | 27                        | III           |                   |    |     |    |    |     |     |      |           |                                               | B5       | CUTF  |
|            |       | 235                       | 1.39  | 1.31   | 0.94       | 713-5  | 1                            | 169                       | II            |                   |    |     |    |    |     |     |      | B5        | HUTF-5/8                                      |          |       |
|            |       |                           |       |        |            |        | 0.75                         | 127                       | III           |                   |    |     |    |    |     |     |      |           | B5                                            | GUTF     |       |
|            |       |                           |       |        |            |        |                              | 0.50                      | 85            | III               |    |     |    |    |     |     |      |           | B5                                            | FUTF     |       |
|            |       | 291                       | 1.72  | 1.62   | 0.94       | 715-5  | 1.5                          | 254                       | I             |                   |    |     |    |    |     |     |      |           | B7                                            | JUTF     |       |
|            |       |                           |       |        |            |        | 1                            | 169                       | II            |                   |    |     |    |    |     |     |      |           | B5                                            | HUTF-5/8 |       |
|            |       |                           |       |        |            | 0.75   | 127                          | III                       |               |                   |    |     |    |    |     |     | B5   | GUTF      |                                               |          |       |
| 432        | 2.55  | 2.40                      | 0.94  | 718-5  | 2          | 338    | II                           |                           |               |                   |    |     |    |    |     |     | B7   | KUTF      |                                               |          |       |
|            |       |                           |       |        | 1.5        | 254    | II                           |                           |               |                   |    |     |    |    |     |     | B7   | JUTF      |                                               |          |       |
|            |       |                           |       |        |            | 1      | 169                          | III                       |               |                   |    |     |    |    |     |     | B5   | HUTF-5/8  |                                               |          |       |
| 620        | 3.66  | 3.44                      | 0.94  | 721-5  | 2          | 338    | II                           |                           |               |                   |    |     |    |    |     |     | B7   | KUTF      |                                               |          |       |
|            |       |                           |       |        | 1.5        | 254    | III                          |                           |               |                   |    |     |    |    |     |     | B7   | JUTF      |                                               |          |       |
| 838        | 4.95  | 4.65                      | 0.94  | 724-5  | 5          | 838    | I                            |                           |               |                   |    |     |    |    |     |     | B9   | MUTF      |                                               |          |       |
|            |       |                           |       |        | 3          | 508    | II                           |                           |               |                   |    |     |    |    |     |     | B9   | LUTF      |                                               |          |       |
| 1034       | 6.11  | 5.74                      | 0.94  | 726-5  | 5          | 846    | I                            |                           |               |                   |    |     |    |    |     |     | B9   | MUTF      |                                               |          |       |
|            |       |                           |       |        | 3          | 508    | III                          |                           |               |                   |    |     |    |    |     |     | B9   | LUTF      |                                               |          |       |
| 1408       | 8.32  | 7.82                      | 0.94  | 730-5  | 5          | 846    | II                           |                           |               |                   |    |     |    |    |     |     | B9   | MUTF      |                                               |          |       |
|            |       |                           |       |        | 3          | 508    | III                          |                           |               |                   |    |     |    |    |     |     | B9   | LUTF      |                                               |          |       |
| 1716       | 10.05 | 9.54                      | .95   | 732-5  | 10         | 1710   | I                            |                           |               |                   |    |     |    |    |     | B11 | PUTF |           |                                               |          |       |
|            |       |                           |       |        | 5          | 855    | II                           |                           |               |                   |    |     |    |    |     |     | B9   | MUTF      |                                               |          |       |
| 2602       | 15.38 | 14.45                     | .95   | 738-5  | 10         | 1710   | II                           |                           |               |                   |    |     |    |    |     |     | B11  | PUTF      |                                               |          |       |
|            |       |                           |       |        | 5          | 855    | III                          |                           |               |                   |    |     |    |    |     |     | B9   | MUTF      |                                               |          |       |
| 250        | 7     | 644                       | 2.80  | 2.56   | 0.91       | 721-7  | 2                            | 460                       | II            |                   |    |     |    |    |     |     | B7   | KUTF      |                                               |          |       |
|            |       |                           |       |        |            |        | 1.5                          | 345                       | III           |                   |    |     |    |    |     |     | B7   | JUTF      |                                               |          |       |
| 175        | 10    | 138                       | 0.44  | 0.38   | 0.87       | 710-10 | 0.33                         | 104                       | II            |                   |    |     |    |    |     |     |      | B4        | AEUTF                                         |          |       |
|            |       |                           |       |        |            |        | 0.33                         | 104                       | II            |                   |    |     |    |    |     |     |      |           | B5                                            | EUTF     |       |
|            |       |                           |       |        |            |        | 0.25                         | 78                        | III           |                   |    |     |    |    |     |     |      |           | B4                                            | ADUTF    |       |
|            |       |                           |       |        |            |        | 0.25                         | 78                        | III           |                   |    |     |    |    |     |     |      |           | B5                                            | DUTF     |       |
|            |       | 281                       | 0.86  | 0.78   | 0.91       | 713-10 | 0.75                         | 245                       | I             |                   |    |     |    |    |     |     |      | B5        | GUTF                                          |          |       |
|            |       |                           |       |        |            |        | 0.50                         | 163                       | II            |                   |    |     |    |    |     |     |      |           | B5                                            | FUTF     |       |
|            |       |                           |       |        |            |        |                              | 0.33                      | 109           | III               |    |     |    |    |     |     |      | B5        | EUTF                                          |          |       |
|            |       | 397                       | 1.20  | 1.10   | 0.92       | 715-10 | 1                            | 330                       | I             |                   |    |     |    |    |     |     |      | B5        | HUTF-5/8                                      |          |       |
|            |       |                           |       |        |            |        | 0.75                         | 248                       | II            |                   |    |     |    |    |     |     |      |           | B5                                            | GUTF     |       |
|            |       |                           |       |        |            |        |                              | 0.50                      | 165           | III               |    |     |    |    |     |     |      |           | B5                                            | FUTF     |       |
|            |       | 536                       | 1.61  | 1.49   | 0.92       | 718-10 | 1.5                          | 499                       | I             |                   |    |     |    |    |     |     |      |           | B7                                            | JUTF     |       |
|            |       |                           |       |        |            |        | 1                            | 333                       | II            |                   |    |     |    |    |     |     |      |           | B5                                            | HUTF-5/8 |       |
|            |       |                           |       |        |            | 0.75   | 249                          | III                       |               |                   |    |     |    |    |     |     | B5   | GUTF      |                                               |          |       |
| 789        | 2.34  | 2.19                      | 0.94  | 721-10 | 2          | 674    | I                            |                           |               |                   |    |     |    |    |     |     | B7   | KUTF      |                                               |          |       |
|            |       |                           |       |        | 1.5        | 505    | II                           |                           |               |                   |    |     |    |    |     |     | B7   | JUTF      |                                               |          |       |
|            |       |                           |       |        |            | 1      | 337                          | III                       |               |                   |    |     |    |    |     |     | B5   | HUTF-5/8  |                                               |          |       |

\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see Pages 337 and 342.

† Shaded areas denote which styles are available for a given center distance and ratio. See Pages 14-15 for style descriptions.

752 & 760 SIZES AVAILABLE ONLY IN RF-FLANGED COUPLING TYPES.

RATINGS SHOWN REFLECT THE USE OF KLUBERSYNTH UH1 6-460.

# 700 Series Single Reduction Output RPM & Capacity Selection Tables

@ 1750 RPM Input

For Ratings at Other Speeds, See Tables on Pages 30-33

| Output RPM | Ratio | Non-Flanged Reducers   |       |        |            |         | Flanged Reducers (Gearmotor)                 |                                      |                                  |                   |    |     |    |    |     |    |    |                                  | Bore Code                                      | Motors*<br>230/460<br>VAC<br>3 Phase<br>60 Hz |
|------------|-------|------------------------|-------|--------|------------|---------|----------------------------------------------|--------------------------------------|----------------------------------|-------------------|----|-----|----|----|-----|----|----|----------------------------------|------------------------------------------------|-----------------------------------------------|
|            |       | Gear Capacity          |       |        | Efficiency | Size    | Ratings                                      |                                      |                                  | Available Styles† |    |     |    |    |     |    |    |                                  |                                                |                                               |
|            |       | Output Torque (lb.in.) | HP    |        |            |         | Motor HP                                     | Output Torque (lb.in.)               | Service Class                    | F                 | QC | FAN | HF | SF | HOC | RF | SS |                                  |                                                |                                               |
|            |       |                        | Input | Output |            |         |                                              |                                      |                                  |                   |    |     |    |    |     |    |    |                                  |                                                |                                               |
| 175        | 10    | 1069                   | 3.18  | 2.97   | 0.93       | 724-10  | 3<br>2<br>1.5                                | 1008<br>672<br>504                   | I<br>II<br>III                   |                   |    |     |    |    |     |    |    | B9<br>B7<br>B7                   | LUT<br>KUTF<br>JUTF                            |                                               |
|            |       | 1345                   | 3.94  | 3.74   | 0.95       | 726-10  | 3<br>2<br>1.5                                | 1024<br>683<br>512                   | II<br>III<br>III                 |                   |    |     |    |    |     |    |    | B9<br>B7<br>B7                   | LUTF<br>KUTF<br>JUTF                           |                                               |
|            |       | 1787                   | 5.28  | 4.96   | 0.94       | 730-10  | 5<br>3<br>2                                  | 1692<br>1015<br>677                  | I<br>III<br>III                  |                   |    |     |    |    |     |    |    | B9<br>B9<br>B7                   | MUTF<br>LUTF<br>KUTF                           |                                               |
|            |       | 2106                   | 6.22  | 5.85   | 0.94       | 732-10  | 5<br>3                                       | 1692<br>1015                         | II<br>III                        |                   |    |     |    |    |     |    |    | B9<br>B9                         | MUTF<br>LUTF                                   |                                               |
|            |       | 2532                   | 7.75  | 7.03   | 0.91       | 732-10F | 5<br>3                                       | 1633<br>980                          | II<br>III                        |                   |    |     |    |    |     |    |    | B9<br>B9                         | MUTF<br>LUTF                                   |                                               |
|            |       | 2834                   | 8.37  | 7.87   | 0.94       | 738-10  | 7.5<br>5<br>3                                | 2538<br>1692<br>1015                 | I<br>II<br>III                   |                   |    |     |    |    |     |    |    | B11<br>B9<br>B9                  | NUTF<br>MUTF<br>LUTF                           |                                               |
|            |       | 3221                   | 9.96  | 8.94   | 0.90       | 738-10F | 10<br>7.5<br>5                               | 3221<br>2425<br>1616                 | I<br>II<br>III                   |                   |    |     |    |    |     |    |    | B11<br>B11<br>B9                 | PUTF<br>NUTF<br>LUTF                           |                                               |
|            |       | 5860                   | 17.31 | 16.27  | 0.94       | 752-10  | 15<br>10<br>7.5                              | 5076<br>3384<br>2538                 | I<br>II<br>III                   |                   |    |     |    |    |     |    |    | B13<br>B11<br>B11                | RUTF<br>PUTF<br>SUTF                           |                                               |
|            |       | 7182                   | 21.63 | 19.94  | 0.92       | 752-10F | 20<br>15<br>10                               | 6640<br>4979<br>3319                 | I<br>II<br>III                   |                   |    |     |    |    |     |    |    | B13<br>B13<br>B11                | SUTF<br>RUTF<br>PUTF                           |                                               |
|            |       | 8067                   | 23.83 | 22.4   | 0.94       | 760-10  | 20<br>15<br>10                               | 6768<br>5076<br>3384                 | I<br>II<br>III                   |                   |    |     |    |    |     |    |    | B13<br>B13<br>B11                | SUTF<br>RUTF<br>PUTF                           |                                               |
|            |       | 8658                   | 26.13 | 24.04  | 0.92       | 760-10F | 20<br>15                                     | 6624<br>4968                         | II<br>III                        |                   |    |     |    |    |     |    |    | B13<br>B13                       | SUTF<br>RUTF                                   |                                               |
| 145.8      | 12    | 693                    | 1.76  | 1.60   | 0.91       | 721-12  | 1.5<br>1                                     | 590<br>394                           | I<br>III                         |                   |    |     |    |    |     |    |    | B7<br>B7                         | JUTF<br>HUTF                                   |                                               |
|            |       | 984                    | 2.50  | 2.28   | 0.91       | 724-12  | 2<br>1.5<br>1                                | 787<br>590<br>394                    | II<br>II<br>III                  |                   |    |     |    |    |     |    |    | B7<br>B7<br>B5                   | KUTF<br>JUTF<br>HUTF-5/8                       |                                               |
| 116.7      | 15    | 146                    | 0.33  | 0.27   | 0.82       | 710-15  | 0.33<br>0.33<br>0.25<br>0.25<br>0.17<br>0.17 | 146<br>146<br>111<br>111<br>74<br>74 | I<br>I<br>II<br>II<br>III<br>III |                   |    |     |    |    |     |    |    | B4<br>B5<br>B4<br>B5<br>B4<br>B5 | AEUTF<br>EUTF<br>ADUTF<br>DUTF<br>ACUT<br>CUTF |                                               |
|            |       | 305                    | 0.66  | 0.56   | 0.86       | 713-15  | 0.50<br>0.33                                 | 231<br>154                           | II<br>III                        |                   |    |     |    |    |     |    |    | B5<br>B5                         | FUTF<br>EUTF                                   |                                               |
|            |       | 429                    | 0.91  | 0.79   | 0.87       | 715-15  | 0.75<br>0.50<br>0.33                         | 353<br>235<br>157                    | I<br>II<br>III                   |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5                   | GUTF<br>FUTF<br>EUTF                           |                                               |

\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see Pages 337 and 342.

† Shaded areas denote which styles are available for a given center distance and ratio. See Pages 14-15 for style descriptions.

752 & 760 SIZES AVAILABLE ONLY IN RF-FLANGED COUPLING TYPES.

RATINGS SHOWN REFLECT THE USE OF KLUBERSYNTH UH1 6-460.



# 700 Series Single Reduction Output RPM & Capacity Selection Tables

## @ 1750 RPM Input

For Ratings at Other Speeds, See Tables on Pages 30-33

| Output RPM | Ratio | Non-Flanged Reducers      |       |        |            |         | Flanged Reducers (Gearmotor) |                           |                    |                   |    |     |    |    |     |    |    |                      | Bore Code                     | Motors*<br>230/460<br>VAC<br>3 Phase<br>60 Hz |
|------------|-------|---------------------------|-------|--------|------------|---------|------------------------------|---------------------------|--------------------|-------------------|----|-----|----|----|-----|----|----|----------------------|-------------------------------|-----------------------------------------------|
|            |       | Gear Capacity             |       |        | Efficiency | Size    | Ratings                      |                           |                    | Available Styles† |    |     |    |    |     |    |    |                      |                               |                                               |
|            |       | Output Torque<br>(lb.in.) | HP    |        |            |         | Motor HP                     | Output Torque<br>(lb.in.) | Service Class      | F                 | QC | FAN | HF | SF | HQC | RF | SS |                      |                               |                                               |
|            |       |                           | Input | Output |            |         |                              |                           |                    |                   |    |     |    |    |     |    |    |                      |                               |                                               |
| 116.7      | 15    | 552                       | 1.13  | 1.02   | 0.90       | 718-15  | 1<br>0.75<br>0.50            | 489<br>367<br>244         | I<br>II<br>III     |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5       | HUTF-5/8<br>GUTF<br>FUTF      |                                               |
|            |       | 841                       | 1.72  | 1.56   | 0.90       | 721-15  | 1.5<br>1<br>0.75             | 733<br>489<br>367         | I<br>II<br>III     |                   |    |     |    |    |     |    |    | B7<br>B7<br>B5       | JUTF<br>HUTF<br>GUTF          |                                               |
|            |       | 1159                      | 2.34  | 2.15   | 0.92       | 724-15  | 2<br>1.5<br>1                | 990<br>743<br>495         | I<br>II<br>III     |                   |    |     |    |    |     |    |    | B7<br>B7<br>B7       | KUTF<br>JUTF<br>HUTF          |                                               |
|            |       | 1466                      | 2.95  | 2.71   | 0.92       | 726-15  | 3<br>2<br>1.5                | 1466<br>994<br>745        | I<br>II<br>III     |                   |    |     |    |    |     |    |    | B9<br>B7<br>B7       | LUTF<br>KUTF<br>JUTF          |                                               |
|            |       | 1969                      | 3.97  | 3.64   | 0.92       | 730-15  | 3<br>2                       | 1487<br>991               | II<br>III          |                   |    |     |    |    |     |    |    | B9<br>B7             | LUTF<br>KUTF                  |                                               |
|            |       | 2344                      | 4.65  | 4.34   | 0.93       | 732-15  | 3<br>2                       | 1511<br>1008              | II<br>III          |                   |    |     |    |    |     |    |    | B9<br>B7             | LUTF<br>KUTF                  |                                               |
|            |       | 2782                      | 5.80  | 5.15   | 0.89       | 732-15F | 5<br>3                       | 2519<br>1511              | I<br>III           |                   |    |     |    |    |     |    |    | B9<br>B9             | MUTF<br>LUTF                  |                                               |
|            |       | 3155                      | 6.28  | 5.84   | 0.93       | 738-15  | 5<br>3                       | 2511<br>1507              | II<br>III          |                   |    |     |    |    |     |    |    | B9<br>B9             | MUTF<br>LUTF                  |                                               |
|            |       | 3543                      | 7.47  | 6.56   | 0.88       | 738-15F | 7.5<br>5<br>3                | 3556<br>2371<br>1422      | I<br>II<br>III     |                   |    |     |    |    |     |    |    | B11<br>B9<br>B9      | NUTF<br>MUTF<br>LUTF          |                                               |
|            |       | 6618                      | 13.06 | 12.25  | 0.94       | 752-15  | 10<br>7.5<br>5               | 5065<br>3799<br>2533      | II<br>II<br>III    |                   |    |     |    |    |     |    |    | B11<br>B11<br>B9     | PUTF<br>NUTF<br>MUTF          |                                               |
|            |       | 7829                      | 16.32 | 14.49  | 0.89       | 752-15F | 15<br>10<br>7.5              | 7193<br>4795<br>3596      | I<br>II<br>III     |                   |    |     |    |    |     |    |    | B13<br>B11<br>B11    | RUTF<br>PUTF<br>NUTF          |                                               |
|            |       | 9055                      | 17.87 | 16.76  | 0.94       | 760-15  | 15<br>10                     | 7598<br>5065              | I<br>III           |                   |    |     |    |    |     |    |    | B13<br>B11           | RUTF<br>PUTF                  |                                               |
|            |       | 10712                     | 22.33 | 19.83  | 0.89       | 760-15F | 20<br>15<br>10               | 9590<br>7193<br>4795      | I<br>II<br>III     |                   |    |     |    |    |     |    |    | B13<br>B13<br>B11    | SUTF<br>RUTF<br>PUTF          |                                               |
| 87.5       | 20    | 149                       | 0.27  | 0.21   | 0.77       | 710-20  | 0.25<br>0.25<br>0.17<br>0.17 | 138<br>138<br>92<br>92    | I<br>I<br>II<br>II |                   |    |     |    |    |     |    |    | B4<br>B5<br>B4<br>B5 | ADUTF<br>DUTF<br>ACUT<br>CUTF |                                               |
|            |       | 308                       | 0.52  | 0.43   | 0.82       | 713-20  | 0.50<br>0.33<br>0.25         | 296<br>197<br>148         | I<br>II<br>III     |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5       | FUTF<br>EUTF<br>DUTF          |                                               |
|            |       | 435                       | 0.72  | 0.60   | 0.84       | 715-20  | 0.75<br>0.50<br>0.33         | 435<br>302<br>201         | I<br>II<br>III     |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5       | GUTF<br>FUTF<br>EUTF          |                                               |
|            |       | 590                       | 0.97  | 0.82   | 0.84       | 718-20  | 1<br>0.75<br>0.50            | 590<br>456<br>304         | I<br>II<br>III     |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5       | HUTF-5/8<br>GUTF<br>FUTF      |                                               |

\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see Pages 337 and 342.

† Shaded areas denote which styles are available for a given center distance and ratio. See Pages 14-15 for style descriptions.

752 & 760 SIZES AVAILABLE ONLY IN RF-FLANGED COUPLING TYPES.

RATINGS SHOWN REFLECT THE USE OF KLUBERSYNTH UH1 6-460.

# 700 Series Single Reduction Output RPM & Capacity Selection Tables

@ 1750 RPM Input

For Ratings at Other Speeds, See Tables on Pages 30-33

| Output RPM | Ratio | Non-Flanged Reducers      |       |        |            |         | Flanged Reducers (Gearmotor) |                           |                 |                   |    |     |    |    |     |    |    |                  | Bore Code                | Motors*<br>230/460<br>VAC<br>3 Phase<br>60 Hz |
|------------|-------|---------------------------|-------|--------|------------|---------|------------------------------|---------------------------|-----------------|-------------------|----|-----|----|----|-----|----|----|------------------|--------------------------|-----------------------------------------------|
|            |       | Gear Capacity             |       |        | Efficiency | Size    | Ratings                      |                           |                 | Available Styles† |    |     |    |    |     |    |    |                  |                          |                                               |
|            |       | Output Torque<br>(lb.in.) | HP    |        |            |         | Motor HP                     | Output Torque<br>(lb.in.) | Service Class   | F                 | QC | FAN | HF | SF | HQC | RF | SS |                  |                          |                                               |
|            |       |                           | Input | Output |            |         |                              |                           |                 |                   |    |     |    |    |     |    |    |                  |                          |                                               |
| 87.5       | 20    | 892                       | 1.40  | 1.24   | 0.88       | 721-20  | 1<br>0.75                    | 637<br>478                | II<br>III       |                   |    |     |    |    |     |    |    | B5<br>B5         | HUTF-5/8<br>GUTF         |                                               |
|            |       | 1233                      | 1.95  | 1.71   | 0.88       | 724-20  | 2<br>1.5<br>1                | 1233<br>948<br>632        | I<br>II<br>III  |                   |    |     |    |    |     |    |    | B7<br>B7<br>B5   | KUTF<br>JUTF<br>HUTF-5/8 |                                               |
|            |       | 1483                      | 2.34  | 2.06   | 0.88       | 726-20  | 2<br>1.5<br>1                | 1267<br>950<br>634        | I<br>II<br>III  |                   |    |     |    |    |     |    |    | B7<br>B7<br>B5   | KUTF<br>JUTF<br>HUTF-5/8 |                                               |
|            |       | 2024                      | 3.14  | 2.81   | 0.89       | 730-20  | 3<br>2<br>1.5                | 1933<br>1289<br>967       | I<br>II<br>III  |                   |    |     |    |    |     |    |    | B9<br>B7<br>B7   | LUTF<br>KUTF<br>JUTF     |                                               |
|            |       | 2413                      | 3.71  | 3.35   | 0.90       | 732-20  | 3<br>2                       | 1950<br>1300              | II<br>III       |                   |    |     |    |    |     |    |    | B9<br>B7         | LUTF<br>KUTF             |                                               |
|            |       | 2858                      | 4.63  | 3.97   | 0.86       | 732-20F | 3<br>2                       | 1851<br>1234              | II<br>III       |                   |    |     |    |    |     |    |    | B9<br>B7         | LUTF<br>KUTF             |                                               |
|            |       | 3285                      | 5.00  | 4.56   | 0.91       | 738-20  | 5<br>3<br>2                  | 3283<br>1970<br>1313      | I<br>II<br>III  |                   |    |     |    |    |     |    |    | B9<br>B9<br>B7   | MUTF<br>LUTF<br>KUTF     |                                               |
|            |       | 3707                      | 5.95  | 5.15   | 0.86       | 738-20F | 5<br>3                       | 3114<br>1868              | I<br>III        |                   |    |     |    |    |     |    |    | B9<br>B9         | MUTF<br>LUTF             |                                               |
|            |       | 6833                      | 10.19 | 9.49   | 0.93       | 752-20  | 10<br>7.5<br>5               | 6703<br>5027<br>3352      | I<br>II<br>III  |                   |    |     |    |    |     |    |    | B11<br>B11<br>B9 | PUTF<br>NUTF<br>MUTF     |                                               |
|            |       | 8075                      | 12.74 | 11.21  | 0.88       | 752-20F | 10<br>7.5<br>5               | 6336<br>4752<br>3168      | II<br>II<br>III |                   |    |     |    |    |     |    |    | B11<br>B11<br>B9 | PUTF<br>NUTF<br>MUTF     |                                               |
|            |       | 9412                      | 14.02 | 13.07  | 0.93       | 760-20  | 10<br>7.5                    | 6710<br>5033              | II<br>III       |                   |    |     |    |    |     |    |    | B11<br>B11       | PUTF<br>NUTF             |                                               |
|            |       | 11080                     | 17.52 | 15.38  | 0.88       | 760-20F | 15<br>10                     | 9482<br>6322              | I<br>III        |                   |    |     |    |    |     |    |    | B13<br>B11       | RUTF<br>PUTF             |                                               |
| 70         | 25    | 307                       | 0.43  | 0.34   | 0.79       | 713-25  | 0.33<br>0.25<br>0.17         | 238<br>178<br>119         | II<br>II<br>III |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5   | EUTF<br>DUTF<br>CUTF     |                                               |
|            |       | 437                       | 0.60  | 0.49   | 0.81       | 715-25  | 0.50<br>0.33<br>0.25         | 364<br>243<br>182         | I<br>II<br>III  |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5   | FUTF<br>EUTF<br>DUTF     |                                               |
|            |       | 574                       | 0.76  | 0.64   | 0.84       | 718-25  | 0.75<br>0.50<br>0.33         | 566<br>378<br>252         | I<br>II<br>III  |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5   | GUTF<br>FUTF<br>EUTF     |                                               |
|            |       | 875                       | 1.16  | 0.97   | 0.84       | 721-25  | 1<br>0.75<br>0.50            | 754<br>566<br>377         | I<br>II<br>III  |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF |                                               |
|            |       | 1199                      | 1.55  | 1.33   | 0.86       | 724-25  | 1.5<br>1<br>0.75             | 1160<br>773<br>580        | I<br>II<br>III  |                   |    |     |    |    |     |    |    | B7<br>B5<br>B5   | JUTF<br>HUTF-5/8<br>GUTF |                                               |
|            |       | 1514                      | 1.94  | 1.68   | 0.87       | 726-25  | 2<br>1.5<br>1                | 1514<br>1170<br>780       | I<br>II<br>III  |                   |    |     |    |    |     |    |    | B7<br>B7<br>B7   | KUTF<br>JUTF<br>HUTF-5/8 |                                               |

\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see Pages 337 and 342.

† Shaded areas denote which styles are available for a given center distance and ratio. See Pages 14-15 for style descriptions.

752 & 760 SIZES AVAILABLE ONLY IN RF-FLANGED COUPLING TYPES.

RATINGS SHOWN REFLECT THE USE OF KLUBERSYNTH UH1 6-460.

# 700 Series Single Reduction Output RPM & Capacity Selection Tables

## @ 1750 RPM Input

For Ratings at Other Speeds, See Tables on Pages 30-33

A

| Output RPM | Ratio | Non-Flanged Reducers      |       |        |            |         | Flanged Reducers (Gearmotor) |                           |                  |                   |    |     |    |    |     |    |    |                  | Bore Code                | Motors*<br>230/460<br>VAC<br>3 Phase<br>60 Hz |
|------------|-------|---------------------------|-------|--------|------------|---------|------------------------------|---------------------------|------------------|-------------------|----|-----|----|----|-----|----|----|------------------|--------------------------|-----------------------------------------------|
|            |       | Gear Capacity             |       |        | Efficiency | Size    | Ratings                      |                           |                  | Available Styles† |    |     |    |    |     |    |    |                  |                          |                                               |
|            |       | Output Torque<br>(lb.in.) | HP    |        |            |         | Motor HP                     | Output Torque<br>(lb.in.) | Service Class    | F                 | QC | FAN | HF | SF | HQC | RF | SS |                  |                          |                                               |
|            |       |                           | Input | Output |            |         |                              |                           |                  |                   |    |     |    |    |     |    |    |                  |                          |                                               |
| 70         | 25    | 2051                      | 2.61  | 2.28   | 0.87       | 730-25  | 2<br>1.5                     | 1571<br>1179              | II<br>III        |                   |    |     |    |    |     |    |    | B7<br>B7         | KUTF<br>JUTF             |                                               |
|            |       | 2443                      | 3.08  | 2.71   | 0.88       | 732-25  | 3<br>2<br>1.5                | 2379<br>1586<br>1189      | I<br>II<br>III   |                   |    |     |    |    |     |    |    | B9<br>B7<br>B7   | LUTF<br>KUTF<br>JUTF     |                                               |
|            |       | 2891                      | 3.85  | 3.21   | 0.84       | 732-25F | 3<br>2                       | 2252<br>1501              | II<br>III        |                   |    |     |    |    |     |    |    | B9<br>B7         | LUTF<br>KUTF             |                                               |
| 58.3       | 30    | 150                       | 0.20  | 0.14   | 0.69       | 710-30  | 0.17<br>0.17                 | 125<br>125                | I<br>I           |                   |    |     |    |    |     |    |    | B4<br>B5         | ACUT<br>CUTF             |                                               |
|            |       | 311                       | 0.39  | 0.29   | 0.74       | 713-30  | 0.33<br>0.25<br>0.17         | 265<br>199<br>133         | I<br>II<br>III   |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5   | EUTF<br>DUTF<br>CUTF     |                                               |
|            |       | 445                       | 0.54  | 0.41   | 0.76       | 715-30  | 0.50<br>0.33<br>0.25         | 411<br>274<br>206         | I<br>II<br>III   |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5   | FUTF<br>EUTF<br>DUTF     |                                               |
|            |       | 573                       | 0.65  | 0.53   | 0.82       | 718-30  | 0.50<br>0.33<br>0.25         | 441<br>294<br>220         | II<br>III<br>III |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5   | FUTF<br>EUTF<br>DUTF     |                                               |
|            |       | 871                       | 0.99  | 0.81   | 0.81       | 721-30  | 1<br>0.75<br>0.50            | 871<br>659<br>440         | I<br>II<br>III   |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF |                                               |
|            |       | 1200                      | 1.33  | 1.11   | 0.83       | 724-30  | 1<br>0.75                    | 902<br>676                | II<br>III        |                   |    |     |    |    |     |    |    | B5<br>B5         | HUTF-5/8<br>GUTF         |                                               |
|            |       | 1521                      | 1.68  | 1.41   | 0.84       | 726-30  | 1.5<br>1<br>0.75             | 1358<br>905<br>679        | I<br>II<br>III   |                   |    |     |    |    |     |    |    | B7<br>B5<br>B5   | JUTF<br>HUTF-5/8<br>GUTF |                                               |
|            |       | 2045                      | 2.27  | 1.89   | 0.83       | 730-30  | 2<br>1.5<br>1                | 1801<br>1351<br>901       | I<br>II<br>III   |                   |    |     |    |    |     |    |    | B7<br>B7<br>B5   | KUTF<br>JUTF<br>HUTF-5/8 |                                               |
|            |       | 2456                      | 2.64  | 2.27   | 0.86       | 732-30  | 2<br>1.5                     | 1860<br>1395              | II<br>III        |                   |    |     |    |    |     |    |    | B7<br>B7         | KUTF<br>JUTF             |                                               |
|            |       | 2902                      | 3.30  | 2.69   | 0.81       | 732-30F | 3<br>2<br>1.5                | 2637<br>1758<br>1319      | I<br>II<br>III   |                   |    |     |    |    |     |    |    | B9<br>B7<br>B7   | LUTF<br>KUTF<br>JUTF     |                                               |
|            |       | 3354                      | 3.56  | 3.10   | 0.87       | 738-30  | 3<br>2                       | 2825<br>1884              | I<br>III         |                   |    |     |    |    |     |    |    | B9<br>B7         | LUTF<br>KUTF             |                                               |
|            |       | 3757                      | 4.23  | 3.48   | 0.82       | 738-30F | 3<br>2                       | 2663<br>1776              | II<br>III        |                   |    |     |    |    |     |    |    | B9<br>B7         | LUTF<br>KUTF             |                                               |
|            |       | 6964                      | 7.30  | 6.45   | 0.88       | 752-30  | 5<br>3                       | 4768<br>2861              | II<br>III        |                   |    |     |    |    |     |    |    | B9<br>B9         | PUTF<br>NUTF             |                                               |
|            |       | 8336                      | 9.12  | 7.72   | 0.85       | 752-30F | 7.5<br>5                     | 6853<br>4568              | I<br>III         |                   |    |     |    |    |     |    |    | B11<br>B9        | NUTF<br>MUTF             |                                               |
|            |       | 9603                      | 9.81  | 8.89   | 0.91       | 760-30  | 7.5<br>5                     | 7339<br>4892              | II<br>III        |                   |    |     |    |    |     |    |    | B11<br>B9        | NUTF<br>MUTF             |                                               |
|            |       | 11219                     | 12.26 | 10.38  | 0.85       | 760-30F | 10<br>7.5<br>5               | 9148<br>6861<br>4574      | I<br>II<br>III   |                   |    |     |    |    |     |    |    | B11<br>B11<br>B9 | PUTF<br>NUTF<br>MUTF     |                                               |

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752 & 760 SIZES AVAILABLE ONLY IN RF-FLANGED COUPLING TYPES.

RATINGS SHOWN REFLECT THE USE OF KLUBERSYNTH UH1 6-460.

# 700 Series Single Reduction Output RPM & Capacity Selection Tables

@ 1750 RPM Input

For Ratings at Other Speeds, See Tables on Pages 30-33

| Output RPM | Ratio | Non-Flanged Reducers      |       |        |            |         | Flanged Reducers (Gearmotor) |                           |                 |                   |    |     |    |    |     |    |                |                      | Bore Code                | Motors*<br>230/460<br>VAC<br>3 Phase<br>60 Hz |
|------------|-------|---------------------------|-------|--------|------------|---------|------------------------------|---------------------------|-----------------|-------------------|----|-----|----|----|-----|----|----------------|----------------------|--------------------------|-----------------------------------------------|
|            |       | Gear Capacity             |       |        | Efficiency | Size    | Ratings                      |                           |                 | Available Styles† |    |     |    |    |     |    |                |                      |                          |                                               |
|            |       | Output Torque<br>(lb.in.) | HP    |        |            |         | Motor HP                     | Output Torque<br>(lb.in.) | Service Class   | F                 | QC | FAN | HF | SF | HQC | RF | SS             |                      |                          |                                               |
|            |       |                           | Input | Output |            |         |                              |                           |                 |                   |    |     |    |    |     |    |                |                      |                          |                                               |
| 43.8       | 40    | 151                       | 0.17  | 0.10   | 0.62       | 710-40  | 0.17<br>0.17                 | 148<br>148                | I<br>I          |                   |    |     |    |    |     |    |                | B4<br>B5             | ACUT<br>CUTF             |                                               |
|            |       | 307                       | 0.31  | 0.21   | 0.69       | 713-40  | 0.25<br>0.17                 | 248<br>165                | II<br>III       |                   |    |     |    |    |     |    |                | B5<br>B5             | DUTF<br>CUTF             |                                               |
|            |       | 442                       | 0.43  | 0.31   | 0.71       | 715-40  | 0.33<br>0.25<br>0.17         | 342<br>257<br>171         | II<br>II<br>III |                   |    |     |    |    |     |    |                | B5<br>B5<br>B5       | EUTF<br>DUTF<br>CUTF     |                                               |
|            |       | 609                       | 0.57  | 0.42   | 0.74       | 718-40  | 0.50<br>0.33<br>0.25         | 534<br>356<br>267         | I<br>II<br>III  |                   |    |     |    |    |     |    |                | B5<br>B5<br>B5       | FUTF<br>EUTF<br>DUTF     |                                               |
|            |       | 876                       | 0.81  | 0.61   | 0.75       | 721-40  | 0.75<br>0.50<br>0.33         | 811<br>541<br>360         | I<br>II<br>III  |                   |    |     |    |    |     |    |                | B5<br>B5<br>B5       | GUTF<br>FUTF<br>EUTF     |                                               |
|            |       | 1206                      | 1.08  | 0.84   | 0.77       | 724-40  | 1<br>0.75<br>0.50            | 1116<br>837<br>558        | I<br>II<br>III  |                   |    |     |    |    |     |    |                | B5<br>B5<br>B5       | HUTF-5/8<br>GUTF<br>FUTF |                                               |
|            |       | 1512                      | 1.33  | 1.05   | 0.79       | 726-40  | 1<br>0.75                    | 1136<br>852               | II<br>III       |                   |    |     |    |    |     |    |                | B5<br>B5             | HUTF-5/8<br>GUTF         |                                               |
|            |       | 2041                      | 1.78  | 1.42   | 0.80       | 730-40  | 1.5<br>1<br>0.75             | 1719<br>1146<br>860       | I<br>II<br>III  |                   |    |     |    |    |     |    |                | B7<br>B5<br>B5       | JUTF<br>HUTF-5/8<br>GUTF |                                               |
|            |       | 2444                      | 2.10  | 1.70   | 0.81       | 732-40  | 2<br>1.5<br>1                | 2327<br>1745<br>1164      | I<br>II<br>III  |                   |    |     |    |    |     |    |                | B7<br>B7<br>B5       | KUTF<br>JUTF<br>HUTF-5/8 |                                               |
|            |       | 2944                      | 2.62  | 2.04   | 0.78       | 732-40F | 2<br>1.5                     | 2246<br>1685              | II<br>III       |                   |    |     |    |    |     |    |                | B7<br>B7             | KUTF<br>JUTF             |                                               |
|            |       | 3320                      | 2.80  | 2.30   | 0.82       | 738-40  | 2<br>1.5                     | 2370<br>1778              | II<br>III       |                   |    |     |    |    |     |    |                | B7<br>B7             | KUTF<br>JUTF             |                                               |
|            |       | 3747                      | 3.33  | 2.60   | 0.78       | 738-40F | 3<br>2                       | 3374<br>2249              | I<br>II         |                   |    |     |    |    |     |    |                | B9<br>B7             | LUTF<br>KUTF             |                                               |
|            |       | 6889                      | 5.60  | 4.78   | 0.85       | 752-40  | 5<br>3                       | 6149<br>3689              | I<br>III        |                   |    |     |    |    |     |    |                | B9<br>B9             | MUTF<br>LUTF             |                                               |
|            |       | 8178                      | 7.00  | 5.68   | 0.81       | 752-40F | 5<br>3                       | 5839<br>3504              | II<br>III       |                   |    |     |    |    |     |    |                | B9<br>B9             | MUTF<br>LUTF             |                                               |
|            |       | 9566                      | 7.65  | 6.64   | 0.87       | 760-40  | 7.5<br>5                     | 9374<br>6250              | I<br>II         |                   |    |     |    |    |     |    |                | B11<br>B9            | NUTF<br>MUTF             |                                               |
|            |       | 11197                     | 9.56  | 7.77   | 0.81       | 760-40F | 7.5<br>5                     | 8780<br>5854              | II<br>III       |                   |    |     |    |    |     |    |                | B11<br>B9            | NUTF<br>MUTF             |                                               |
| 35         | 50    | 153                       | 0.15  | 0.09   | 0.57       | 710-50  | 0.17<br>0.17                 | 153<br>153                | I<br>I          |                   |    |     |    |    |     |    | B4<br>B5       | ACUT<br>CUTF         |                          |                                               |
|            |       | 297                       | 0.25  | 0.17   | 0.66       | 713-50  | 0.25<br>0.17                 | 297<br>198                | I<br>II         |                   |    |     |    |    |     |    | B5<br>B5       | DUTF<br>CUTF         |                          |                                               |
|            |       | 429                       | 0.35  | 0.24   | 0.68       | 715-50  | 0.33<br>0.25<br>0.17         | 409<br>306<br>204         | I<br>II<br>III  |                   |    |     |    |    |     |    | B5<br>B5<br>B5 | EUTF<br>DUTF<br>CUTF |                          |                                               |
|            |       | 573                       | 0.44  | 0.32   | 0.72       | 718-50  | 0.33<br>0.25                 | 434<br>325                | II<br>III       |                   |    |     |    |    |     |    | B5<br>B5       | EUTF<br>DUTF         |                          |                                               |

\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see Pages 337 and 342.

† Shaded areas denote which styles are available for a given center distance and ratio. See Pages 14-15 for style descriptions.

752 & 760 SIZES AVAILABLE ONLY IN RF-FLANGED COUPLING TYPES.

RATINGS SHOWN REFLECT THE USE OF KLUBERSYNTH UH1 6-460.

# 700 Series Single Reduction Output RPM & Capacity Selection Tables

## @ 1750 RPM Input

For Ratings at Other Speeds, See Tables on Pages 30-33

A

| Output RPM | Ratio | Non-Flanged Reducers   |       |        |            |         | Flanged Reducers (Gearmotor) |                        |                |                   |    |     |    |    |     |    |    |                 | Bore Code                | Motors*<br>230/460<br>VAC<br>3 Phase<br>60 Hz |
|------------|-------|------------------------|-------|--------|------------|---------|------------------------------|------------------------|----------------|-------------------|----|-----|----|----|-----|----|----|-----------------|--------------------------|-----------------------------------------------|
|            |       | Gear Capacity          |       |        | Efficiency | Size    | Ratings                      |                        |                | Available Styles† |    |     |    |    |     |    |    |                 |                          |                                               |
|            |       | Output Torque (lb.in.) | HP    |        |            |         | Motor HP                     | Output Torque (lb.in.) | Service Class  | F                 | QC | FAN | HF | SF | HQC | RF | SS |                 |                          |                                               |
|            |       |                        | Input | Output |            |         |                              |                        |                |                   |    |     |    |    |     |    |    |                 |                          |                                               |
| 35         | 50    | 857                    | 0.66  | 0.48   | 0.72       | 721-50  | 0.50<br>0.33                 | 649<br>433             | II<br>III      |                   |    |     |    |    |     |    |    | B5<br>B5        | FUTF<br>EUTF             |                                               |
|            |       | 1177                   | 0.87  | 0.65   | 0.75       | 724-50  | 0.75<br>0.50<br>0.33         | 1014<br>676<br>451     | I<br>II<br>III |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5  | GUTF<br>FUTF<br>EUTF     |                                               |
|            |       | 1484                   | 1.08  | 0.82   | 0.76       | 726-50  | 1<br>0.75<br>0.50            | 1373<br>1030<br>687    | I<br>II<br>III |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5  | HUTF-5/8<br>GUTF<br>FUTF |                                               |
|            |       | 2016                   | 1.45  | 1.12   | 0.77       | 730-50  | 1.5<br>1<br>0.75             | 2016<br>1390<br>1042   | I<br>II<br>III |                   |    |     |    |    |     |    |    | B7<br>B5<br>B5  | JUTF<br>HUTF-5/8<br>GUTF |                                               |
|            |       | 2403                   | 1.70  | 1.33   | 0.78       | 732-50  | 1.5<br>1<br>0.75             | 2120<br>1413<br>1060   | I<br>II<br>III |                   |    |     |    |    |     |    |    | B7<br>B5<br>B5  | JUTF<br>HUTF-5/8<br>GUTF |                                               |
|            |       | 2791                   | 2.12  | 1.55   | 0.73       | 732-50F | 2<br>1.5<br>1                | 2632<br>1974<br>1316   | I<br>II<br>III |                   |    |     |    |    |     |    |    | B7<br>B7<br>B7  | KUTF<br>JUTF<br>HUTF     |                                               |
|            |       | 3280                   | 2.28  | 1.82   | 0.80       | 738-50  | 2<br>1.5<br>1                | 2876<br>2157<br>1438   | I<br>II<br>III |                   |    |     |    |    |     |    |    | B7<br>B7<br>B7  | KUTF<br>JUTF<br>HUTF     |                                               |
|            |       | 3626                   | 2.71  | 2.01   | 0.74       | 738-50F | 2<br>1.5                     | 2675<br>2006           | II<br>III      |                   |    |     |    |    |     |    |    | B9<br>B7        | KUTF<br>JUTF             |                                               |
|            |       | 6751                   | 4.49  | 3.75   | 0.83       | 752-50  | 3                            | 4509                   | II             |                   |    |     |    |    |     |    |    | B9              | LUTF                     |                                               |
|            |       | 7678                   | 5.61  | 4.26   | 0.76       | 752-50F | 5<br>3                       | 6840<br>4104           | I<br>III       |                   |    |     |    |    |     |    |    | B9<br>B9        | MUTF<br>LUTF             |                                               |
|            |       | 9378                   | 6.12  | 5.21   | 0.85       | 760-50  | 5<br>3                       | 7659<br>4595           | I<br>III       |                   |    |     |    |    |     |    |    | B9<br>B9        | MUTF<br>LUTF             |                                               |
|            |       | 9836                   | 7.65  | 5.46   | 0.71       | 760-50F | 7.5<br>5<br>3                | 9639<br>6426<br>3856   | I<br>II<br>III |                   |    |     |    |    |     |    |    | B11<br>B9<br>B9 | NUTF<br>MUTF<br>LUTF     |                                               |
| 29.2       | 60    | 144                    | 0.12  | 0.07   | 0.55       | 710-60  | 0.17<br>0.17                 | 144<br>144             | I<br>I         |                   |    |     |    |    |     |    |    | B4<br>B5        | ACUT<br>CUTF             |                                               |
|            |       | 271                    | 0.22  | 0.13   | 0.57       | 713-60  | 0.17                         | 201                    | II             |                   |    |     |    |    |     |    |    | B5              | CUTF                     |                                               |
|            |       | 399                    | 0.28  | 0.18   | 0.66       | 715-60  | 0.25<br>0.17                 | 356<br>238             | I<br>II        |                   |    |     |    |    |     |    |    | B5<br>B5        | DUTF<br>EUTF             |                                               |
|            |       | 527                    | 0.35  | 0.24   | 0.70       | 718-60  | 0.33<br>0.25<br>0.17         | 502<br>376<br>251      | I<br>II<br>III |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5  | EUTF<br>DUTF<br>CUTF     |                                               |
|            |       | 826                    | 0.55  | 0.38   | 0.69       | 721-60  | 0.50<br>0.33<br>0.25         | 751<br>500<br>375      | I<br>II<br>III |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5  | FUTF<br>EUTF<br>DUTF     |                                               |
|            |       | 1128                   | 0.73  | 0.52   | 0.71       | 724-60  | 0.75<br>0.50<br>0.33         | 1128<br>772<br>515     | I<br>II<br>III |                   |    |     |    |    |     |    |    | B5<br>B5<br>B5  | GUTF<br>FUTF<br>EUTF     |                                               |

\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see Pages 337 and 342.

† Shaded areas denote which styles are available for a given center distance and ratio. See Pages 14-15 for style descriptions.

752 & 760 SIZES AVAILABLE ONLY IN RF-FLANGED COUPLING TYPES.

RATINGS SHOWN REFLECT THE USE OF KLUBERSYNTH UH1 6-460.



# 700 Series Single Reduction Output RPM & Capacity Selection Tables

@ 1750 RPM Input

For Ratings at Other Speeds, See Tables on Pages 30-33

| Output RPM | Ratio | Non-Flanged Reducers      |       |        |            |                | Flanged Reducers (Gearmotor)              |                           |                |                   |    |     |    |    |                |                      |                          |                          | Bore Code    | Motors*<br>230/460<br>VAC<br>3 Phase<br>60 Hz |
|------------|-------|---------------------------|-------|--------|------------|----------------|-------------------------------------------|---------------------------|----------------|-------------------|----|-----|----|----|----------------|----------------------|--------------------------|--------------------------|--------------|-----------------------------------------------|
|            |       | Gear Capacity             |       |        | Efficiency | Size           | Ratings                                   |                           |                | Available Styles† |    |     |    |    |                |                      |                          |                          |              |                                               |
|            |       | Output Torque<br>(lb.in.) | HP    |        |            |                | Motor HP                                  | Output Torque<br>(lb.in.) | Service Class  | F                 | QC | FAN | HF | SF | HQC            | RF                   | SS                       |                          |              |                                               |
|            |       |                           | Input | Output |            |                |                                           |                           |                |                   |    |     |    |    |                |                      |                          |                          |              |                                               |
| 29.2       | 60    | 1385                      | 0.89  | 0.64   | 0.72       | <b>726-60</b>  | <b>0.75</b><br><b>0.50</b>                | 1166<br>778               | I<br>III       |                   |    |     |    |    |                |                      |                          | B5<br>B5                 | GUTF<br>FUTF |                                               |
|            |       | 1921                      | 1.20  | 0.89   | 0.74       | <b>730-60</b>  | <b>1</b><br><b>0.75</b><br><b>0.50</b>    | 1601<br>1200<br>800       | I<br>II<br>III |                   |    |     |    |    |                |                      | B5<br>B5<br>B5           | HUTF-5/8<br>GUTF<br>FUTF |              |                                               |
|            |       | 2281                      | 1.40  | 1.06   | 0.75       | <b>732-60</b>  | <b>1.5</b><br><b>1</b><br><b>0.75</b>     | 2281<br>1629<br>1221      | I<br>II<br>III |                   |    |     |    |    |                |                      | B7<br>B7<br>B5           | JUTF<br>HUTF<br>GUTF     |              |                                               |
|            |       | 2549                      | 1.75  | 1.18   | 0.67       | <b>732-60F</b> | <b>1.5</b><br><b>1</b>                    | 2184<br>1446              | I<br>III       |                   |    |     |    |    |                |                      | B7<br>B7                 | JUTF<br>HUTF             |              |                                               |
|            |       | 3128                      | 1.88  | 1.45   | 0.77       | <b>738-60</b>  | <b>1.5</b><br><b>1</b>                    | 2495<br>1633              | II<br>III      |                   |    |     |    |    |                |                      | B7<br>B7                 | JUTF<br>HUTF             |              |                                               |
|            |       | 3277                      | 2.24  | 1.52   | 0.68       | <b>738-60F</b> | <b>2</b><br><b>1.5</b>                    | 2925<br>2193              | I<br>II        |                   |    |     |    |    |                |                      | B7<br>B7                 | KUTF<br>JUTF             |              |                                               |
|            |       | 6416                      | 3.67  | 2.97   | 0.81       | <b>752-60</b>  | <b>3</b>                                  | 5242                      | I              |                   |    |     |    |    |                |                      | B9                       | LUTF                     |              |                                               |
|            |       | 6953                      | 4.59  | 3.22   | 0.70       | <b>752-60F</b> | <b>5</b><br><b>3</b>                      | 6953<br>4542              | I<br>II        |                   |    |     |    |    |                |                      | B9<br>B9                 | MUTF<br>LUTF             |              |                                               |
|            |       | 8934                      | 5.03  | 4.13   | 0.82       | <b>760-60</b>  | <b>5</b><br><b>3</b>                      | 8878<br>5327              | I<br>II        |                   |    |     |    |    |                |                      | B9<br>B9                 | MUTF<br>LUTF             |              |                                               |
|            |       | 9528                      | 6.29  | 4.41   | 0.70       | <b>760-60F</b> | <b>5</b>                                  | 7571                      | II             |                   |    |     |    |    |                |                      | B9                       | MUTF                     |              |                                               |
| 21.9       | 80    | 222                       | 0.15  | 0.08   | 0.53       | <b>713-80</b>  | <b>0.17</b>                               | 222                       | I              |                   |    |     |    |    |                |                      | B5                       | CUTF                     |              |                                               |
|            |       | 318                       | 0.21  | 0.11   | 0.53       | <b>715-80</b>  | <b>0.17</b>                               | 259                       | II             |                   |    |     |    |    |                | B5                   | CUTF                     |                          |              |                                               |
|            |       | 387                       | 0.22  | 0.13   | 0.61       | <b>718-80</b>  | <b>0.25</b><br><b>0.17</b>                | 387<br>298                | I<br>II        |                   |    |     |    |    |                | B5<br>B5             | DUFT<br>CUTF             |                          |              |                                               |
|            |       | 634                       | 0.38  | 0.22   | 0.58       | <b>721-80</b>  | <b>0.33</b><br><b>0.25</b>                | 551<br>418                | I<br>II        |                   |    |     |    |    |                | B5<br>B5             | EUTF<br>DUTF             |                          |              |                                               |
|            |       | 1069                      | 0.57  | 0.37   | 0.65       | <b>726-80</b>  | <b>0.5</b><br><b>0.33</b>                 | 936<br>623                | I<br>III       |                   |    |     |    |    |                | B5<br>B5             | FUTF<br>EUTF             |                          |              |                                               |
|            |       | 1795                      | 0.95  | 0.62   | 0.65       | <b>732-80</b>  | <b>1</b><br><b>0.75</b><br><b>0.5</b>     | 1795<br>1404<br>936       | I<br>II<br>III |                   |    |     |    |    |                | B5<br>B5<br>B5       | HUTF-5/8<br>GUTF<br>FUTF |                          |              |                                               |
| 17.5       | 100   | 138                       | 0.08  | 0.04   | 0.47       | <b>713-100</b> | <b>0.17</b>                               | 138                       | I              |                   |    |     |    |    |                | B5                   | CUTF                     |                          |              |                                               |
|            |       | 251                       | 0.15  | 0.07   | 0.47       | <b>715-100</b> | <b>0.17</b>                               | 251                       | I              |                   |    |     |    |    | B5             | CUTF                 |                          |                          |              |                                               |
|            |       | 323                       | 0.17  | 0.09   | 0.53       | <b>718-100</b> | <b>0.17</b>                               | 323                       | I              |                   |    |     |    |    | B5             | CUTF                 |                          |                          |              |                                               |
|            |       | 503                       | 0.27  | 0.14   | 0.52       | <b>721-100</b> | <b>0.25</b><br><b>0.17</b>                | 468<br>318                | I<br>II        |                   |    |     |    |    | B5<br>B5       | DUFT<br>CUTF         |                          |                          |              |                                               |
|            |       | 757                       | 0.39  | 0.21   | 0.54       | <b>726-100</b> | <b>0.33</b><br><b>0.25</b><br><b>0.17</b> | 642<br>486<br>330         | I<br>II<br>III |                   |    |     |    |    | B5<br>B5<br>B5 | EUTF<br>DUTF<br>CUTF |                          |                          |              |                                               |
|            |       | 1414                      | 0.65  | 0.39   | 0.6        | <b>732-100</b> | <b>0.5</b><br><b>0.33</b>                 | 1080<br>713               | II<br>III      |                   |    |     |    |    | B5<br>B5       | FUTF<br>EUTF         |                          |                          |              |                                               |

\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see Pages 337 and 342.

† Shaded areas denote which styles are available for a given center distance and ratio. See Pages 14-15 for style descriptions.

752 & 760 SIZES AVAILABLE ONLY IN RF-FLANGED COUPLING TYPES.

RATINGS SHOWN REFLECT THE USE OF KLUBERSYNTH UH1 6-460.

# 700 Series Single Reduction Ratio & Capacity Selection Tables

## Horsepower and Torque Capacities at Listed RPM Inputs (Service Factor 1.0)

A

| Series Size              |           |            | 710      |        |                | 713      |        |                | 715      |        |                | 718      |        |                |
|--------------------------|-----------|------------|----------|--------|----------------|----------|--------|----------------|----------|--------|----------------|----------|--------|----------------|
| Ratio                    | Input RPM | Output RPM | Input HP | Output |                | Input HP | Output |                | Input HP | Output |                | Input HP | Output |                |
|                          |           |            |          | HP     | Torque (lb-in) |          | HP     | Torque (lb-in) |          | HP     | Torque (lb-in) |          | HP     | Torque (lb-in) |
| 5                        | 1750      | 350        | 0.69     | 0.63   | 113            | 1.39     | 1.31   | 235            | 1.72     | 1.62   | 291            | 2.55     | 2.40   | 432            |
|                          | 1150      | 230        | 0.40     | 0.36   | 98             | 0.84     | 0.73   | 200            | 1.15     | 1.04   | 285            | 1.42     | 1.28   | 350            |
|                          | 690       | 138        | 0.26     | 0.23   | 105            | 0.50     | 0.45   | 205            | 0.80     | 0.72   | 330            | 0.97     | 0.87   | 400            |
|                          | 100       | 20         | 0.044    | 0.036  | 115            | 0.091    | 0.076  | 240            | 0.14     | 0.12   | 370            | 0.17     | 0.14   | 460            |
| 10                       | 1750      | 175        | 0.44     | 0.38   | 138            | 0.86     | 0.78   | 281            | 1.20     | 1.10   | 397            | 1.61     | 1.49   | 536            |
|                          | 1150      | 115        | 0.23     | 0.21   | 118            | 0.51     | 0.44   | 243            | 0.73     | 0.64   | 350            | 0.98     | 0.87   | 480            |
|                          | 690       | 69         | 0.16     | 0.14   | 128            | 0.33     | 0.29   | 266            | 0.47     | 0.42   | 384            | 0.66     | 0.58   | 534            |
|                          | 100       | 10         | 0.03     | 0.022  | 140            | 0.06     | 0.047  | 296            | 0.086    | 0.068  | 432            | 0.12     | 0.097  | 610            |
| 15                       | 1750      | 116.7      | 0.33     | 0.27   | 146            | 0.66     | 0.58   | 305            | 0.91     | 0.79   | 428            | 1.13     | 1.02   | 552            |
|                          | 1150      | 77.7       | 0.17     | 0.15   | 125            | 0.37     | 0.32   | 262            | 0.53     | 0.46   | 376            | 0.67     | 0.57   | 472            |
|                          | 690       | 46         | 0.12     | 0.10   | 134            | 0.26     | 0.21   | 288            | 0.36     | 0.30   | 415            | 0.46     | 0.39   | 534            |
|                          | 100       | 6.7        | 0.023    | 0.016  | 147            | 0.049    | 0.034  | 322            | 0.07     | 0.05   | 468            | 0.086    | 0.063  | 597            |
| 20                       | 1750      | 87.5       | 0.27     | 0.21   | 149            | 0.52     | 0.43   | 308            | 0.72     | 0.60   | 435            | 0.97     | 0.82   | 590            |
|                          | 1150      | 57.5       | 0.14     | 0.12   | 129            | 0.29     | 0.24   | 265            | 0.43     | 0.35   | 380            | 0.58     | 0.48   | 525            |
|                          | 690       | 34.5       | 0.091    | 0.074  | 136            | 0.19     | 0.16   | 286            | 0.28     | 0.23   | 420            | 0.38     | 0.32   | 580            |
|                          | 100       | 5.0        | 0.017    | 0.012  | 150            | 0.04     | 0.026  | 330            | 0.056    | 0.038  | 485            | 0.08     | 0.055  | 690            |
| 25                       | 1750      | 70         | —        | —      | —              | 0.43     | 0.34   | 307            | 0.60     | 0.49   | 437            | 0.76     | 0.64   | 574            |
|                          | 1150      | 46         | —        | —      | —              | 0.24     | 0.19   | 260            | 0.35     | 0.27   | 375            | 0.48     | 0.36   | 500            |
|                          | 690       | 27.6       | —        | —      | —              | 0.15     | 0.12   | 280            | 0.22     | 0.18   | 410            | 0.30     | 0.24   | 540            |
|                          | 100       | 4.0        | —        | —      | —              | 0.031    | 0.02   | 310            | 0.043    | 0.028  | 451            | 0.063    | 0.042  | 660            |
| 30                       | 1750      | 58.3       | 0.20     | 0.14   | 150            | 0.39     | 0.29   | 311            | 0.54     | 0.41   | 446            | 0.65     | 0.53   | 573            |
|                          | 1150      | 38.3       | 0.10     | 0.081  | 133            | 0.21     | 0.16   | 270            | 0.31     | 0.23   | 388            | 0.40     | 0.32   | 530            |
|                          | 690       | 23         | 0.068    | 0.051  | 140            | 0.14     | 0.11   | 300            | 0.20     | 0.17   | 460            | 0.29     | 0.22   | 600            |
|                          | 100       | 3.3        | 0.013    | 0.008  | 155            | 0.029    | 0.018  | 340            | 0.04     | 0.026  | 496            | 0.057    | 0.037  | 710            |
| 40                       | 1750      | 43.8       | 0.17     | 0.10   | 151            | 0.31     | 0.21   | 307            | 0.43     | 0.31   | 441            | 0.57     | 0.42   | 609            |
|                          | 1150      | 28.8       | 0.081    | 0.059  | 129            | 0.18     | 0.12   | 265            | 0.24     | 0.17   | 380            | 0.33     | 0.24   | 525            |
|                          | 690       | 17.3       | 0.051    | 0.037  | 130            | 0.10     | 0.078  | 286            | 0.15     | 0.11   | 420            | 0.22     | 0.16   | 580            |
|                          | 100       | 2.5        | 0.011    | 0.006  | 150            | 0.025    | 0.013  | 330            | 0.036    | 0.019  | 485            | 0.052    | 0.027  | 690            |
| 50                       | 1750      | 35         | 0.15     | 0.09   | 153            | 0.25     | 0.17   | 297            | 0.35     | 0.24   | 429            | 0.44     | 0.32   | 573            |
|                          | 1150      | 23         | 0.06     | 0.042  | 114            | 0.12     | 0.09   | 248            | 0.18     | 0.13   | 360            | 0.24     | 0.17   | 470            |
|                          | 690       | 13.8       | 0.041    | 0.029  | 130            | 0.083    | 0.058  | 265            | 0.12     | 0.085  | 390            | 0.17     | 0.12   | 520            |
|                          | 100       | 2.0        | 0.008    | 0.004  | 140            | 0.018    | 0.009  | 300            | 0.027    | 0.014  | 440            | 0.038    | 0.019  | 590            |
| 60                       | 1750      | 29.2       | 0.12     | 0.07   | 144            | 0.22     | 0.13   | 271            | 0.28     | 0.18   | 399            | 0.35     | 0.24   | 527            |
|                          | 1150      | 19.2       | 0.065    | 0.032  | 105            | 0.171    | 0.093  | 201            | 0.164    | 0.095  | 312            | 0.21     | 0.13   | 440            |
|                          | 690       | 11.5       | 0.044    | 0.02   | 112            | 0.101    | 0.046  | 253            | 0.114    | 0.061  | 338            | 0.14     | 0.084  | 480            |
|                          | 100       | 1.7        | 0.008    | 0.003  | 121            | 0.021    | 0.007  | 285            | 0.022    | 0.009  | 371            | 0.03     | 0.014  | 530            |
| 80                       | 1750      | 21.9       | —        | —      | —              | 0.15     | 0.08   | 222            | 0.21     | 0.11   | 318            | 0.23     | 0.13   | 375            |
|                          | 1150      | 14.4       | —        | —      | —              | 0.12     | 0.06   | 246            | 0.17     | 0.018  | 358            | 0.16     | 0.089  | 390            |
|                          | 690       | 8.6        | —        | —      | —              | 0.09     | 0.04   | 266            | 0.12     | 0.15   | 392            | 0.10     | 0.048  | 350            |
|                          | 100       | 1.3        | —        | —      | —              | 0.02     | 0.01   | 293            | 0.03     | 0.01   | 440            | 0.02     | 0.009  | 470            |
| 100                      | 1750      | 17.5       | —        | —      | —              | 0.08     | 0.04   | 138            | 0.15     | 0.07   | 251            | 0.17     | 0.09   | 323            |
|                          | 1150      | 11.5       | —        | —      | —              | 0.07     | 0.028  | 152            | 0.12     | 0.05   | 283            | 0.14     | 0.07   | 360            |
|                          | 690       | 6.9        | —        | —      | —              | 0.05     | 0.018  | 164            | 0.09     | 0.03   | 309            | 0.10     | 0.04   | 391            |
|                          | 100       | 1.0        | —        | —      | —              | 0.01     | 0.003  | 180            | 0.02     | 0.01   | 347            | 0.020    | 0.01   | 435            |
| Overhung Load*           |           |            | 150 LBS. |        |                | 200 LBS. |        |                | 300 LBS. |        |                | 500 LBS. |        |                |
| Output Shaft Thrust Load |           |            | 200 LBS. |        |                | 300 LBS. |        |                | 400 LBS. |        |                | 500 LBS. |        |                |

RATINGS SHOWN REFLECT MAXIMUM GEAR CAPACITY WITH KLUBERSYNTH UH1 6-460.

\*Overhung Load is at centerline of output shaft projection and with NO THRUST Load.

Note: For input speeds above 1750 RPM. Do NOT exceed 1750 RPM input horsepower (See page 347).

# 700 Series Single Reduction Ratio & Capacity Selection Tables

## Horsepower and Torque Capacities at Listed RPM Inputs (Service Factor 1.0)

A

| Series Size              |           |            | 721      |        |                | 724      |        |                | 726       |        |                | 730       |        |                |
|--------------------------|-----------|------------|----------|--------|----------------|----------|--------|----------------|-----------|--------|----------------|-----------|--------|----------------|
| Ratio                    | Input RPM | Output RPM | Input HP | Output |                | Input HP | Output |                | Input HP  | Output |                | Input HP  | Output |                |
|                          |           |            |          | HP     | Torque (lb-in) |          | HP     | Torque (lb-in) |           | HP     | Torque (lb-in) |           | HP     | Torque (lb-in) |
| 5                        | 1750      | 350        | 3.66     | 3.44   | 620            | 4.94     | 4.65   | 838            | 6.11      | 5.74   | 1034           | 8.32      | 7.82   | 1408           |
|                          | 1150      | 230        | 2.33     | 2.10   | 575            | 3.05     | 2.74   | 750            | 4.05      | 3.64   | 1000           | 5.85      | 5.47   | 1500           |
|                          | 690       | 138        | 1.64     | 1.47   | 670            | 2.25     | 2.01   | 920            | 3.04      | 2.74   | 1250           | 5.25      | 4.83   | 2206           |
|                          | 100       | 20         | 0.30     | 0.26   | 820            | 0.43     | 0.38   | 1200           | 0.58      | 0.51   | 1600           | 1.06      | 0.91   | 2873           |
| 10                       | 1750      | 175        | 2.34     | 2.19   | 789            | 3.18     | 2.97   | 1069           | 3.94      | 3.74   | 1345           | 5.28      | 4.96   | 1787           |
|                          | 1150      | 115        | 1.49     | 1.32   | 725            | 2.09     | 1.87   | 1025           | 2.82      | 2.54   | 1390           | 4.25      | 3.84   | 2107           |
|                          | 690       | 69         | 1.00     | 0.89   | 814            | 1.46     | 1.31   | 1200           | 1.97      | 1.75   | 1600           | 3.15      | 2.79   | 2548           |
|                          | 100       | 10         | 0.19     | 0.15   | 968            | 0.27     | 0.23   | 1430           | 0.37      | 0.31   | 1960           | 0.63      | 0.51   | 3234           |
| 15                       | 1750      | 116.7      | 1.72     | 1.56   | 840            | 2.34     | 2.15   | 1159           | 2.95      | 2.71   | 1465           | 3.97      | 3.64   | 1969           |
|                          | 1150      | 77.7       | 1.06     | 0.91   | 752            | 1.51     | 1.29   | 1060           | 2.01      | 1.73   | 1425           | 3.41      | 2.95   | 2425           |
|                          | 690       | 46.0       | 0.72     | 0.61   | 832            | 1.05     | 0.90   | 1239           | 1.41      | 1.22   | 1675           | 2.55      | 2.14   | 2928           |
|                          | 100       | 6.7        | 0.13     | 0.10   | 968            | 0.19     | 0.15   | 1463           | 0.28      | 0.22   | 2057           | 0.51      | 0.38   | 3610           |
| 20                       | 1750      | 87.5       | 1.40     | 1.24   | 892            | 1.95     | 1.71   | 1233           | 2.34      | 2.06   | 1483           | 3.14      | 2.81   | 2024           |
|                          | 1150      | 57.5       | 0.86     | 0.72   | 782            | 1.27     | 1.06   | 1160           | 1.63      | 1.36   | 1500           | 2.68      | 2.23   | 2470           |
|                          | 690       | 35.0       | 0.57     | 0.48   | 875            | 0.83     | 0.70   | 1280           | 1.11      | 0.94   | 1725           | 1.67      | 1.52   | 2739           |
|                          | 100       | 5.0        | 0.11     | 0.08   | 1018           | 0.17     | 0.12   | 1550           | 0.20      | 0.16   | 2050           | 0.41      | 0.38   | 3584           |
| 25                       | 1750      | 70         | 1.16     | 0.97   | 875            | 1.55     | 1.33   | 1199           | 1.94      | 1.68   | 1514           | 2.61      | 2.28   | 2051           |
|                          | 1150      | 46         | 0.72     | 0.58   | 790            | 1.03     | 0.84   | 1150           | 1.31      | 1.11   | 1525           | 2.30      | 1.86   | 2560           |
|                          | 690       | 27.6       | 0.47     | 0.38   | 875            | 0.69     | 0.56   | 1280           | 0.93      | 0.77   | 1750           | 1.50      | 1.26   | 2830           |
|                          | 100       | 4.0        | 0.094    | 0.062  | 975            | 0.14     | 0.095  | 1500           | 0.18      | 0.13   | 2075           | 0.30      | 0.21   | 3400           |
| 30                       | 1750      | 58.3       | 0.99     | 0.81   | 871            | 1.33     | 1.11   | 1200           | 1.68      | 1.41   | 1521           | 2.27      | 1.89   | 2045           |
|                          | 1150      | 38.3       | 0.62     | 0.48   | 795            | 0.89     | 0.70   | 1170           | 1.20      | 0.96   | 1575           | 1.99      | 1.53   | 2510           |
|                          | 690       | 23         | 0.41     | 0.32   | 880            | 0.60     | 0.47   | 1300           | 0.81      | 0.65   | 1790           | 1.51      | 1.09   | 3000           |
|                          | 100       | 3.3        | 0.086    | 0.055  | 1050           | 0.12     | 0.078  | 1500           | 0.16      | 0.11   | 2100           | 0.32      | 0.20   | 3702           |
| 40                       | 1750      | 43.8       | 0.81     | 0.61   | 876            | 1.08     | 0.84   | 1206           | 1.33      | 1.05   | 1512           | 1.78      | 1.43   | 2041           |
|                          | 1150      | 28.8       | 0.49     | 0.36   | 785            | 0.70     | 0.53   | 1160           | 0.89      | 0.68   | 1500           | 1.46      | 1.14   | 2470           |
|                          | 690       | 17.3       | 0.33     | 0.24   | 875            | 0.46     | 0.35   | 1280           | 0.61      | 0.47   | 1725           | 0.99      | 0.78   | 2900           |
|                          | 100       | 2.5        | 0.074    | 0.04   | 1018           | 0.11     | 0.061  | 1550           | 0.14      | 0.081  | 2050           | 0.23      | 0.14   | 3600           |
| 50                       | 1750      | 35         | 0.66     | 0.48   | 857            | 0.87     | 0.65   | 1177           | 1.08      | 0.82   | 1484           | 1.45      | 1.12   | 2016           |
|                          | 1150      | 23         | 0.38     | 0.27   | 750            | 0.56     | 0.40   | 1100           | 0.75      | 0.54   | 1482           | 1.20      | 0.87   | 2400           |
|                          | 690       | 13.8       | 0.26     | 0.18   | 840            | 0.37     | 0.26   | 1225           | 0.51      | 0.37   | 1675           | 0.87      | 0.61   | 2750           |
|                          | 100       | 2.0        | 0.057    | 0.031  | 970            | 0.084    | 0.045  | 1425           | 0.11      | 0.063  | 1975           | 0.19      | 0.10   | 3200           |
| 60                       | 1750      | 29.2       | 0.55     | 0.38   | 826            | 0.73     | 0.52   | 1128           | 0.89      | 0.64   | 1385           | 1.20      | 0.89   | 1921           |
|                          | 1150      | 19.2       | 0.34     | 0.22   | 730            | 0.49     | 0.32   | 1040           | 0.64      | 0.42   | 1390           | 1.01      | 0.68   | 2285           |
|                          | 690       | 11.5       | 0.23     | 0.15   | 805            | 0.33     | 0.21   | 1154           | 0.44      | 0.29   | 1570           | 0.27      | 0.45   | 2580           |
|                          | 100       | 1.7        | 0.055    | 0.025  | 930            | 0.073    | 0.036  | 1330           | 0.10      | 0.05   | 1840           | 0.13      | 0.08   | 3080           |
| 80                       | 1750      | 21.9       | 0.38     | 0.22   | 634            | —        | —      | —              | 0.76      | 0.38   | 1100           | —         | —      | —              |
|                          | 1150      | 14.4       | 0.31     | 0.17   | 734            | —        | —      | —              | 0.47      | 0.29   | 1252           | —         | —      | —              |
|                          | 690       | 8.6        | 0.23     | 0.11   | 819            | —        | —      | —              | 0.35      | 0.18   | 1340           | —         | —      | —              |
|                          | 100       | 1.3        | 0.05     | 0.02   | 942            | —        | —      | —              | 0.07      | 0.03   | 1600           | —         | —      | —              |
| 100                      | 1750      | 17.5       | 0.27     | 0.14   | 503            | —        | —      | —              | 0.39      | 0.21   | 757            | —         | —      | —              |
|                          | 1150      | 11.5       | 0.22     | 0.11   | 580            | —        | —      | —              | 0.34      | 0.17   | 913            | —         | —      | —              |
|                          | 690       | 6.9        | 0.16     | 0.07   | 646            | —        | —      | —              | 0.26      | 0.12   | 1054           | —         | —      | —              |
|                          | 100       | 1.0        | 0.04     | 0.01   | 744            | —        | —      | —              | 0.06      | 0.02   | 1267           | —         | —      | —              |
| Overhung Load*           |           |            | 700 LBS. |        |                | 900 LBS. |        |                | 1000 LBS. |        |                | 1250 LBS. |        |                |
| Output Shaft Thrust Load |           |            | 700 LBS. |        |                | 800 LBS. |        |                | 900 LBS.  |        |                | 1000 LBS. |        |                |

RATINGS SHOWN REFLECT MAXIMUM GEAR CAPACITY WITH KLUBERSYNTH UH1 6-460.

\*Overhung Load is at centerline of output shaft projection and with NO THRUST Load.

Note: For input speeds above 1750 RPM. Do NOT exceed 1750 RPM input horsepower (See page 347).

# 700 Series Single Reduction Ratio & Capacity Selection Tables

## Horsepower and Torque Capacities at Listed RPM Inputs (Service Factor 1.0)

A

| Series Size              |           |            | 732       |        |                | 732F      |        |                | 738       |        |                | 738F      |        |                |
|--------------------------|-----------|------------|-----------|--------|----------------|-----------|--------|----------------|-----------|--------|----------------|-----------|--------|----------------|
| Ratio                    | Input RPM | Output RPM | Input HP  | Output |                | Input HP  | Output |                | Input HP  | Output |                | Input HP  | Output |                |
|                          |           |            |           | HP     | Torque (lb-in) |           | HP     | Torque (lb-in) |           | HP     | Torque (lb-in) |           | HP     | Torque (lb-in) |
| 5                        | 1750      | 350        | 10.05     | 9.54   | 1716           | —         | —      | —              | —         | —      | —              | —         | —      | —              |
|                          | 1150      | 230        | 8.43      | 7.91   | 2165           | —         | —      | —              | —         | —      | —              | —         | —      | —              |
|                          | 690       | 138        | 6.53      | 6.02   | 2749           | —         | —      | —              | —         | —      | —              | —         | —      | —              |
|                          | 100       | 20         | 1.38      | 1.19   | 3735           | —         | —      | —              | —         | —      | —              | —         | —      | —              |
| 10                       | 1750      | 175        | 6.22      | 5.85   | 2106           | 7.75      | 7.03   | 2532           | 8.37      | 7.87   | 2834           | 9.96      | 8.94   | 3221           |
|                          | 1150      | 115        | 4.41      | 3.92   | 2150           | 5.03      | 4.47   | 2450           | 6.19      | 5.56   | 3050           | 6.90      | 6.20   | 3400           |
|                          | 690       | 69         | 3.17      | 2.85   | 2600           | 3.40      | 3.06   | 2800           | 4.54      | 4.05   | 3700           | 4.79      | 4.27   | 3900           |
|                          | 100       | 10         | 0.62      | 0.52   | 3300           | 0.62      | 0.52   | 3300           | 0.87      | 0.47   | 4700           | 0.87      | 0.47   | 4700           |
| 15                       | 1750      | 116.7      | 4.65      | 4.34   | 2344           | 5.80      | 5.15   | 2782           | 6.28      | 5.84   | 3154           | 7.47      | 6.56   | 3543           |
|                          | 1150      | 77.7       | 3.15      | 2.74   | 2250           | 3.63      | 3.16   | 2600           | 4.30      | 3.77   | 3100           | 4.99      | 4.38   | 3600           |
|                          | 690       | 46         | 2.35      | 2.04   | 2800           | 2.52      | 2.19   | 3000           | 3.25      | 2.85   | 3900           | 3.50      | 3.06   | 4200           |
|                          | 100       | 6.7        | 0.48      | 0.39   | 3700           | 0.48      | 0.39   | 3700           | 0.68      | 0.55   | 5200           | 0.68      | 0.55   | 5200           |
| 20                       | 1750      | 87.5       | 3.71      | 3.35   | 2413           | 4.63      | 3.97   | 2858           | 5.00      | 4.56   | 3285           | 5.95      | 5.15   | 3707           |
|                          | 1150      | 57.5       | 2.77      | 2.37   | 2600           | 3.20      | 2.74   | 3000           | 4.10      | 3.56   | 3900           | 4.55      | 3.94   | 4325           |
|                          | 690       | 34.5       | 1.99      | 1.70   | 3100           | 2.15      | 1.83   | 3850           | 2.91      | 2.52   | 4600           | 3.10      | 2.68   | 4900           |
|                          | 100       | 5.0        | 0.41      | 0.30   | 3846           | 0.41      | 0.30   | 3846           | 0.61      | 0.46   | 5800           | 0.61      | 0.46   | 5800           |
| 25                       | 1750      | 70         | 3.08      | 2.71   | 2443           | 3.85      | 3.21   | 2891           | —         | —      | —              | —         | —      | —              |
|                          | 1150      | 46         | 2.29      | 1.90   | 2600           | 2.65      | 2.19   | 3000           | —         | —      | —              | —         | —      | —              |
|                          | 690       | 27.6       | 1.51      | 1.27   | 2900           | 1.67      | 1.40   | 3200           | —         | —      | —              | —         | —      | —              |
|                          | 100       | 4.0        | 0.31      | 0.22   | 3500           | 0.31      | 0.22   | 3500           | —         | —      | —              | —         | —      | —              |
| 30                       | 1750      | 58.3       | 2.64      | 2.27   | 2456           | 3.30      | 2.69   | 2902           | 3.56      | 3.10   | 3354           | 4.23      | 3.48   | 3757           |
|                          | 1150      | 38.3       | 2.8       | 2.23   | 2675           | 2.36      | 1.88   | 3100           | 2.87      | 2.37   | 3900           | 3.38      | 2.67   | 4400           |
|                          | 690       | 23         | 1.41      | 1.16   | 3200           | 1.55      | 1.28   | 3500           | 2.08      | 1.68   | 4600           | 2.22      | 1.79   | 4900           |
|                          | 100       | 3.3        | 0.30      | 0.21   | 4000           | 0.3       | 0.21   | 4000           | 0.42      | 0.29   | 5600           | 0.42      | 0.29   | 5600           |
| 40                       | 1750      | 43.8       | 2.10      | 1.70   | 2444           | 2.62      | 2.04   | 2944           | 2.80      | 2.30   | 3320           | 3.33      | 2.60   | 3747           |
|                          | 1150      | 28.8       | 1.52      | 1.19   | 2600           | 1.75      | 1.37   | 3000           | 2.25      | 1.78   | 3900           | 2.49      | 1.98   | 4325           |
|                          | 690       | 17.3       | 1.08      | 0.85   | 3100           | 1.17      | 0.91   | 3350           | 1.58      | 1.25   | 4600           | 1.68      | 1.33   | 4900           |
|                          | 100       | 2.5        | 0.25      | 0.15   | 3846           | 0.25      | 0.15   | 3846           | 0.37      | 0.23   | 5800           | 0.37      | 0.23   | 5800           |
| 50                       | 1750      | 35         | 1.70      | 1.33   | 2403           | 2.12      | 1.55   | 2791           | 2.28      | 1.82   | 3280           | 2.71      | 2.01   | 3626           |
|                          | 1150      | 23         | 1.21      | 0.89   | 2450           | 1.41      | 1.04   | 2850           | 1.67      | 1.24   | 3400           | 1.96      | 1.46   | 4000           |
|                          | 690       | 13.8       | 0.87      | 0.61   | 2800           | 0.95      | 0.67   | 3050           | 1.19      | 0.85   | 3900           | 1.28      | 0.92   | 4200           |
|                          | 100       | 2.0        | 0.19      | 0.10   | 3325           | 0.19      | 0.10   | 3325           | 0.25      | 0.14   | 4500           | 0.25      | 0.14   | 4500           |
| 60                       | 1750      | 29.2       | 1.40      | 1.06   | 2281           | 1.75      | 1.18   | 2549           | 1.88      | 1.45   | 3128           | 2.24      | 1.52   | 3496           |
|                          | 1150      | 19.2       | 1.05      | 0.70   | 2300           | 1.23      | 0.82   | 2700           | 1.50      | 1.02   | 3350           | 1.72      | 1.17   | 3850           |
|                          | 690       | 11.5       | 0.71      | 0.48   | 2650           | 0.78      | 0.53   | 2900           | 1.02      | 0.69   | 3800           | 1.10      | 0.75   | 4100           |
|                          | 100       | 1.7        | 0.16      | 0.083  | 3100           | 0.16      | 0.083  | 3100           | 0.22      | 0.12   | 4400           | 0.22      | 0.12   | 4400           |
| 80                       | 1750      | 21.9       | 0.95      | 0.62   | 1795           | —         | —      | —              | —         | —      | —              | —         | —      | —              |
|                          | 1150      | 14.4       | 0.81      | 0.50   | 2171           | —         | —      | —              | —         | —      | —              | —         | —      | —              |
|                          | 690       | 8.6        | 0.61      | 0.34   | 2512           | —         | —      | —              | —         | —      | —              | —         | —      | —              |
|                          | 100       | 1.3        | 0.14      | 0.06   | 3030           | —         | —      | —              | —         | —      | —              | —         | —      | —              |
| 100                      | 1750      | 17.5       | 0.65      | 0.39   | 1414           | —         | —      | —              | —         | —      | —              | —         | —      | —              |
|                          | 1150      | 11.5       | 0.56      | 0.31   | 1711           | —         | —      | —              | —         | —      | —              | —         | —      | —              |
|                          | 690       | 6.9        | 0.43      | 0.22   | 1980           | —         | —      | —              | —         | —      | —              | —         | —      | —              |
|                          | 100       | 1          | 0.10      | 0.04   | 2387           | —         | —      | —              | —         | —      | —              | —         | —      | —              |
| Overhung Load*           |           |            | 1300 LBS. |        |                | 1300 LBS  |        |                | 2000 LBS. |        |                | 2000 LBS. |        |                |
| Output Shaft Thrust Load |           |            | 1100 LBS. |        |                | 1100 LBS. |        |                | 1300 LBS. |        |                | 1300 LBS. |        |                |

RATINGS SHOWN REFLECT MAXIMUM GEAR CAPACITY WITH KLUBERSYNTH UH1 6-460.

\*Overhung Load is at centerline of output shaft projection and with NO THRUST Load.

**Note:** For input speeds above 1750 RPM. Do NOT exceed 1750 RPM input horsepower (See page 347).

# 700 Series Single Reduction Ratio & Capacity Selection Tables

## Horsepower and Torque Capacities at Listed RPM Inputs (Service Factor 1.0)

| Series Size              |           |            | 752       |        |                | 752F      |        |                | 760       |        |                | 760F      |        |                |
|--------------------------|-----------|------------|-----------|--------|----------------|-----------|--------|----------------|-----------|--------|----------------|-----------|--------|----------------|
| Ratio                    | Input RPM | Output RPM | Input HP  | Output |                | Input HP  | Output |                | Input HP  | Output |                | Input HP  | Output |                |
|                          |           |            |           | HP     | Torque (lb-in) |           | HP     | Torque (lb-in) |           | HP     | Torque (lb-in) |           | HP     | Torque (lb-in) |
| 10                       | 1750      | 175        | 17.31     | 16.27  | 5860           | 21.63     | 19.94  | 7182           | 23.83     | 22.40  | 8067           | 26.13     | 24.04  | 8658           |
|                          | 1150      | 115        | 12.27     | 11.31  | 6200           | 14.25     | 13.14  | 7200           | 18.60     | 17.15  | 9400           | 20.78     | 19.16  | 10500          |
|                          | 690       | 69         | 9.58      | 8.54   | 7800           | 10.55     | 9.41   | 8600           | 14.87     | 13.41  | 12250          | 16.09     | 14.51  | 13250          |
|                          | 100       | 10         | 1.93      | 1.67   | 10500          | 1.93      | 1.67   | 10500          | 3.19      | 2.79   | 17600          | 3.19      | 2.79   | 17600          |
| 15                       | 1750      | 116.7      | 13.06     | 12.25  | 6618           | 16.32     | 14.49  | 7829           | 17.87     | 16.76  | 9055           | 22.33     | 19.83  | 10712          |
|                          | 1150      | 77.7       | 9.14      | 8.15   | 6700           | 10.50     | 9.37   | 7700           | 12.56     | 11.20  | 9200           | 14.73     | 13.14  | 10800          |
|                          | 690       | 46         | 7.19      | 6.42   | 8800           | 7.74      | 6.92   | 9475           | 9.20      | 8.21   | 11250          | 10.76     | 9.61   | 13184          |
|                          | 100       | 6.7        | 1.56      | 1.26   | 11900          | 1.56      | 1.26   | 11900          | 2.18      | 1.81   | 17000          | 2.18      | 1.81   | 17000          |
| 20                       | 1750      | 87.5       | 10.19     | 9.49   | 6830           | 12.74     | 11.21  | 8075           | 14.02     | 13.07  | 9412           | 17.52     | 15.38  | 11080          |
|                          | 1150      | 57.5       | 7.57      | 6.66   | 7300           | 8.70      | 7.66   | 8400           | 10.63     | 9.35   | 10250          | 11.93     | 10.49  | 11500          |
|                          | 690       | 34.5       | 5.59      | 4.93   | 9000           | 5.97      | 5.25   | 9600           | 7.83      | 6.89   | 12600          | 8.54      | 7.53   | 13750          |
|                          | 100       | 5.0        | 1.18      | 0.92   | 11585          | 1.18      | 0.92   | 11585          | 1.63      | 1.34   | 17000          | 1.63      | 1.34   | 17000          |
| 30                       | 1750      | 58.3       | 7.30      | 6.45   | 6964           | 9.12      | 7.72   | 8336           | 9.81      | 8.89   | 9603           | 12.26     | 10.38  | 11219          |
|                          | 1150      | 38.3       | 5.50      | 4.68   | 7700           | 6.29      | 5.34   | 8800           | 7.50      | 6.38   | 10500          | 8.39      | 7.14   | 11750          |
|                          | 690       | 23         | 4.03      | 3.43   | 9400           | 4.38      | 3.72   | 10200          | 5.48      | 4.67   | 12800          | 5.91      | 5.04   | 13800          |
|                          | 100       | 3.3        | 0.93      | 0.64   | 12250          | 0.93      | 0.64   | 12250          | 1.24      | 0.92   | 17500          | 1.24      | 0.92   | 17500          |
| 40                       | 1750      | 43.8       | 5.60      | 4.78   | 6889           | 7.00      | 5.68   | 8178           | 7.65      | 6.64   | 9566           | 9.56      | 7.77   | 11197          |
|                          | 1150      | 28.8       | 4.06      | 3.33   | 7300           | 4.68      | 3.84   | 8400           | 5.74      | 4.68   | 10250          | 6.44      | 5.25   | 11500          |
|                          | 690       | 17.3       | 3.01      | 2.46   | 9000           | 3.21      | 2.62   | 9600           | 4.21      | 3.44   | 12600          | 4.60      | 3.75   | 13750          |
|                          | 100       | 2.5        | 0.71      | 0.46   | 11585          | 0.71      | 0.46   | 11585          | 1.00      | 0.67   | 17000          | 1.00      | 0.67   | 17000          |
| 50                       | 1750      | 35         | 4.49      | 3.75   | 6751           | 5.61      | 4.26   | 7678           | 6.12      | 5.21   | 9378           | 7.65      | 5.46   | 9836           |
|                          | 1150      | 23         | 3.34      | 2.48   | 6800           | 3.93      | 2.92   | 8000           | 4.68      | 3.58   | 9800           | 5.25      | 4.01   | 11000          |
|                          | 690       | 13.8       | 2.32      | 1.77   | 8100           | 2.52      | 1.93   | 8800           | 3.52      | 2.68   | 12250          | 3.80      | 2.90   | 13250          |
|                          | 100       | 2.0        | 0.46      | 0.28   | 9000           | 0.46      | 0.28   | 9000           | 0.80      | 0.51   | 16000          | 0.80      | 0.51   | 16000          |
| 60                       | 1750      | 29.2       | 3.67      | 2.97   | 6416           | 4.59      | 3.22   | 6953           | 5.03      | 4.13   | 8934           | 6.29      | 4.41   | 9528           |
|                          | 1150      | 19.2       | 2.89      | 2.04   | 6700           | 3.33      | 2.34   | 7700           | 4.31      | 2.98   | 9800           | 4.84      | 3.35   | 11000          |
|                          | 690       | 11.5       | 2.07      | 1.46   | 8000           | 2.25      | 1.59   | 8700           | 3.22      | 2.23   | 12200          | 3.48      | 2.41   | 13200          |
|                          | 100       | 1.7        | 0.43      | 0.24   | 9000           | 0.43      | 0.24   | 9000           | 0.74      | 0.43   | 16000          | 0.74      | 0.43   | 16000          |
| Overhung Load*           |           |            | 2200 LBS. |        |                | 2200 LBS  |        |                | 2400 LBS. |        |                | 2400 LBS. |        |                |
| Output Shaft Thrust Load |           |            | 1900 LBS. |        |                | 1900 LBS. |        |                | 2100 LBS. |        |                | 2100 LBS. |        |                |

RATINGS SHOWN REFLECT MAXIMUM GEAR CAPACITY WITH KLUBERSYNTH UH1 6-460.

\*Overhung Load is at centerline of output shaft projection and with NO THRUST Load.

Note: For input speeds above 1750 RPM. Do NOT exceed 1750 RPM input horsepower (See page 347).

A

# 700 Series Single Reduction Flanged Reducer Dimensions

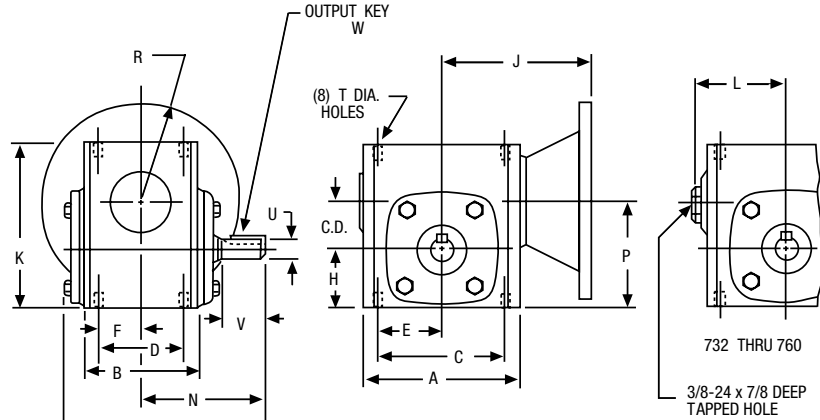
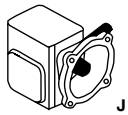
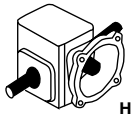
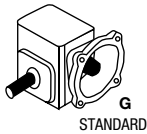
## F700/QC700 Series Flanged Quill/Flanged Coupling Types

### Basic Models (No Base)

FOR ORDERING INFORMATION, see Page 16

FOR RATING INFORMATION, See Pages 17, 22-33

ASSEMBLY  
TYPES\*



ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B    | C     | D    | E    | F    | H    | J-NEMA Mounting †† |               |              |                         |       |                         | K     | L    | M     |
|------|------|-------|------|-------|------|------|------|------|--------------------|---------------|--------------|-------------------------|-------|-------------------------|-------|------|-------|
|      |      |       |      |       |      |      |      |      | F700               |               | QC700        |                         | RF700 |                         |       |      |       |
|      |      |       |      |       |      |      |      |      | 56C<br>140TC       | 180TC<br>210C | 56C<br>140TC | 180TC<br>210TC<br>250TC | 56C   | 180TC<br>210TC<br>250TC |       |      |       |
| 710  | 1.00 | 3.25  | 2.50 | 2.63  | 1.69 | 1.31 | 0.84 | 1.31 | 3.97               | —             | 5.01         | —                       | 5.72  | —                       | 3.63  | —    | 4.53  |
| 713  | 1.33 | 4.25  | 2.88 | 3.25  | 2.00 | 1.63 | 1.00 | 1.72 | 3.94               | —             | 5.46         | —                       | 6.59  | —                       | 4.64  | —    | 6.03  |
| 715  | 1.54 | 5.13  | 3.69 | 4.19  | 2.75 | 2.09 | 1.38 | 1.91 | 4.50               | —             | 6.11         | —                       | 7.34  | —                       | 5.38  | —    | 6.84  |
| 718  | 1.75 | 5.50  | 3.69 | 4.19  | 2.75 | 2.09 | 1.38 | 2.06 | 4.69               | —             | 6.29         | —                       | 7.53  | —                       | 5.75  | —    | 6.81  |
| 721  | 2.06 | 6.00  | 3.81 | 5.00  | 2.88 | 2.50 | 1.44 | 2.28 | 5.06               | —             | 6.76         | —                       | 8.31  | —                       | 6.38  | —    | 7.28  |
| 724  | 2.38 | 6.38  | 4.06 | 5.00  | 2.88 | 2.50 | 1.44 | 2.50 | 5.25               | 5.69          | 6.95         | 7.81                    | 8.50  | 9.94                    | 6.94  | —    | 7.81  |
| 726  | 2.62 | 7.38  | 4.44 | 6.38  | 3.38 | 3.19 | 1.69 | 2.94 | 5.75               | 6.19          | 7.39         | 8.31                    | 9.47  | 10.44                   | 8.00  | —    | 8.53  |
| 730  | 3.00 | 8.12  | 5.25 | 7.00  | 4.00 | 3.50 | 2.00 | 3.25 | 6.20               | 6.64          | 7.84         | 8.77                    | 9.92  | 10.88                   | 8.88  | —    | 10.02 |
| 732  | 3.25 | 9.00  | 5.88 | 7.50  | 4.00 | 3.75 | 2.00 | 3.50 | 6.56               | 7.00          | 8.20         | 9.13                    | 10.28 | 11.25                   | 9.38  | 4.94 | 10.81 |
| 738  | 3.75 | 10.00 | 6.38 | 8.50  | 4.75 | 4.25 | 2.38 | 3.88 | 7.06               | 7.50          | 8.70         | 10.28                   | 11.81 | 12.88                   | 10.44 | 5.50 | 11.88 |
| 752  | 5.16 | 13.13 | 7.38 | 11.00 | 5.81 | 5.50 | 2.91 | 5.31 | —                  | —             | —            | —                       | —     | 16.00                   | 13.75 | 7.19 | 13.81 |
| 760  | 6.00 | 14.50 | 8.13 | 12.75 | 6.38 | 6.38 | 3.19 | 6.50 | —                  | —             | —            | —                       | —     | 16.69                   | 16.50 | 7.94 | 15.31 |

| Size | N     | P     | R-NEMA Mounting |              |                         | T           |       | Low Speed Shaft     |      |       |         | Aprox.<br>Weight (LBS.) |       | Fan Kit<br>No.** |
|------|-------|-------|-----------------|--------------|-------------------------|-------------|-------|---------------------|------|-------|---------|-------------------------|-------|------------------|
|      |       |       | 42CZ            | 56C<br>140TC | 180TC<br>210TC<br>250TC | TAP<br>Size | Depth | U<br>+.000<br>-.001 | V    | W-Key |         | F700                    | QC700 |                  |
|      |       |       |                 |              |                         |             |       |                     |      | Sq.   | Lenght  |                         |       |                  |
| 710  | 2.88  | 2.31  | 2.16            | 3.31         | —                       | 1/4-20      | .44   | .500                | 1.19 | 1/8   | 5/8     | 6                       | 8     | —                |
| 713  | 4.00  | 3.06  | —               | 3.31         | —                       | 5/16-18     | .50   | .625                | 2.00 | 3/16  | 1       | 12                      | 15    | —                |
| 715  | 4.31  | 3.44  | —               | 3.31         | —                       | 5/16-18     | .50   | .750                | 1.78 | 3/16  | 1       | 18                      | 24    | —                |
| 718  | 4.31  | 3.81  | —               | 3.31         | —                       | 5/16-18     | .50   | .875                | 1.78 | 3/16  | 1       | 20                      | 27    | —                |
| 721  | 4.69  | 4.34  | —               | 3.31         | —                       | 3/8-16      | .56   | 1.000               | 2.09 | 1/4   | 1-1/4   | 25                      | 30    | —                |
| 724  | 5.09  | 4.88  | —               | 3.31         | 4.63                    | 3/8-16      | .56   | 1.125               | 2.38 | 1/4   | 1-1/4   | 31                      | 36    | —                |
| 726  | 5.63  | 5.56  | —               | 3.31         | 4.63                    | 3/8-16      | .56   | 1.125               | 2.63 | 1/4   | 1-15/16 | 46                      | 47    | —                |
| 730  | 6.75  | 6.25  | —               | 3.31         | 4.63                    | 7/16-14     | .88   | 1.250               | 3.25 | 1/4   | 2-1/4   | 66                      | 72    | —                |
| 732  | 7.06  | 6.75  | —               | 3.31         | 4.63                    | 7/16-14     | .66   | 1.375               | 3.25 | 5/16  | 2-7/16  | 84                      | 84    | 51450            |
| 738  | 7.75  | 7.63  | —               | 3.31         | 4.63                    | 1/2-13      | .81   | 1.625               | 3.50 | 3/8   | 2-1/4   | 117                     | 119   | 51451            |
| 752  | 9.06  | 10.50 | —               | —            | 4.63                    | 5/8-11      | 1.00  | 2.000               | 4.16 | 1/2   | 2-15/16 | —                       | 221   | 51452            |
| 760  | 10.00 | 12.50 | —               | —            | 4.63                    | 5/8-11      | 1.00  | 2.250               | 4.56 | 1/2   | 3-3/8   | —                       | 270   | 51453            |

\*See Assemblies and Mounting Positions, Page 18.

\*\*For Fan Kits, see Page 130.

For Base Kits, see Page 129.

†† 42CZ Flange Dimensions: F700 J = 3.16 : QC700 J = 4.15 : RF700 J = 4.76



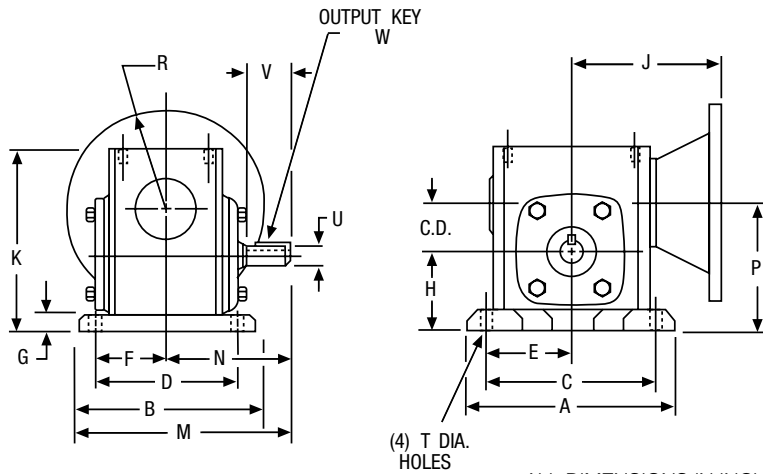
# 700 Series Single Reduction Flanged Reducer Dimensions

## F700/QC700 Series Flanged Quill/Flanged Coupling Types

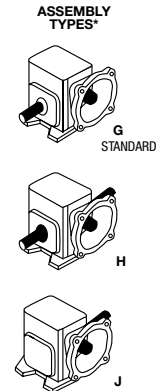
### B Position Horizontal Base

FOR ORDERING INFORMATION, see Page 16

FOR RATING INFORMATION, See Pages 17, 22-33



ALL DIMENSIONS IN INCHES



| Size | C.D. | A     | B     | C     | D    | E    | F    | G    | H    | J-NEMA Mounting †† |               |              |                         |       |                         | K     | M     |
|------|------|-------|-------|-------|------|------|------|------|------|--------------------|---------------|--------------|-------------------------|-------|-------------------------|-------|-------|
|      |      |       |       |       |      |      |      |      |      | F700               |               | QC700        |                         | RF700 |                         |       |       |
|      |      |       |       |       |      |      |      |      |      | 56C<br>140TC       | 180TC<br>210C | 56C<br>140TC | 180TC<br>210TC<br>250TC | 56C   | 180TC<br>210TC<br>250TC |       |       |
| 710  | 1.00 | 4.63  | 3.69  | 3.75  | 2.88 | 1.88 | 1.44 | 0.44 | 1.75 | 3.97               | —             | 5.01         | —                       | 5.72  | —                       | 4.06  | 4.72  |
| 713  | 1.33 | 5.38  | 4.19  | 4.38  | 3.31 | 2.19 | 1.66 | 0.53 | 2.25 | 3.94               | —             | 5.46         | —                       | 6.59  | —                       | 5.19  | 6.09  |
| 715  | 1.54 | 6.44  | 5.44  | 5.25  | 4.31 | 2.63 | 2.16 | 0.59 | 2.50 | 4.50               | —             | 6.11         | —                       | 7.34  | —                       | 5.97  | 7.03  |
| 718  | 1.75 | 7.00  | 5.69  | 5.75  | 4.50 | 2.88 | 2.25 | 0.69 | 2.75 | 4.69               | —             | 6.29         | —                       | 7.53  | —                       | 6.44  | 7.16  |
| 721  | 2.06 | 7.75  | 5.94  | 6.38  | 4.69 | 3.19 | 2.34 | 0.72 | 3.00 | 5.06               | —             | 6.76         | —                       | 8.31  | —                       | 7.09  | 7.66  |
| 724  | 2.38 | 8.50  | 6.19  | 7.06  | 4.88 | 3.53 | 2.44 | 0.75 | 3.25 | 5.25               | 5.69          | 6.95         | 7.81                    | 8.50  | 9.94                    | 7.69  | 8.19  |
| 726  | 2.62 | 9.63  | 6.66  | 8.00  | 5.25 | 4.00 | 2.63 | 0.75 | 3.69 | 5.75               | 6.19          | 7.39         | 8.31                    | 9.47  | 10.44                   | 8.75  | 8.97  |
| 730  | 3.00 | 10.00 | 7.50  | 8.44  | 5.88 | 4.22 | 2.94 | 0.75 | 4.00 | 6.20               | 6.64          | 7.84         | 8.77                    | 9.92  | 10.88                   | 9.63  | 10.50 |
| 732  | 3.25 | 11.19 | 7.66  | 9.50  | 6.13 | 4.75 | 3.06 | 0.88 | 4.38 | 6.56               | 7.00          | 8.20         | 9.13                    | 10.28 | 11.25                   | 10.25 | 10.94 |
| 738  | 3.75 | 12.13 | 8.66  | 10.38 | 7.00 | 5.19 | 3.50 | 0.94 | 4.81 | 7.06               | 7.50          | 8.70         | 10.28                   | 11.81 | 12.88                   | 11.38 | 12.09 |
| 752  | 5.16 | 16.38 | 10.63 | 14.13 | 8.38 | 7.06 | 4.19 | 1.13 | 6.44 | —                  | —             | —            | —                       | —     | 16.00                   | 14.88 | 14.38 |
| 760  | 6.00 | 19.00 | 12.00 | 16.50 | 9.50 | 8.25 | 4.75 | 1.25 | 7.75 | —                  | —             | —            | —                       | —     | 16.69                   | 17.75 | 16.00 |

| Size | N     | P     | R-NEMA Mounting |           |                   | T     | Low Speed Shaft |      |       |         | Aprox. Weight (LBS.) |       | Base Kit No.† | Fan Kit No.** |
|------|-------|-------|-----------------|-----------|-------------------|-------|-----------------|------|-------|---------|----------------------|-------|---------------|---------------|
|      |       |       | 42CZ            | 56C 140TC | 180TC 210TC 250TC |       | U +.000 -.001   | V    | W-Key |         | F700                 | QC700 |               |               |
|      |       |       |                 |           |                   |       |                 |      | Sq.   | Length  |                      |       |               |               |
| 710  | 2.88  | 2.75  | 2.16            | 3.31      | —                 | 11/32 | .500            | 1.19 | 1/8   | 5/8     | 7                    | 8     | 56575         | —             |
| 713  | 4.00  | 3.59  | —               | 3.31      | —                 | 11/32 | .625            | 2.00 | 3/16  | 1       | 13                   | 16    | 56577         | —             |
| 715  | 4.31  | 4.06  | —               | 3.31      | —                 | 13/32 | .750            | 1.78 | 3/16  | 1       | 19                   | 25    | 56438         | —             |
| 718  | 4.31  | 4.50  | —               | 3.31      | —                 | 13/32 | .875            | 1.78 | 3/16  | 1       | 21                   | 28    | 56585         | —             |
| 721  | 4.69  | 5.06  | —               | 3.31      | —                 | 15/32 | 1.000           | 2.09 | 1/4   | 1-1/4   | 26                   | 31    | 56440         | —             |
| 724  | 5.09  | 5.63  | —               | 3.31      | 4.63              | 15/32 | 1.125           | 2.38 | 1/4   | 1-1/4   | 32                   | 37    | 56591         | —             |
| 726  | 5.63  | 6.31  | —               | 3.31      | 4.63              | 17/32 | 1.125           | 2.63 | 1/4   | 1-15/16 | 49                   | 49    | 56595         | —             |
| 730  | 6.75  | 7.00  | —               | 3.31      | 4.63              | 17/32 | 1.250           | 3.25 | 1/4   | 2-1/4   | 71                   | 72    | 65544         | —             |
| 732  | 7.06  | 7.63  | —               | 3.31      | 4.63              | 17/32 | 1.375           | 3.25 | 5/16  | 2-7/16  | 93                   | 94    | 56599         | 51450         |
| 738  | 7.75  | 8.56  | —               | 3.31      | 4.63              | 19/32 | 1.625           | 3.50 | 3/8   | 2-1/4   | 131                  | 140   | 56603         | 51451         |
| 752  | 9.06  | 11.63 | —               | —         | 4.63              | 25/32 | 2.000           | 4.16 | 1/2   | 2-15/16 | —                    | 242   | 56607         | 51452         |
| 760  | 10.00 | 13.75 | —               | —         | 4.63              | 29/32 | 2.250           | 4.56 | 1/2   | 3-3/8   | —                    | 300   | 56610         | 51453         |

\*See Assemblies and Mounting Positions, Page 18.

\*\*For Fan Kits, see Page 130.

For Base Kits, see Page 129.

†† 42CZ Flange Dimensions: F700 J = 3.16 : QC700 J = 4.15 : RF700 J = 4.76

# 700 Series Single Reduction Flanged Reducer Dimensions

## F700/QC700 Series Flanged Quill/Flanged Coupling Types

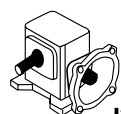
### A Position Horizontal Base

FOR ORDERING INFORMATION, see Page 16

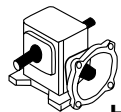
FOR RATING INFORMATION, See Pages 17, 22-33

A

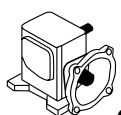
#### ASSEMBLY TYPES\*



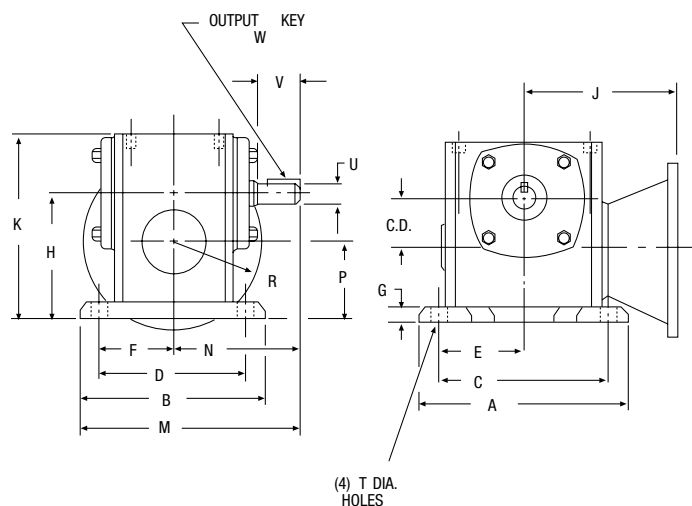
J\* STANDARD



H



G



ALL DIMENSIONS IN INCHES

| NEMA Mounting | Input                    |             |
|---------------|--------------------------|-------------|
|               | Bore<br>+.0015<br>-.0000 | Keyway      |
| 42CZ          | 0.5                      | 1/8 x 1/16  |
| 56C           | 0.625                    | 3/16 x 3/32 |
| 140TC         | 0.875                    | 3/16 x 3/32 |
| 180TC         | 1.125                    | 1/4 x 1/8   |
| 210TC         | 1.375                    | 5/16 x 5/32 |

ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B    | C     | D    | E    | F    | G    | H    | J-NEMA Mounting †† |               |              |                         |       |                         | K     | M     |
|------|------|-------|------|-------|------|------|------|------|------|--------------------|---------------|--------------|-------------------------|-------|-------------------------|-------|-------|
|      |      |       |      |       |      |      |      |      |      | F700               |               | QC700        |                         | RF700 |                         |       |       |
|      |      |       |      |       |      |      |      |      |      | 56C<br>140TC       | 180TC<br>210C | 56C<br>140TC | 180TC<br>210TC<br>250TC | 56C   | 180TC<br>210TC<br>250TC |       |       |
| 710  | 1.00 | 4.62  | 3.69 | 3.75  | 2.88 | 1.88 | 1.44 | 0.44 | 2.75 | 3.97               | —             | 5.01         | —                       | 5.72  | —                       | 4.06  | 4.72  |
| 713  | 1.33 | 5.38  | 4.19 | 4.38  | 3.31 | 2.19 | 1.66 | 0.53 | 3.47 | 3.94               | —             | 5.46         | —                       | 6.59  | —                       | 5.19  | 6.09  |
| 715  | 1.54 | 6.44  | 5.44 | 5.25  | 4.31 | 2.63 | 2.16 | 0.59 | 4.06 | 4.50               | —             | 6.11         | —                       | 7.34  | —                       | 5.97  | 7.03  |
| 718  | 1.75 | 7.00  | 5.69 | 5.75  | 4.50 | 2.88 | 2.25 | 0.69 | 4.38 | 4.69               | —             | 6.29         | —                       | 7.53  | —                       | 6.44  | 7.16  |
| 721  | 2.06 | 7.75  | 5.94 | 6.37  | 4.69 | 3.19 | 2.34 | 0.72 | 4.81 | 5.06               | —             | 6.76         | —                       | 8.31  | —                       | 7.09  | 7.66  |
| 724  | 2.37 | 8.50  | 6.19 | 7.06  | 4.88 | 3.53 | 2.44 | 0.75 | 5.19 | 5.25               | 5.69          | 6.95         | 7.81                    | 8.50  | 9.94                    | 7.69  | 8.19  |
| 726  | 2.62 | 9.63  | 6.66 | 8.00  | 5.25 | 4.00 | 2.62 | 0.75 | 5.81 | 5.75               | 6.19          | 7.39         | 8.31                    | 9.47  | 10.44                   | 8.75  | 8.97  |
| 730  | 3.00 | 10.00 | 7.50 | 8.44  | 5.88 | 4.22 | 2.94 | 0.75 | 6.38 | 6.20               | 6.64          | 7.84         | 8.77                    | 9.92  | 10.88                   | 9.63  | 10.50 |
| 732  | 3.25 | 11.19 | 7.66 | 9.50  | 6.12 | 4.75 | 3.06 | 0.88 | 6.75 | 6.56               | 7.00          | 8.20         | 9.13                    | 10.28 | 11.25                   | 10.25 | 10.89 |
| 738  | 3.75 | 12.13 | 8.66 | 10.37 | 7.00 | 5.19 | 3.50 | 0.94 | 7.50 | 7.06               | 7.50          | 8.70         | 10.28                   | 11.81 | 12.88                   | 11.38 | 12.09 |

| Size | N    | P    | R             |      |       |       |       | T<br>Holes | Low Speed Shaft   |      |       |         | Aprox.<br>Wiegth (LBS.) |       | Base<br>Kit<br>No.† | Fan<br>Kit<br>No.** |
|------|------|------|---------------|------|-------|-------|-------|------------|-------------------|------|-------|---------|-------------------------|-------|---------------------|---------------------|
|      |      |      | NEMA Mounting |      |       |       |       |            | U<br>+.000/- .001 | V    | W-Key |         | F700                    | QC700 |                     |                     |
|      |      |      | 42CZ          | 56C  | 140TC | 180TC | 210TC |            |                   |      | Sq.   | Length  |                         |       |                     |                     |
| 710  | 2.88 | 1.75 | 2.16          | 3.31 | —     | —     | —     | 11/32      | .500              | 1.19 | 1/8   | 5/8     | 7                       | 8     | 56575               | —                   |
| 713  | 4.00 | 2.13 | —             | 3.31 | —     | —     | —     | 11/32      | .625              | 2.00 | 3/16  | 1       | 13                      | 16    | 56577               | —                   |
| 715  | 4.31 | 2.50 | —             | 3.31 | 3.31  | —     | —     | 13/32      | .750              | 1.78 | 3/16  | 1       | 19                      | 25    | 56438               | —                   |
| 718  | 4.31 | 2.63 | —             | 3.31 | 3.31  | —     | —     | 13/32      | .875              | 1.78 | 3/16  | 1       | 21                      | 28    | 56585               | —                   |
| 721  | 4.69 | 2.75 | —             | 3.31 | 3.31  | —     | —     | 15/32      | 1.000             | 2.09 | 1/4   | 1-1/4   | 26                      | 31    | 56440               | —                   |
| 724  | 5.09 | 2.81 | —             | 3.31 | 3.31  | 4.63  | —     | 15/32      | 1.125             | 2.37 | 1/4   | 1-1/4   | 32                      | 37    | 56591               | —                   |
| 726  | 5.62 | 3.19 | —             | 3.31 | 3.31  | 4.63  | —     | 17/32      | 1.125             | 2.62 | 1/4   | 1-15/16 | 49                      | 49    | 56595               | —                   |
| 730  | 6.75 | 3.38 | —             | 3.31 | 3.31  | 4.63  | —     | 17/32      | 1.250             | 3.25 | 1/4   | 2-1/4   | 71                      | 72    | 65544               | —                   |
| 732  | 7.06 | 3.50 | —             | 3.31 | 3.31  | 4.63  | —     | 17/32      | 1.375             | 3.25 | 5/16  | 2-7/16  | 93                      | 94    | 56599               | 51450               |
| 738  | 7.75 | 3.75 | —             | —    | 3.31  | 4.63  | 4.63  | 19/32      | 1.625             | 3.50 | 3/8   | 2-1/4   | 131                     | 140   | 56603               | 51451               |

\* See Assemblies and Mounting Positions, Page 18.

\*\* For Fan Kits, see Page 130.

For Base Kits, see Page 129.

†† 42CZ Flange Dimensions: F700 J = 3.16 : QC700 J = 4.15 : RF700 J = 4.76

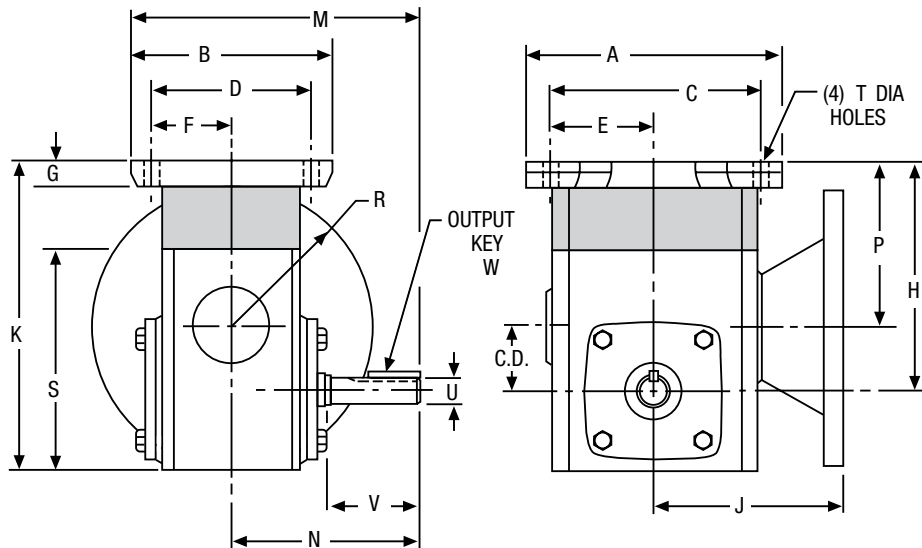
# 700 Series Single Reduction Flanged Reducer Dimensions

## F700/QC700 Series Flanged Quill/Flanged Coupling Types

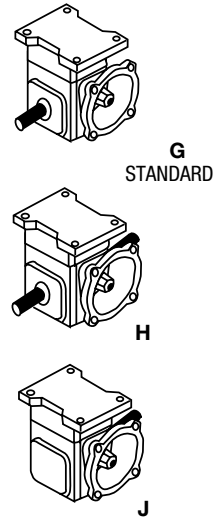
### BRB Position Horizontal Base with Riser Block

FOR ORDERING INFORMATION, see Page 16

FOR RATING INFORMATION, See Pages 17, 22-33



#### ASSEMBLY TYPES\*



A

| Size | C.D. | A     | B    | C    | D    | E    | F    | G   | H             |           | J-NEMA Mounting †† |           |            |           |            |       |                   | K    |           |            |
|------|------|-------|------|------|------|------|------|-----|---------------|-----------|--------------------|-----------|------------|-----------|------------|-------|-------------------|------|-----------|------------|
|      |      |       |      |      |      |      |      |     | NEMA Mounting |           |                    | F700      |            | QC700     |            | RF700 |                   | 42CZ | 56C 140TC | 180TC 210C |
|      |      |       |      |      |      |      |      |     | 42CZ          | 56C 140TC | 180TC 210C         | 56C 140TC | 180TC 210C | 56C 140TC | 180TC 210C | 56C   | 180TC 210TC 250TC |      |           |            |
| 710  | 1.00 | 4.63  | 3.69 | 3.75 | 2.88 | 1.88 | 1.44 | .44 | 3.94          | 5.13      | —                  | 3.97      | —          | 5.01      | —          | 5.72  | —                 | 5.25 | 6.44      | —          |
| 713  | 1.33 | 5.38  | 4.19 | 4.38 | 3.31 | 2.19 | 1.66 | .53 | —             | 5.47      | —                  | 3.94      | —          | 5.46      | —          | 6.59  | —                 | —    | 7.19      | —          |
| 715  | 1.54 | 6.44  | 5.44 | 5.25 | 4.31 | 2.63 | 2.16 | .59 | —             | 5.66      | —                  | 4.50      | —          | 6.11      | —          | 7.34  | —                 | —    | 7.57      | —          |
| 718  | 1.75 | 7.00  | 5.69 | 5.75 | 4.50 | 2.88 | 2.25 | .69 | —             | 6.06      | —                  | 4.69      | —          | 6.29      | —          | 7.53  | —                 | —    | 8.13      | —          |
| 721  | 2.06 | 7.75  | 5.94 | 6.38 | 4.69 | 3.19 | 2.34 | .72 | —             | 6.34      | —                  | 5.06      | —          | 6.76      | —          | 8.31  | —                 | —    | 8.63      | —          |
| 724  | 2.38 | 8.50  | 6.19 | 7.06 | 4.88 | 3.53 | 2.44 | .75 | —             | 6.69      | 8.19               | 5.25      | 5.69       | 6.95      | 7.81       | 8.50  | 9.94              | —    | 9.19      | 10.69      |
| 726  | 2.62 | 9.63  | 6.66 | 8.00 | 5.25 | 4.00 | 2.63 | .75 | —             | 7.06      | 8.33               | 5.75      | 6.19       | 7.39      | 8.31       | 9.47  | 10.44             | —    | 10.00     | 11.27      |
| 730  | 3.00 | 10.00 | 7.5  | 8.44 | 5.88 | 4.22 | 2.94 | .75 | —             | 7.44      | 8.51               | 6.20      | 6.64       | 7.84      | 8.77       | 9.92  | 10.88             | —    | 10.69     | 11.76      |
| 732  | 3.25 | 11.19 | 7.66 | 9.5  | 6.13 | 4.75 | 3.06 | .88 | —             | 7.94      | 9.13               | 6.56      | 7.00       | 8.20      | 9.13       | 10.28 | 11.25             | —    | 11.44     | 12.63      |

| Size | M     | N    | P             |              |               | R             |              |               | S    | T     | Low Speed Shaft     |      |       |         | Aprox. Weight (LBS.) |    | Base Kit No.† | Fan Kit No.** |
|------|-------|------|---------------|--------------|---------------|---------------|--------------|---------------|------|-------|---------------------|------|-------|---------|----------------------|----|---------------|---------------|
|      |       |      | NEMA Mounting |              |               | NEMA Mounting |              |               |      |       | U<br>+.000<br>-.001 | V    | W-Key |         |                      |    |               |               |
|      |       |      | 42CZ          | 56C<br>140TC | 180TC<br>210C | 42CZ          | 56C<br>140TC | 180TC<br>210C |      |       |                     |      | Sq.   | Length  | F                    | QC |               |               |
| 710  | 4.72  | 2.88 | 2.94          | 4.13         | —             | 1.69          | 3.31         | —             | 3.62 | 11/32 | .500                | 1.19 | 1/8   | 5/8     | 7                    | 8  | 56575         | —             |
| 713  | 6.09  | 4.00 | —             | 4.13         | —             | —             | 3.31         | —             | 4.66 | 11/32 | .625                | 2.00 | 3/16  | 1       | 13                   | 16 | 56577         | —             |
| 715  | 7.03  | 4.31 | —             | 4.10         | —             | —             | 3.31         | —             | 5.38 | 13/32 | .750                | 1.78 | 3/16  | 1       | 19                   | 24 | 56438         | —             |
| 718  | 7.16  | 4.31 | —             | 4.32         | —             | —             | 3.31         | —             | 5.75 | 13/32 | .875                | 1.78 | 3/16  | 1       | 21                   | 27 | 56585         | —             |
| 721  | 7.66  | 4.69 | —             | 4.29         | —             | —             | 3.31         | —             | 6.38 | 15/32 | 1.000               | 2.09 | 1/4   | 1 1/4   | 26                   | 31 | 56440         | —             |
| 724  | 8.19  | 5.09 | —             | 4.31         | 5.81          | —             | 3.31         | 4.63          | 6.94 | 15/32 | 1.125               | 2.38 | 1/4   | 1 1/4   | 32                   | 37 | 56591         | —             |
| 726  | 8.97  | 5.63 | —             | 4.45         | 5.71          | —             | 3.31         | 4.63          | 8.00 | 17/32 | 1.125               | 2.63 | 1/4   | 1 15/16 | 49                   | 49 | 56595         | —             |
| 730  | 10.50 | 6.75 | —             | 4.44         | 5.51          | —             | 3.31         | 4.63          | 8.88 | 17/32 | 1.250               | 3.25 | 1/4   | 2-1/4   | 71                   | 72 | 65544         | —             |
| 732  | 10.94 | 7.06 | —             | 4.69         | 5.88          | —             | 3.31         | 4.63          | 9.38 | 17/32 | 1.375               | 3.25 | 5/16  | 2 7/16  | 93                   | 94 | 56599         | 51450         |

\* See Assemblies and Mounting Positions, Page 18.

\*\* For Fan Kits, see Page 130.

For Base Kits, see Page 129.

†† 42CZ Flange Dimensions: F700 J = 3.16 : QC700 J = 4.15 : RF700 J = 4.76

# 700 Series Single Reduction Flanged Reducer Dimensions

## F700/QC700 Series Flanged Quill/Flanged Coupling Types

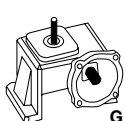
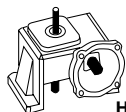
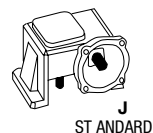
C/D Position Vertical Base; C/E High Base; D/F Low Base

FOR ORDERING INFORMATION, see Page 16

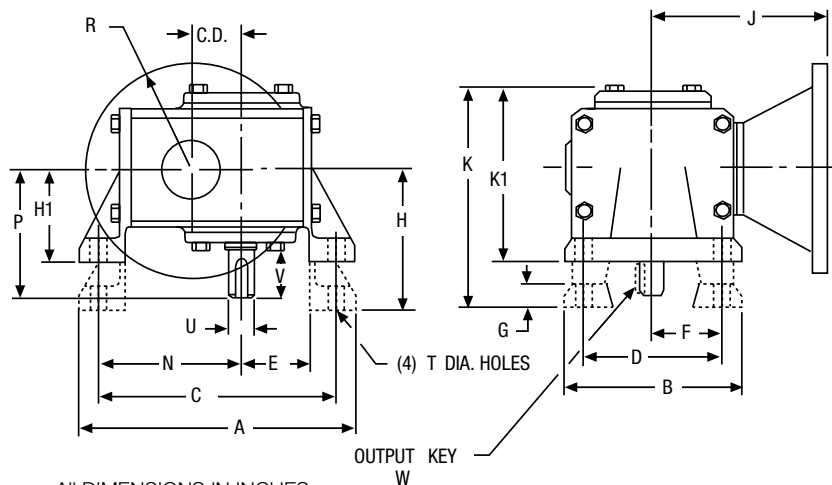
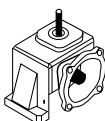
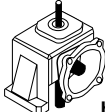
FOR RATING INFORMATION, See Pages 17, 22-33

### ASSEMBLY TYPES\*

#### C/D BASES



#### E/F BASES



ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B     | C     | D     | E    | F    | G    | H    | H1   | J-NEMA Mounting †† |               |              |                         |       |                         | K     | K1    |
|------|------|-------|-------|-------|-------|------|------|------|------|------|--------------------|---------------|--------------|-------------------------|-------|-------------------------|-------|-------|
|      |      |       |       |       |       |      |      |      |      |      | F700               |               | QC700        |                         | RF700 |                         |       |       |
|      |      |       |       |       |       |      |      |      |      |      | 56C<br>140TC       | 180TC<br>210C | 56C<br>140TC | 180TC<br>210TC<br>250TC | 56C   | 180TC<br>210TC<br>250TC |       |       |
| 710  | 1.00 | 6.06  | 3.22  | 5.13  | 2.31  | 1.38 | 1.16 | 0.44 | 2.94 | —    | 3.97               | —             | 5.01         | —                       | 5.72  | —                       | 4.59  | —     |
| 713  | 1.33 | 7.09  | 4.13  | 6.16  | 3.25  | 1.78 | 1.63 | 0.53 | 3.56 | 2.31 | 3.94               | —             | 5.46         | —                       | 6.59  | —                       | 5.59  | 4.34  |
| 715  | 1.54 | 8.03  | 5.16  | 6.97  | 4.00  | 1.97 | 2.00 | 0.69 | 4.38 | 3.00 | 4.50               | —             | 6.11         | —                       | 7.34  | —                       | 6.91  | 5.53  |
| 718  | 1.75 | 8.44  | 5.16  | 7.38  | 4.00  | 2.13 | 2.00 | 0.69 | 4.38 | 3.00 | 4.69               | —             | 6.29         | —                       | 7.53  | —                       | 6.88  | 5.50  |
| 721  | 2.06 | 9.50  | 6.03  | 8.38  | 4.88  | 2.34 | 2.44 | 0.72 | 4.88 | 3.13 | 5.06               | —             | 6.76         | —                       | 8.31  | —                       | 7.50  | 5.75  |
| 724  | 2.38 | 10.06 | 6.31  | 8.94  | 4.88  | 2.56 | 2.44 | 0.75 | 5.25 | 3.38 | 5.25               | 5.69          | 6.95         | 7.81                    | 8.50  | 9.94                    | 7.97  | 6.09  |
| 726  | 2.62 | 11.69 | 7.38  | 10.13 | 5.75  | 3.00 | 2.88 | 0.88 | 5.59 | 3.63 | 5.75               | 6.19          | 7.39         | 8.31                    | 9.47  | 10.44                   | 8.50  | 6.53  |
| 730  | 3.00 | 12.50 | 8.00  | 11.13 | 6.00  | 3.34 | 3.00 | 0.94 | 5.88 | 3.94 | 6.20               | 6.64          | 7.84         | 8.77                    | 9.92  | 10.88                   | 9.13  | 7.20  |
| 732  | 3.25 | 13.38 | 9.00  | 11.88 | 6.13  | 3.56 | 3.06 | 0.88 | 6.25 | 4.69 | 6.56               | 7.00          | 8.20         | 9.13                    | 10.28 | 11.25                   | 10.00 | 8.56  |
| 738  | 3.75 | 15.69 | 10.00 | 13.94 | 8.00  | 4.00 | 4.00 | 0.94 | 7.00 | 5.25 | 7.06               | 7.50          | 8.70         | 10.28                   | 11.81 | 12.88                   | 11.12 | 9.38  |
| 752  | 5.16 | 20.50 | 13.13 | 18.00 | 10.00 | 5.44 | 5.00 | 1.13 | 8.63 | 6.38 | —                  | —             | —            | —                       | —     | 16.00                   | 13.38 | 11.13 |
| 760  | 6.00 | 23.25 | 14.75 | 20.88 | 11.75 | 6.63 | 5.88 | 1.13 | 9.63 | 7.31 | —                  | —             | —            | —                       | —     | 16.69                   | 14.94 | 12.63 |

| Size | N     | P     | R             |                       |                | T<br>Holes | Low Speed Shaft     |      |       |         | High Base                |       |                      | Low Base                 |     |                      | Fan<br>Kit<br>No.** |
|------|-------|-------|---------------|-----------------------|----------------|------------|---------------------|------|-------|---------|--------------------------|-------|----------------------|--------------------------|-----|----------------------|---------------------|
|      |       |       | NEMA Mounting |                       |                |            | U<br>+.000<br>-.001 | V    | W-KEY |         | Approx.<br>Weight (LBS.) |       | Base<br>Kit<br>No. † | Approx.<br>Weight (LBS.) |     | Base<br>Kit<br>No. † |                     |
|      |       |       | 42CZ          | 180TC<br>56C<br>140TC | 210TC<br>250TC |            |                     |      | Sq.   | Length  |                          |       |                      |                          |     |                      |                     |
| 710  | 3.06  | 2.88  | 2.16          | 3.31                  | —              | 11/32      | .500                | 1.19 | 1/8   | 5/8     | 7                        | 10    | 56576                | —                        | —   | —                    | —                   |
| 713  | 3.69  | 4.00  | —             | 3.31                  | —              | 11/32      | .625                | 2.00 | 3/16  | 1       | 13                       | 19    | 56578                | 12                       | 16  | 56579                | —                   |
| 715  | 4.25  | 4.31  | —             | 3.31                  | —              | 13/32      | .750                | 1.78 | 3/16  | 1       | 22                       | 27    | 56582                | 21                       | 26  | 56583                | —                   |
| 718  | 4.50  | 4.31  | —             | 3.31                  | —              | 13/32      | .875                | 1.78 | 3/16  | 1       | 24                       | 30    | 56582                | 23                       | 29  | 56583                | —                   |
| 721  | 5.09  | 4.69  | —             | 3.31                  | —              | 15/32      | 1.000               | 2.09 | 1/4   | 1-1/4   | 29                       | 35    | 56588                | 28                       | 32  | 56589                | —                   |
| 724  | 5.44  | 5.09  | —             | 3.31                  | 4.63           | 15/32      | 1.125               | 2.38 | 1/4   | 1-1/4   | 39                       | 44    | 56592                | 38                       | 40  | 56593                | —                   |
| 726  | 6.13  | 5.63  | —             | 3.31                  | 4.63           | 17/32      | 1.125               | 2.63 | 1/4   | 1-15/16 | 59                       | 57    | 56596                | 51                       | 53  | 56597                | —                   |
| 730  | 6.75  | 6.75  | —             | 3.31                  | 4.63           | 17/32      | 1.250               | 3.25 | 1/4   | 2-1/4   | 77                       | 79    | 65545                | 73                       | 76  | 65546                | —                   |
| 732  | 7.13  | 7.06  | —             | 3.31                  | 4.63           | 17/32      | 1.375               | 3.25 | 5/16  | 2-7/16  | 95                       | 98    | 56600                | 90                       | 93  | 56601                | 51450               |
| 738  | 8.31  | 7.75  | —             | 3.31                  | 4.63           | 19/32      | 1.625               | 3.50 | 3/8   | 2-1/4   | 153                      | 147   | 56604                | 143                      | 136 | 56605                | 51451               |
| 752  | 10.56 | 9.06  | —             | —                     | 4.63           | 29/32      | 2.000               | 4.16 | 1/2   | 2-15/16 | —                        | 267†† | 56608                | —                        | 255 | 56609                | 51452               |
| 760  | 12.19 | 10.00 | —             | —                     | 4.63           | 29/32      | 2.250               | 4.56 | 1/2   | 3-3/8   | —                        | 345†† | 56611                | —                        | 325 | 56612                | 51453               |

\* See Assemblies and Mounting Positions, Page 18. \*\* For Fan Kits, see Page 130.

† For Base Kits, see Page 129.

†† 42CZ Flange Dimensions: F700 J = 3.16 : QC700 J = 4.15 : RF700 J = 4.76

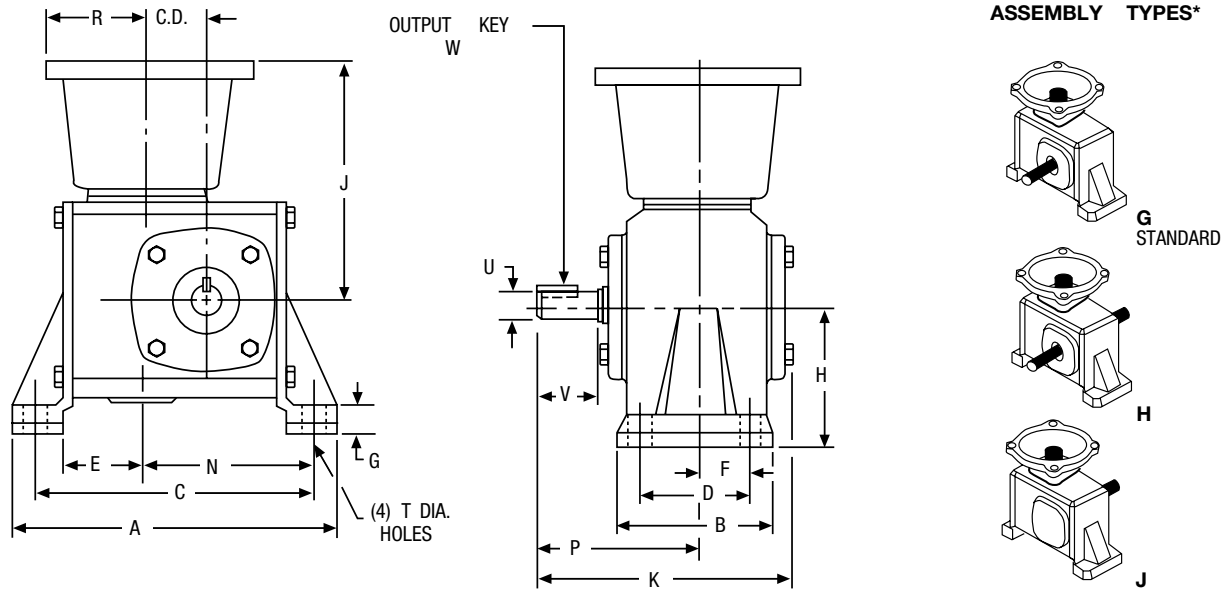
# 700 Series Single Reduction Flanged Reducer Dimensions

## F700/QC700 Series Flanged Quill/Flanged Coupling Types

X Position Vertical Base; X = Input Vertical Up

FOR ORDERING INFORMATION, see Page 16

FOR RATING INFORMATION, See Pages 17, 22-33



ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B    | C     | D    | E    | F    | G    | H    | J-NEMA Mounting †† |               |              |                |       |                         | K    | N    |
|------|------|-------|------|-------|------|------|------|------|------|--------------------|---------------|--------------|----------------|-------|-------------------------|------|------|
|      |      |       |      |       |      |      |      |      |      | F700               |               | QC700        |                | RF700 |                         |      |      |
|      |      |       |      |       |      |      |      |      |      | 56C<br>140TC       | 180TC<br>210C | 56C<br>140TC | 180TC<br>210TC | 56C   | 180TC<br>210TC<br>250TC |      |      |
| 713  | 1.33 | 7.28  | 2.91 | 6.41  | 2.00 | 1.70 | 1.00 | 0.53 | 2.94 | 3.94               | —             | 5.46         | —              | 6.59  | —                       | 6.03 | 3.92 |
| 715  | 1.54 | 8.25  | 3.72 | 7.25  | 2.50 | 2.00 | 1.25 | 0.69 | 3.50 | 4.50               | —             | 6.11         | —              | 7.34  | —                       | 6.84 | 4.37 |
| 718  | 1.75 | 8.62  | 3.72 | 7.63  | 2.50 | 2.00 | 1.25 | 0.69 | 3.50 | 4.69               | —             | 6.29         | —              | 7.53  | —                       | 6.81 | 4.75 |
| 721  | 2.06 | 9.75  | 3.84 | 8.63  | 2.63 | 2.09 | 1.31 | 0.72 | 3.94 | 5.06               | —             | 6.76         | —              | 8.31  | —                       | 7.28 | 5.47 |
| 724  | 2.37 | 10.31 | 4.13 | 9.19  | 2.88 | 2.13 | 1.44 | 0.75 | 4.06 | 5.25               | 5.69          | 6.95         | 7.81           | 8.50  | 9.94                    | 7.81 | 6.00 |
| 726  | 2.62 | 11.88 | 4.53 | 10.38 | 3.13 | 2.50 | 1.56 | 0.88 | 4.75 | 5.75               | 6.19          | 7.39         | 8.31           | 9.47  | 10.44                   | 8.53 | 6.75 |

| Size | P    | R-NEMA Mounting |       | T<br>Holes | Low Speed Shaft     |      |       |        | Aproximate<br>Weight<br>(LBS.) |    | Base<br>Kit<br>No.† |
|------|------|-----------------|-------|------------|---------------------|------|-------|--------|--------------------------------|----|---------------------|
|      |      | 56C<br>140TC    | 180TC |            | U<br>+.000<br>-.001 | V    | W-Key |        | F                              | QC |                     |
|      |      |                 |       |            |                     |      | Sq.   | Length |                                |    |                     |
| 713  | 4.00 | 3.31            | —     | 11/32      | .625                | 2.00 | 3/16  | 1      | 13                             | 13 | 55196               |
| 715  | 4.31 | 3.31            | —     | 13/32      | .750                | 1.78 | 3/16  | 1      | 21                             | 24 | 55349               |
| 718  | 4.30 | 3.31            | —     | 13/32      | .875                | 1.78 | 3/16  | 1      | 22                             | 27 | 55349               |
| 721  | 4.69 | 3.31            | —     | 15/32      | 1.000               | 2.09 | 1/4   | 1-1/4  | 28                             | 30 | 55644               |
| 724  | 5.09 | 3.31            | 4.63  | 15/32      | 1.125               | 2.38 | 1/4   | 1-1/4  | 37                             | 37 | 55678               |
| 726  | 5.63 | 3.31            | 4.63  | 17/32      | 1.125               | 2.63 | 1/4   | 1-1/4  | 54                             | 55 | 55769               |

\* Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounted surfaces.  
Input may be rotated clockwise or counterclockwise. See Assemblies and Mounting Positions, Page 18.

† For Base Kits, see Page 129.

†† 42CZ Flange Dimensions: F700 J = 3.16 : QC700 J = 4.15 : RF700 J = 4.76

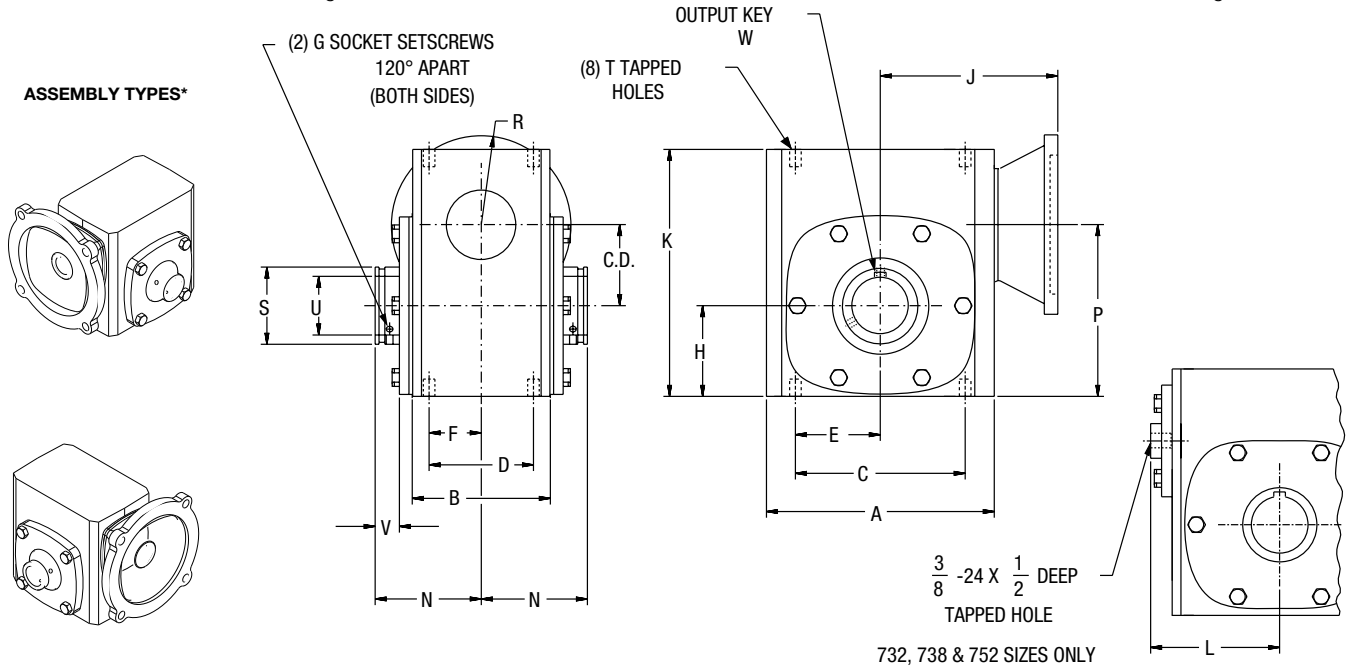
# 700 Series Single Reduction Flanged Reducer Dimensions

## HF700/HQC700 Series Flanged Quill/Flanged Coupling Types

### Basic Models (No Base); Bored to Size, Hollow Output Shaft

FOR ORDERING INFORMATION, see Page 16

FOR RATING INFORMATION, See Pages 17, 22-33



| Size | C.D. | A     | B    | C    | D    | E    | F    | G       | H    | J-NEMA Mounting †† |               |              |                         |       |                         | K     | L    | N    |
|------|------|-------|------|------|------|------|------|---------|------|--------------------|---------------|--------------|-------------------------|-------|-------------------------|-------|------|------|
|      |      |       |      |      |      |      |      |         |      | F700               |               | QC700        |                         | RF700 |                         |       |      |      |
|      |      |       |      |      |      |      |      |         |      | 56C<br>140TC       | 180TC<br>210C | 56C<br>140TC | 180TC<br>210TC<br>250TC | 56C   | 180TC<br>210TC<br>250TC |       |      |      |
| 713  | 1.33 | 4.25  | 2.88 | 3.25 | 2.00 | 1.63 | 1.00 | #10-32  | 1.72 | 3.97               | —             | 5.46         | —                       | 6.59  | —                       | 4.66  | —    | 2.50 |
| 715  | 1.54 | 5.13  | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | #10-32  | 1.91 | 4.50               | —             | 6.11         | —                       | 7.34  | —                       | 5.38  | —    | 3.03 |
| 718  | 1.75 | 5.50  | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | #10-32  | 2.06 | 4.69               | —             | 6.29         | —                       | 7.53  | —                       | 5.75  | —    | 3.03 |
| 721  | 2.06 | 6.00  | 3.81 | 5.00 | 2.88 | 2.50 | 1.44 | 1/4-28  | 2.28 | 5.06               | —             | 6.76         | —                       | 8.31  | —                       | 6.38  | —    | 3.22 |
| 724  | 2.38 | 6.38  | 4.06 | 5.00 | 2.88 | 2.50 | 1.44 | 1/4-28  | 2.50 | 5.25               | 5.69          | 6.95         | 7.81                    | 8.50  | 9.94                    | 6.94  | —    | 3.22 |
| 726  | 2.62 | 7.38  | 4.44 | 6.38 | 3.38 | 3.19 | 1.69 | 5/16-24 | 2.94 | 5.75               | 6.19          | 7.39         | 8.31                    | 9.47  | 10.44                   | 8.00  | —    | 3.44 |
| 730  | 3.00 | 8.12  | 5.25 | 7.00 | 4.00 | 3.50 | 2.00 | 5/16-24 | 3.25 | 6.20               | 6.64          | 7.84         | 8.77                    | 9.92  | 10.88                   | 8.88  | —    | 4.19 |
| 732  | 3.25 | 9.00  | 5.88 | 7.50 | 4.00 | 3.75 | 2.00 | 5/16-24 | 3.50 | 6.56               | 7.00          | 8.20         | 9.13                    | 10.28 | 11.25                   | 9.38  | 4.94 | 4.31 |
| 738  | 3.75 | 10.00 | 6.38 | 8.50 | 4.75 | 4.25 | 2.38 | 3/8-24  | 3.88 | 7.06               | 7.50          | 8.70         | 10.28                   | 11.81 | 12.88                   | 10.44 | 5.50 | 4.81 |
| 752  | 5.16 | 13.13 | 7.38 | 11.0 | 5.81 | 5.50 | 2.91 | 3/8-24  | 5.31 | —                  | —             | —            | —                       | —     | 16.00                   | 13.75 | 7.19 | 6.12 |

| Size | P     | R-NEMA Mounting |               | S    | T        |       | Low Speed Shaft         |      |  | W-Key |                 | Approx. Weight(LBS.) |     | Fan Kit No.** |
|------|-------|-----------------|---------------|------|----------|-------|-------------------------|------|--|-------|-----------------|----------------------|-----|---------------|
|      |       | 56C<br>140TC    | 180TC<br>210C |      | Tap Size | Depth | Max U<br>+.0015/- .0000 | V    |  | Size  | Length          | HF                   | HQC |               |
|      |       |                 |               |      |          |       |                         |      |  |       |                 |                      |     |               |
| 713  | 3.06  | 3.31            | —             | .88  | 5/16-18  | .50   | .625                    | .68  |  |       |                 | 7                    | 9   | —             |
| 715  | 3.44  | 3.31            | —             | 1.38 | 5/16-18  | .50   | 1.000                   | .84  |  |       |                 | 21                   | 21  | —             |
| 718  | 3.81  | 3.31            | —             | 1.38 | 5/16-18  | .50   | 1.000                   | .74  |  |       |                 | 23                   | 24  | —             |
| 721  | 4.34  | 3.31            | —             | 2.00 | 3/8-16   | .56   | 1.4375                  | .87  |  |       | See Page        | 27                   | 27  | —             |
| 724  | 4.88  | 3.31            | 4.63          | 2.00 | 3/8-16   | .56   | 1.4375                  | .75  |  |       | 128 For         | 36                   | 40  | —             |
| 726  | 5.56  | 3.31            | 4.63          | 2.50 | 3/8-16   | .56   | 1.9375                  | .78  |  |       | Key Information | 49                   | 49  | —             |
| 730  | 6.25  | 3.31            | 4.63          | 2.88 | 7/16-14  | .88   | 2.1875                  | 1.10 |  |       |                 | 70                   | 74  | —             |
| 732  | 6.75  | 3.31            | 4.63          | 2.88 | 7/16-14  | .66   | 2.1875                  | .93  |  |       |                 | 90                   | 102 | 51450         |
| 738  | 7.63  | 3.31            | 4.63          | 3.25 | 1/2-13   | .75   | 2.4375                  | 1.11 |  |       |                 | 130                  | 141 | 51451         |
| 752  | 10.50 | —               | 4.63          | 4.25 | 5/8-11   | 1.00  | 3.4375                  | 1.37 |  |       |                 | —                    | 242 | 51457         |

\* See Assemblies and Mounting Positions, Page 18. \*\* For Fan Kits, see Page 130. See Page 128 for available bore sizes.

Input may be rotated clockwise or counterclockwise. The "SF" style is recommended for direct replacement only.

†† 42CZ Flange Dimensions: F700 J = 3.16 : QC700 J = 4.15 : RF700 J = 4.76



# 700 Series Single Reduction Flanged Reducer Dimensions

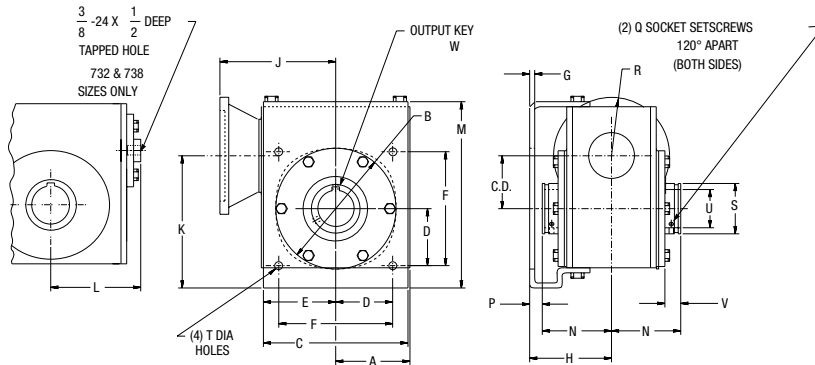
## HF700/HQC700 Series Flanged Quill/Flanged Coupling Types

### R/L Position Mounting Bracket; Bored to Size, Hollow Output Shaft

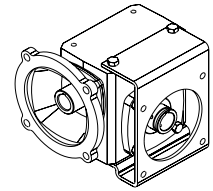
FOR ORDERING INFORMATION, see Page 16

FOR RATING INFORMATION, See Pages 17, 22-33

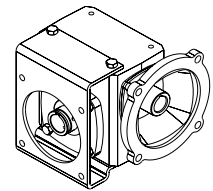
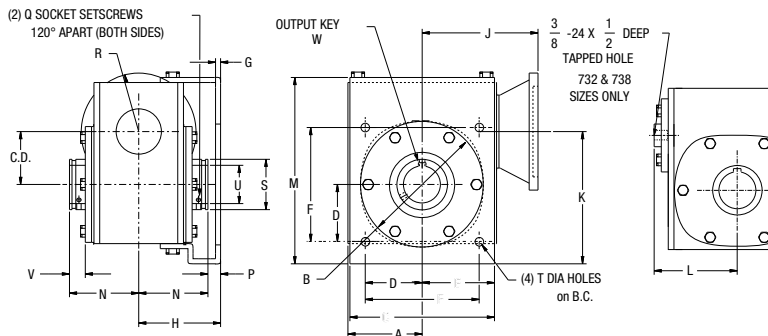
#### R Position



#### ASSEMBLY TYPES\*



#### L Position



ALL DIMENSIONS IN INCHES

| Size | C.D. | A    | B    | C    | D    | E    | F    | G    | H    | J-NEMA Mounting †† |               |              |                |       |                         | K    | L    |
|------|------|------|------|------|------|------|------|------|------|--------------------|---------------|--------------|----------------|-------|-------------------------|------|------|
|      |      |      |      |      |      |      |      |      |      | HF700              |               | HQC700       |                | RF700 |                         |      |      |
|      |      |      |      |      |      |      |      |      |      | 56C<br>140TC       | 180TC<br>210C | 56C<br>140TC | 180TC<br>210TC | 56C   | 180TC<br>210TC<br>250TC |      |      |
| 713  | 1.33 | 2.12 | 3.62 | 4.25 | 1.77 | 2.12 | 3.54 | 0.19 | 3.00 | 3.94               | —             | 5.46         | —              | 6.59  | —                       | 3.70 | —    |
| 715  | 1.54 | 2.56 | 3.62 | 4.75 | 1.77 | 2.38 | 3.54 | 0.19 | 3.56 | 4.50               | —             | 6.11         | —              | 7.34  | —                       | 4.07 | —    |
| 718  | 1.75 | 2.75 | 4.06 | 5.00 | 2.08 | 2.41 | 4.16 | 0.19 | 3.50 | 4.69               | —             | 6.29         | —              | 7.53  | —                       | 4.53 | —    |
| 721  | 2.06 | 3.00 | 4.50 | 5.75 | 2.30 | 2.88 | 4.60 | 0.19 | 3.75 | 5.06               | —             | 6.76         | —              | 8.31  | —                       | 5.18 | —    |
| 724  | 2.38 | 3.19 | 5.00 | 6.12 | 2.65 | 2.88 | 5.30 | 0.25 | 3.72 | 5.25               | 5.69          | 6.95         | 7.81           | 8.50  | 9.94                    | 5.98 | —    |
| 726  | 2.62 | 3.69 | 6.00 | 7.18 | 2.83 | 3.59 | 5.66 | 0.25 | 4.06 | 5.75               | 6.19          | 7.39         | 8.31           | 9.47  | 10.44                   | 6.56 | —    |
| 730  | 3.00 | 4.06 | 7.00 | 8.00 | 3.18 | 4.00 | 6.36 | 0.25 | 4.50 | 6.20               | 6.64          | 7.84         | 8.77           | 9.92  | 10.88                   | 7.51 | —    |
| 732  | 3.25 | 4.50 | 7.00 | 8.50 | 3.54 | 4.25 | 7.08 | 0.25 | 5.25 | 6.56               | 7.00          | 8.20         | 9.13           | 10.28 | 11.25                   | 8.00 | 4.94 |
| 738  | 3.75 | 5.00 | 8.00 | 9.50 | 4.06 | 4.75 | 8.12 | 0.25 | 5.47 | 7.06               | 7.50          | 8.70         | 10.28          | 11.81 | 12.88                   | 8.78 | 5.50 |

| Size | M     | N    | P   | Q       | R-NEMA Mounting |               | S    | T<br>Holes | B.C.   | Low Speed Shaft    |      |             |        | Approx.<br>Weight(LBS.) |     | Fan<br>Kit<br>No.** |
|------|-------|------|-----|---------|-----------------|---------------|------|------------|--------|--------------------|------|-------------|--------|-------------------------|-----|---------------------|
|      |       |      |     |         | 56C<br>140TC    | 180TC<br>210C |      |            |        | + .0015<br>- .0000 | V    | W-Key       |        | HF                      | HQC |                     |
|      |       |      |     |         |                 |               |      |            |        |                    |      | Size        | Length |                         |     |                     |
| 713  | 5.55  | 2.50 | .50 | #10-32  | 3.31            | —             | .88  | 11/32      | 5.000  | .625               | .68  |             |        | 16                      | 20  | —                   |
| 715  | 6.16  | 3.03 | .44 | #10-32  | 3.31            | —             | 1.38 | 11/32      | 5.000  | 1.000              | .84  |             |        | 22                      | 28  | —                   |
| 718  | 6.66  | 3.03 | .47 | #10-32  | 3.31            | —             | 1.38 | 11/32      | 5.875  | 1.000              | .74  | See Page    |        | 29                      | 31  | —                   |
| 721  | 7.47  | 3.22 | .53 | 1/4-28  | 3.31            | —             | 1.94 | 13/32      | 6.500  | 1.4375             | .87  | 128 For     |        | 36                      | 36  | —                   |
| 724  | 8.30  | 3.22 | .50 | 1/4-28  | 3.31            | 4.63          | 1.94 | 13/32      | 7.500  | 1.4375             | .75  | Key         |        | 41                      | 47  | —                   |
| 726  | 9.25  | 3.44 | .62 | 5/16-24 | 3.31            | 4.63          | 2.50 | 13/32      | 8.000  | 1.9375             | .78  | Information |        | 52                      | 52  | —                   |
| 730  | 10.38 | 4.19 | .31 | 5/16-24 | 3.31            | 4.63          | 2.88 | 13/32      | 8.000  | 2.1875             | 1.12 |             |        | 76                      | 80  | —                   |
| 732  | 10.91 | 4.31 | .94 | 5/16-24 | 3.31            | 4.63          | 2.88 | 9/16       | 10.000 | 2.1875             | .93  |             |        | 95                      | 107 | 51450               |
| 738  | 11.84 | 4.81 | .66 | 3/8-24  | 3.31            | 4.63          | 3.25 | 9/16       | 11.500 | 2.4375             | 1.11 |             |        | 147                     | 150 | 51451               |

\* See Assemblies and Mounting Positions, Page 18. \*\* For Fan Kits, see Page 130 . See Page 128 for available bore sizes.

Input may be rotated clockwise or counterclockwise. The "SF" style is recommended for direct replacement only.

†† 42CZ Flange Dimensions: F700 J = 3.16 : QC700 J = 4.15 : RF700 J = 4.76

# 700 Series Single Reduction Flanged Reducer Dimensions

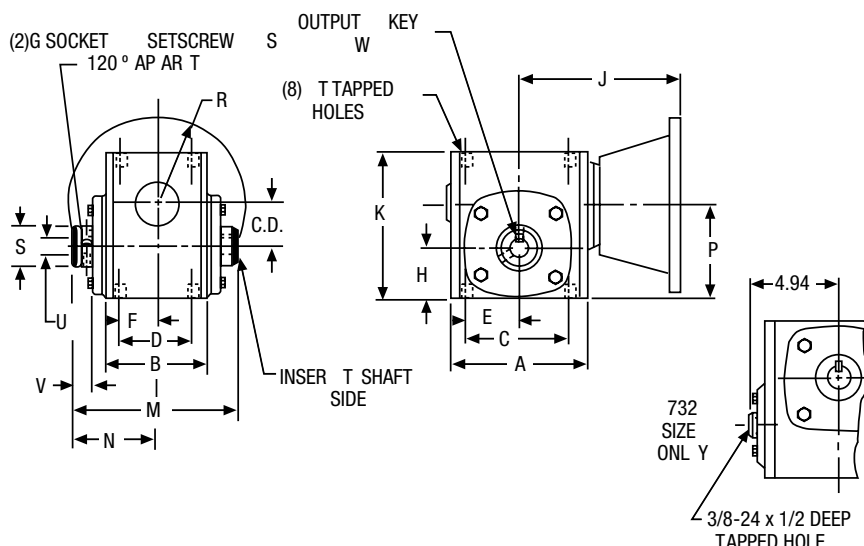
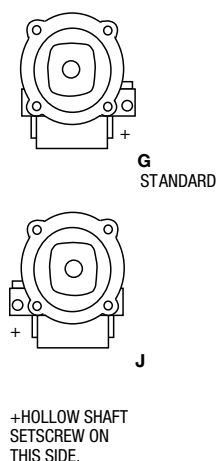
## SF700 Series Flanged Quill Type

### Basic Models (No Base), Hollow Output Shaft

FOR ORDERING INFORMATION, see Page 16

FOR ADDITIONAL SIZES, See the H Series Page 40  
FOR RATING INFORMATION, See Pages 17, 22-33

#### ASSEMBLY TYPES\*



ALL DIMENSIONS IN INCHES

| Size | C.D. | A    | B    | C    | D    | E    | F    | G      | H    | J-NEMA Mounting |               | K    | M    | N    |
|------|------|------|------|------|------|------|------|--------|------|-----------------|---------------|------|------|------|
|      |      |      |      |      |      |      |      |        |      | SF700           |               |      |      |      |
|      |      |      |      |      |      |      |      |        |      | 56C<br>140TC    | 180TC<br>210C |      |      |      |
| 718  | 1.75 | 5.50 | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | #10-32 | 2.06 | 4.69            | —             | 5.75 | 5.69 | 3.09 |
| 721  | 2.06 | 6.00 | 3.81 | 5.00 | 2.88 | 2.50 | 1.44 | 1/4-28 | 2.28 | 5.06            | —             | 6.38 | 5.88 | 3.22 |
| 726  | 2.62 | 7.38 | 4.44 | 6.38 | 3.38 | 3.19 | 1.69 | 1/4-28 | 2.94 | 5.75            | 6.19          | 8.00 | 6.47 | 3.50 |
| 732  | 3.25 | 9.00 | 5.88 | 7.50 | 4.00 | 3.75 | 2.00 | 3/8-24 | 3.50 | 6.56            | 7.00          | 9.38 | 8.06 | 4.38 |

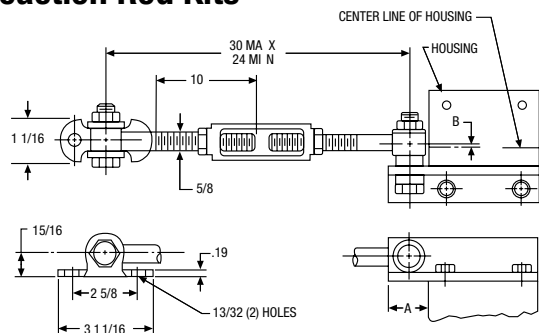
| Size | P    | R-NEMA Mounting |               | S    | T           |       | Low Speed Shaft         |      |                 | Approx.<br>Weight<br>(LBS.)<br>SF | Fan<br>Kit<br>No.** |
|------|------|-----------------|---------------|------|-------------|-------|-------------------------|------|-----------------|-----------------------------------|---------------------|
|      |      | 56C<br>140TC    | 180TC<br>210C |      | Tap<br>Size | Depth | U ††<br>+.0015<br>-.000 | V    | W-Key           |                                   |                     |
|      |      |                 |               |      |             |       |                         |      | Size Length     |                                   |                     |
| 718  | 3.81 | 3.31            | —             | 1.38 | 5/16-18     | .50   | 1.000                   | .78  | See Page        | 23                                | —                   |
| 721  | 4.34 | 3.31            | —             | 1.50 | 3/8-16      | .56   | 1.125                   | .88  | 128 For         | 27                                | —                   |
| 726  | 5.56 | 3.31            | 4.63          | 2.16 | 3/8-16      | .56   | 1.4375                  | .84  | Key Information | 51                                | —                   |
| 732  | 6.75 | 3.31            | 4.63          | 2.56 | 7/16-14     | .66   | 1.9375                  | 1.00 |                 | 90                                | 51450               |

\*\* For Fan Kits, see Page 130.

†† For additional output bore diameters, refer to the H Series, Page 128.

\* Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounted surfaces.  
Input may be rotated clockwise or counterclockwise. See Assemblies and Mounting Positions, Page 18

## Reaction Rod Kits



ALL DIMENSIONS IN INCHES

| Size | A    | B   | Catalog<br>Number | Kit<br>No. |
|------|------|-----|-------------------|------------|
| 718  | 1.09 | .09 | X718-76K          | 69692      |
| 721  | 1.25 | .03 | X721-76K          | 69693      |
| 726  | 1.25 | .22 | X726-76K          | 69694      |
| 732  | 1.50 | .53 | X732-76K          | 69695      |

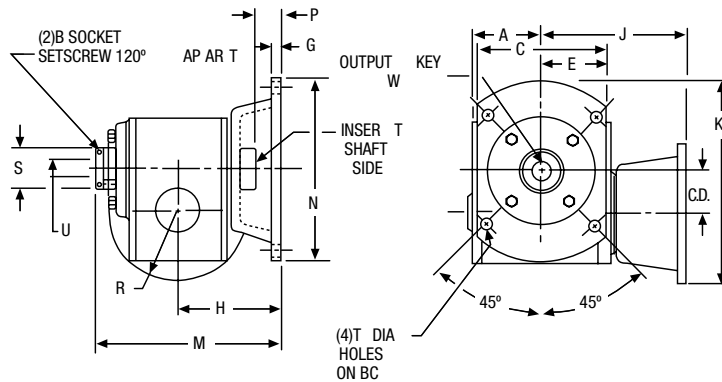
All hardware shown is included in the kits.

# 700 Series Single Reduction Flanged Reducer Dimensions

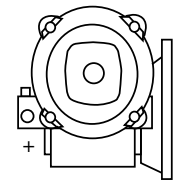
## SF700 Series Flanged Quill Type V/W Position Mounting Flange, Hollow Output Shaft

FOR ORDERING INFORMATION, see Page 16

### V Position



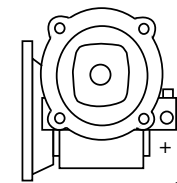
### ASSEMBLY TYPES\*



**J**  
STANDARD

+HOLLOW SHAFT  
SETSCREW ON  
THIS SIDE.

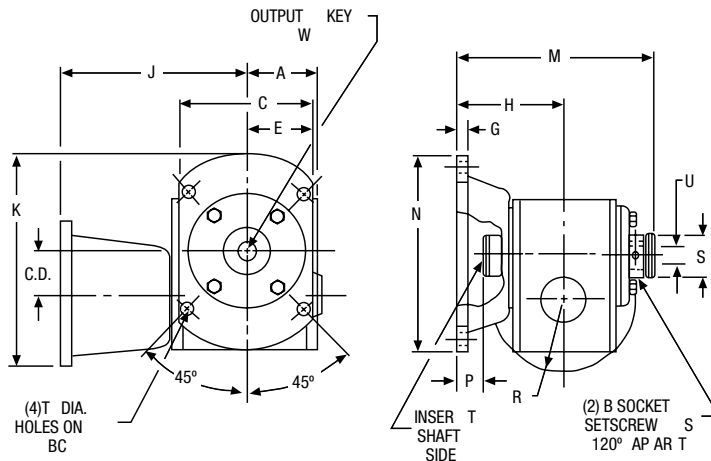
### ASSEMBLY TYPES\*



**G**  
STANDARD

+HOLLOW SHAFT  
SETSCREW ON  
THIS SIDE.

### W Position



ALL DIMENSIONS IN INCHES

| Size | C.D. | A    | B      | C    | BC    | E    | G   | H    | J-NEMA Mounting † |               | K     |
|------|------|------|--------|------|-------|------|-----|------|-------------------|---------------|-------|
|      |      |      |        |      |       |      |     |      | SF700             |               |       |
|      |      |      |        |      |       |      |     |      | 56C<br>140TC      | 180TC<br>210C |       |
| 718  | 1.75 | 2.75 | #10-32 | 4.88 | 5.88  | 2.44 | .38 | 3.50 | 4.69              | —             | 8.03  |
| 721  | 2.06 | 3.00 | 1/4-28 | 5.75 | 6.50  | 2.88 | .38 | 3.75 | 5.06              | —             | 8.66  |
| 726  | 2.62 | 3.69 | 1/4-28 | 7.75 | 8.00  | 3.88 | .38 | 4.06 | 5.75              | 6.19          | 11.69 |
| 732  | 3.25 | 4.50 | 3/8-24 | 9.00 | 10.00 | 4.50 | .50 | 5.25 | 6.56              | 7.00          | 13.38 |

| Size | M    | N     | P    | R-NEMA Mounting |               | S    | T<br>Holes | Low Speed Shaft      |                 |        | Approx.<br>Weight<br>(LBS.) | Fan<br>Kit<br>No.** |
|------|------|-------|------|-----------------|---------------|------|------------|----------------------|-----------------|--------|-----------------------------|---------------------|
|      |      |       |      | 56C<br>140TC    | 180TC<br>210C |      |            | U<br>+.0015<br>-.000 | W-Key           |        |                             |                     |
|      |      |       |      |                 |               |      |            |                      | Size            | Length | SF                          |                     |
| 718  | 6.59 | 6.75  | .91  | 3.31            | —             | 1.38 | 11/32      | 1.000                | See Page        |        | 28                          | —                   |
| 721  | 6.97 | 7.38  | 1.09 | 3.31            | —             | 1.50 | 13/32      | 1.125                | 128 For         |        | 35                          | —                   |
| 726  | 7.56 | 8.88  | 1.09 | 3.31            | 4.63          | 2.16 | 13/32      | 1.4375               | Key Information |        | 69                          | —                   |
| 732  | 9.63 | 11.00 | 1.56 | 3.31            | 4.63          | 2.56 | 9/16       | 1.9375               |                 |        | 119                         | 51450               |

\*\* For Fan Kits, see Page 130.

\* Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounted surfaces.

Input may be rotated clockwise or counterclockwise. See Assemblies and Mounting Positions, Page 18.

† 42CZ Flange Dimensions: F700 J = 3.16 : QC700 J = 4.15 : RF700 J = 4.76

# 700 Series Single Reduction Non-Flanged Reducer Dimensions

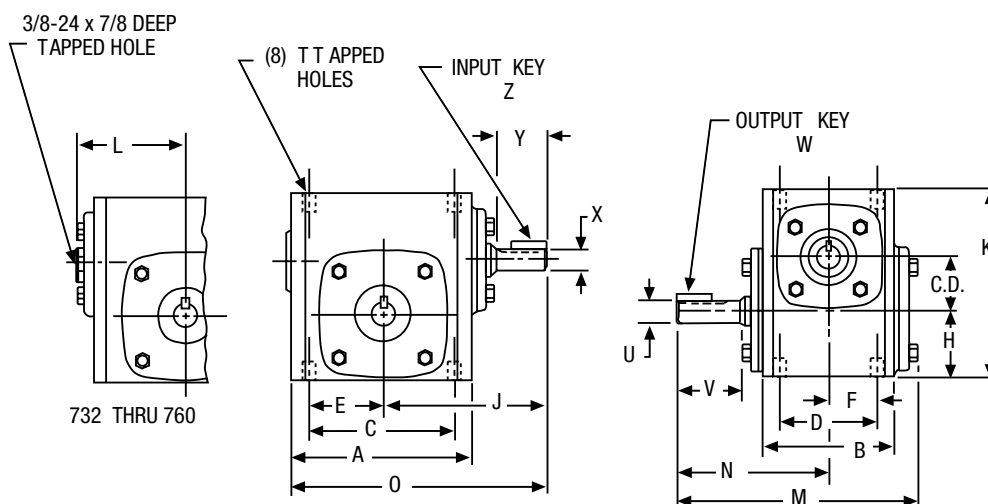
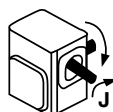
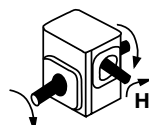
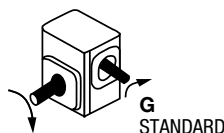
## 700 Series

### Basic Models (No Base)

FOR ORDERING INFORMATION, see Page 16

FOR RATING INFORMATION, See Pages 17, 22-33

#### ASSEMBLY TYPES\*



ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B    | C     | D    | E    | F    | H    | J     | K     | L    | M     | N     | O     |
|------|------|-------|------|-------|------|------|------|------|-------|-------|------|-------|-------|-------|
| 710  | 1.00 | 3.25  | 2.50 | 2.63  | 1.69 | 1.31 | .84  | 1.31 | 2.88  | 3.63  | —    | 4.53  | 2.88  | 4.50  |
| 713  | 1.33 | 4.25  | 2.88 | 3.25  | 2.00 | 1.63 | 1.00 | 1.72 | 3.91  | 4.66  | —    | 6.03  | 4.00  | 6.03  |
| 715  | 1.54 | 5.13  | 3.69 | 4.19  | 2.75 | 2.09 | 1.38 | 1.91 | 4.69  | 5.38  | —    | 6.84  | 4.31  | 7.25  |
| 718  | 1.75 | 5.50  | 3.69 | 4.19  | 2.75 | 2.09 | 1.38 | 2.06 | 4.88  | 5.75  | —    | 6.84  | 4.31  | 7.63  |
| 721  | 2.06 | 6.00  | 3.81 | 5.00  | 2.88 | 2.50 | 1.44 | 2.28 | 5.13  | 6.38  | —    | 7.28  | 4.69  | 8.13  |
| 724  | 2.38 | 6.38  | 4.06 | 5.00  | 2.88 | 2.50 | 1.44 | 2.50 | 5.75  | 6.94  | —    | 7.81  | 5.09  | 8.94  |
| 726  | 2.62 | 7.38  | 4.44 | 6.38  | 3.38 | 3.19 | 1.69 | 2.94 | 6.31  | 8.00  | —    | 8.53  | 5.63  | 10.00 |
| 730  | 3.00 | 8.12  | 5.25 | 7.00  | 4.00 | 3.50 | 2.00 | 3.25 | 6.88  | 8.88  | —    | 10.02 | 6.75  | 10.94 |
| 732  | 3.25 | 9.00  | 5.88 | 7.50  | 4.00 | 3.75 | 2.00 | 3.50 | 7.44  | 9.38  | 4.94 | 10.81 | 7.06  | 11.94 |
| 738  | 3.75 | 10.00 | 6.38 | 8.50  | 4.75 | 4.25 | 2.38 | 3.88 | 8.38  | 10.44 | 5.50 | 11.88 | 7.75  | 13.38 |
| 752  | 5.16 | 13.13 | 7.38 | 11.00 | 5.81 | 5.50 | 2.91 | 5.31 | 10.69 | 13.75 | 7.19 | 13.81 | 9.06  | 17.25 |
| 760  | 6.00 | 14.50 | 8.13 | 12.75 | 6.38 | 6.13 | 3.19 | 6.50 | 11.75 | 16.50 | 7.94 | 15.31 | 10.00 | 19.00 |

| Size | T        |       | Low Speed Shaft     |      |       |         | High Speed Shaft    |      |       |        | Approx. Weight (LBS.) | Fan Kit No.** |
|------|----------|-------|---------------------|------|-------|---------|---------------------|------|-------|--------|-----------------------|---------------|
|      | Tap Size | Depth | U<br>+.000<br>-.001 | V    | W-Key |         | X<br>+.000<br>-.001 | Y    | Z-Key |        |                       |               |
|      |          |       |                     |      | Sq.   | Lengh   |                     |      | Sq.   | Length |                       |               |
| 710  | 1/4-20   | .44   | .500                | 1.19 | 1/8   | 5/8     | .3745               | .81  | 3/32  | 3/8    | 6                     | —             |
| 713  | 5/16-18  | .50   | .625                | 2.00 | 3/16  | 1       | .4995               | 1.31 | 1/8   | 5/8    | 11                    | —             |
| 715  | 5/16-18  | .50   | .750                | 1.78 | 3/16  | 1       | .6245               | 1.56 | 3/16  | 13/16  | 18                    | —             |
| 718  | 5/16-18  | .50   | .875                | 1.78 | 3/16  | 1       | .6245               | 1.56 | 3/16  | 13/16  | 20                    | —             |
| 721  | 3/8-16   | .56   | 1.000               | 2.09 | 1/4   | 1-1/4   | .6245               | 1.56 | 3/16  | 13/16  | 25                    | —             |
| 724  | 3/8-16   | .56   | 1.125               | 2.37 | 1/4   | 1-1/4   | .7495               | 2.00 | 3/16  | 1      | 31                    | —             |
| 726  | 3/8-16   | .56   | 1.125               | 2.62 | 1/4   | 1-15/16 | .7495               | 2.00 | 3/16  | 1      | 43                    | —             |
| 730  | 7/16-14  | .88   | 1.250               | 3.25 | 1/4   | 2-1/4   | .8745               | 2.24 | 3/16  | 1      | 57                    | —             |
| 732  | 7/16-14  | .66   | 1.375               | 3.25 | 5/16  | 2-7/16  | .8745               | 2.34 | 3/16  | 1      | 72                    | 51450         |
| 738  | 1/2-13   | .81   | 1.625               | 3.50 | 3/8   | 2-1/4   | .9995               | 2.75 | 1/4   | 1-1/4  | 105                   | 51451         |
| 752  | 5/8-11   | 1.00  | 2.000               | 4.16 | 1/2   | 2-15/16 | 1.2495              | 3.25 | 1/4   | 1-1/4  | 198                   | 51452         |
| 760  | 5/8-11   | 1.00  | 2.250               | 4.56 | 1/2   | 3-3/8   | 1.4995              | 3.88 | 3/8   | 3      | 240                   | 51453         |

\* See Assemblies and Mounting Positions, Page 19.

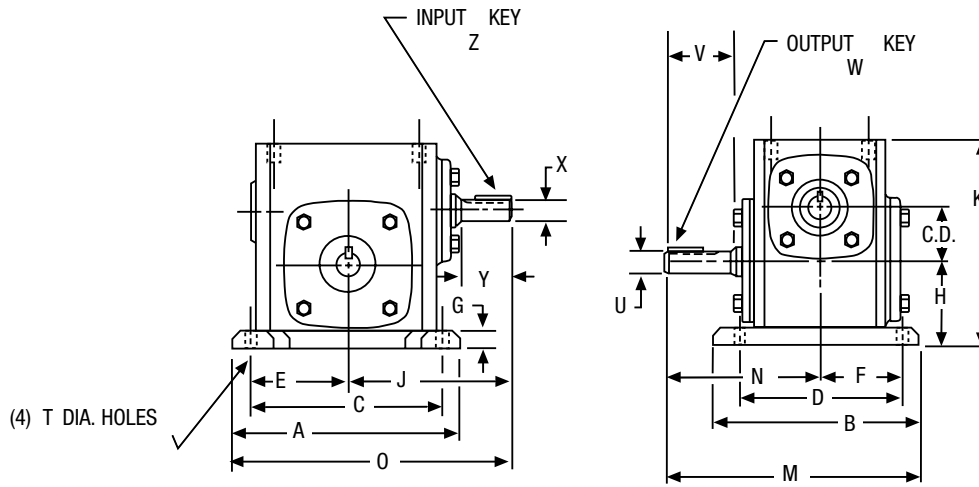
\*\* For Fan Kits, see Page 130.

# 700 Series Single Reduction Non-Flanged Reducer Dimensions

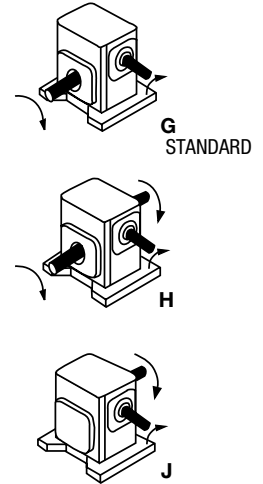
## 700 Series B Position Horizontal Base

FOR ORDERING INFORMATION, see Page 16

FOR RATING INFORMATION, See Pages 17, 22-33



### ASSEMBLY TYPES\*



ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B     | C     | D    | E    | F    | G    | H    | J     | K     | M     | N     | O     |
|------|------|-------|-------|-------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 710  | 1.00 | 4.63  | 3.69  | 3.75  | 2.88 | 1.88 | 1.44 | 0.44 | 1.75 | 2.88  | 4.06  | 4.72  | 2.88  | 5.19  |
| 713  | 1.33 | 5.38  | 4.19  | 4.38  | 3.31 | 2.19 | 1.66 | 0.53 | 2.25 | 3.91  | 5.19  | 6.09  | 4.00  | 6.59  |
| 715  | 1.54 | 6.44  | 5.44  | 5.25  | 4.31 | 2.63 | 2.16 | 0.59 | 2.50 | 4.69  | 5.97  | 7.03  | 4.31  | 7.91  |
| 718  | 1.75 | 7.00  | 5.69  | 5.75  | 4.50 | 2.88 | 2.25 | 0.69 | 2.75 | 4.88  | 6.44  | 7.16  | 4.31  | 8.38  |
| 721  | 2.06 | 7.75  | 5.94  | 6.38  | 4.69 | 3.19 | 2.34 | 0.72 | 3.00 | 5.13  | 7.09  | 7.66  | 4.69  | 9.00  |
| 724  | 2.38 | 8.50  | 6.19  | 7.06  | 4.88 | 3.53 | 2.44 | 0.75 | 3.25 | 5.75  | 7.69  | 8.19  | 5.09  | 10.00 |
| 726  | 2.62 | 9.63  | 6.66  | 8.00  | 5.25 | 4.00 | 2.63 | 0.75 | 3.69 | 6.31  | 8.75  | 8.97  | 5.63  | 11.13 |
| 730  | 3.00 | 10.00 | 7.50  | 8.44  | 5.88 | 4.22 | 2.94 | 0.75 | 4.00 | 6.81  | 9.63  | 10.50 | 6.75  | 11.88 |
| 732  | 3.25 | 11.19 | 7.66  | 9.50  | 6.13 | 4.75 | 3.06 | 0.88 | 4.38 | 7.44  | 10.25 | 10.94 | 7.06  | 13.03 |
| 738  | 3.75 | 12.13 | 8.66  | 10.38 | 7.00 | 5.19 | 3.50 | 0.94 | 4.81 | 8.38  | 11.38 | 12.09 | 7.75  | 14.44 |
| 752  | 5.16 | 16.38 | 10.63 | 14.13 | 8.38 | 7.06 | 4.19 | 1.13 | 6.44 | 10.69 | 14.88 | 14.38 | 9.06  | 18.88 |
| 760  | 6.00 | 19.00 | 12.00 | 16.50 | 9.50 | 8.25 | 4.75 | 1.25 | 7.75 | 11.75 | 17.75 | 16.00 | 10.00 | 21.25 |

| Size | T     | Low Speed Shaft     |      |       |         | High Speed Shaft    |      |       |        | Approx.<br>Weight<br>(LBS.) | Base<br>Kit<br>No. † | Fan<br>Kit<br>No.** |
|------|-------|---------------------|------|-------|---------|---------------------|------|-------|--------|-----------------------------|----------------------|---------------------|
|      |       | U<br>+.000<br>-.001 | V    | W-Key |         | X<br>+.000<br>-.001 | Y    | Z-Key |        |                             |                      |                     |
|      |       |                     |      | Sq.   | Lengh   |                     |      | Sq.   | Length |                             |                      |                     |
| 710  | 11/32 | .500                | 1.19 | 1/8   | 5/8     | .3745               | .81  | 3/32  | 3/8    | 7                           | 56575                | —                   |
| 713  | 11/32 | .625                | 2.00 | 3/16  | 1       | .4995               | 1.31 | 1/8   | 5/8    | 12                          | 56577                | —                   |
| 715  | 13/32 | .750                | 1.78 | 3/16  | 1       | .6245               | 1.56 | 3/16  | 13/16  | 19                          | 56438                | —                   |
| 718  | 13/32 | .875                | 1.78 | 3/16  | 1       | .6245               | 1.56 | 3/16  | 13/16  | 21                          | 56585                | —                   |
| 721  | 15/32 | 1.000               | 2.09 | 1/4   | 1-1/4   | .6245               | 1.56 | 3/16  | 13/16  | 26                          | 56440                | —                   |
| 724  | 15/32 | 1.125               | 2.37 | 1/4   | 1-1/4   | .7495               | 2.00 | 3/16  | 1      | 32                          | 56591                | —                   |
| 726  | 17/32 | 1.125               | 2.62 | 1/4   | 1-15/16 | .7495               | 2.00 | 3/16  | 1      | 46                          | 56595                | —                   |
| 730  | 17/32 | 1.250               | 3.25 | 1/4   | 2-1/4   | .8745               | 2.24 | 3/16  | 1      | 64                          | 65544                | —                   |
| 732  | 17/32 | 1.375               | 3.25 | 5/16  | 2-7/16  | .8745               | 2.31 | 3/16  | 1      | 81                          | 56599                | 51450               |
| 738  | 19/32 | 1.625               | 3.50 | 3/8   | 2-1/4   | .9995               | 2.75 | 1/4   | 1-1/4  | 115                         | 56603                | 51451               |
| 752  | 25/32 | 2.000               | 4.16 | 1/2   | 2-15/16 | 1.2495              | 3.25 | 1/4   | 1-1/4  | 212                         | 56607                | 51452               |
| 760  | 29/32 | 2.250               | 4.56 | 1/2   | 3-3/8   | 1.4995              | 3.88 | 3/8   | 3      | 260                         | 56610                | 51453               |

\* See Assemblies and Mounting Positions, Page 19.

\*\* For Fan Kits, see Page 130.

† For Base Kits, see Page 129.

# 700 Series Single Reduction Non-Flanged Reducer Dimensions

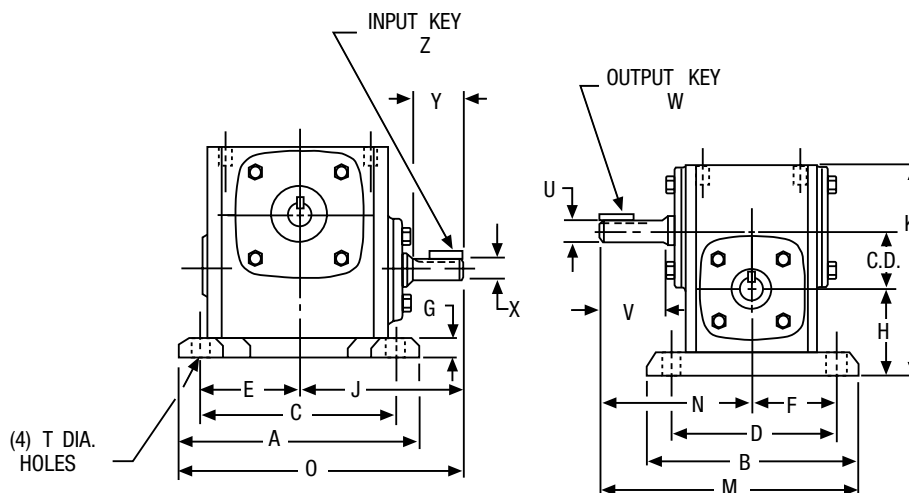
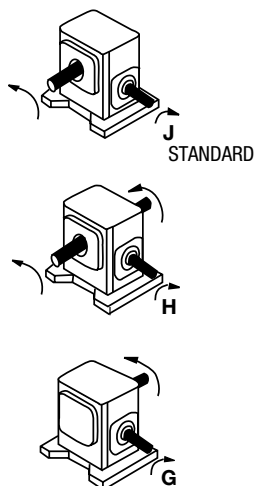
## 700 Series

### A Position Horizontal Base

FOR ORDERING INFORMATION, see Page 16

FOR RATING INFORMATION, See Pages 17, 22-33

#### ASSEMBLY TYPES\*



ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B     | C     | D    | E    | F    | G    | H    | J     | K     | M     | N     | O     |
|------|------|-------|-------|-------|------|------|------|------|------|-------|-------|-------|-------|-------|
| 710  | 1.00 | 4.63  | 3.69  | 3.75  | 2.88 | 1.88 | 1.44 | .44  | 1.75 | 2.88  | 4.06  | 4.72  | 2.88  | 5.19  |
| 713  | 1.33 | 5.38  | 4.19  | 4.38  | 3.31 | 2.19 | 1.66 | .53  | 2.13 | 3.91  | 5.19  | 6.09  | 4.00  | 6.59  |
| 715  | 1.54 | 6.44  | 5.44  | 5.25  | 4.31 | 2.63 | 2.16 | .59  | 2.50 | 4.69  | 5.97  | 7.03  | 4.31  | 7.91  |
| 718  | 1.75 | 7.00  | 5.69  | 5.75  | 4.50 | 2.88 | 2.25 | .69  | 2.63 | 4.88  | 6.44  | 7.16  | 4.31  | 8.38  |
| 721  | 2.06 | 7.75  | 5.94  | 6.38  | 4.69 | 3.19 | 2.34 | .72  | 2.75 | 5.13  | 7.09  | 7.66  | 4.69  | 9.00  |
| 724  | 2.38 | 8.50  | 6.19  | 7.06  | 4.88 | 3.53 | 2.44 | .75  | 2.81 | 5.75  | 7.69  | 8.19  | 5.09  | 10.00 |
| 726  | 2.62 | 9.63  | 6.66  | 8.00  | 5.25 | 4.00 | 2.63 | .75  | 3.19 | 6.31  | 8.75  | 8.97  | 5.63  | 11.13 |
| 730  | 3.00 | 10.00 | 7.50  | 8.44  | 5.88 | 4.22 | 2.94 | .75  | 3.38 | 6.81  | 9.63  | 10.50 | 6.75  | 11.88 |
| 732  | 3.25 | 11.19 | 7.66  | 9.50  | 6.13 | 4.75 | 3.06 | .88  | 3.50 | 7.44  | 10.25 | 10.94 | 7.06  | 13.03 |
| 738  | 3.75 | 12.13 | 8.66  | 10.38 | 7.00 | 5.19 | 3.50 | .94  | 3.75 | 8.38  | 11.38 | 12.09 | 7.75  | 14.44 |
| 752  | 5.16 | 16.38 | 10.63 | 14.13 | 8.38 | 7.06 | 4.19 | 1.13 | 4.38 | 10.69 | 14.88 | 14.38 | 9.06  | 18.88 |
| 760  | 6.00 | 19.00 | 12.00 | 16.50 | 9.50 | 8.25 | 4.75 | 1.25 | 5.25 | 11.75 | 17.75 | 16.00 | 10.00 | 21.25 |

| Size | T     | Low Speed Shaft     |      |       |         | High Speed Shaft    |      |       |        | Approx. Weight (LBS.) | Base Kit No. † | Fan Kit No.** |
|------|-------|---------------------|------|-------|---------|---------------------|------|-------|--------|-----------------------|----------------|---------------|
|      |       | U<br>+.000<br>-.001 | V    | W-Key |         | X<br>+.000<br>-.001 | Y    | Z-Key |        |                       |                |               |
|      |       |                     |      | Sq.   | Lengh   |                     |      | Sq.   | Length |                       |                |               |
| 710  | 11/32 | .500                | 1.19 | 1/8   | 5/8     | .3745               | .81  | 3/32  | 3/8    | 7                     | 56575          | —             |
| 713  | 11/32 | .625                | 2.00 | 3/16  | 1       | .4995               | 1.31 | 1/8   | 5/8    | 12                    | 56577          | —             |
| 715  | 13/32 | .750                | 1.78 | 3/16  | 1       | .6245               | 1.56 | 3/16  | 13/16  | 19                    | 56438          | —             |
| 718  | 13/32 | .875                | 1.78 | 3/16  | 1       | .6245               | 1.56 | 3/16  | 13/16  | 21                    | 56585          | —             |
| 721  | 15/32 | 1.000               | 2.09 | 1/4   | 1-1/4   | .6245               | 1.56 | 3/16  | 13/16  | 26                    | 56440          | —             |
| 724  | 15/32 | 1.125               | 2.37 | 1/4   | 1-1/4   | .7495               | 2.00 | 3/16  | 1      | 32                    | 56591          | —             |
| 726  | 17/32 | 1.125               | 2.62 | 1/4   | 1-15/16 | .7495               | 2.00 | 3/16  | 1      | 46                    | 56595          | —             |
| 730  | 17/32 | 1.250               | 3.25 | 1/4   | 2-1/4   | .8745               | 2.24 | 3/16  | 1      | 64                    | 65544          | —             |
| 732  | 17/32 | 1.375               | 3.25 | 5/16  | 2-7/16  | .8745               | 2.31 | 3/16  | 1      | 81                    | 56599          | 51450         |
| 738  | 19/32 | 1.625               | 3.50 | 3/8   | 2-1/4   | .9995               | 2.75 | 1/4   | 1-1/4  | 115                   | 56603          | 51451         |
| 752  | 25/32 | 2.000               | 4.16 | 1/2   | 2-15/16 | 1.2495              | 3.25 | 1/4   | 1-1/4  | 212                   | 56607          | 51452         |
| 760  | 29/32 | 2.250               | 4.56 | 1/2   | 3-3/8   | 1.4995              | 3.88 | 3/8   | 3      | 260                   | 56610          | 51453         |

\* See Assemblies and Mounting Positions, Page 19.

\*\* For Fan Kits, see Page 130.

† For Base Kits, see Page 129.



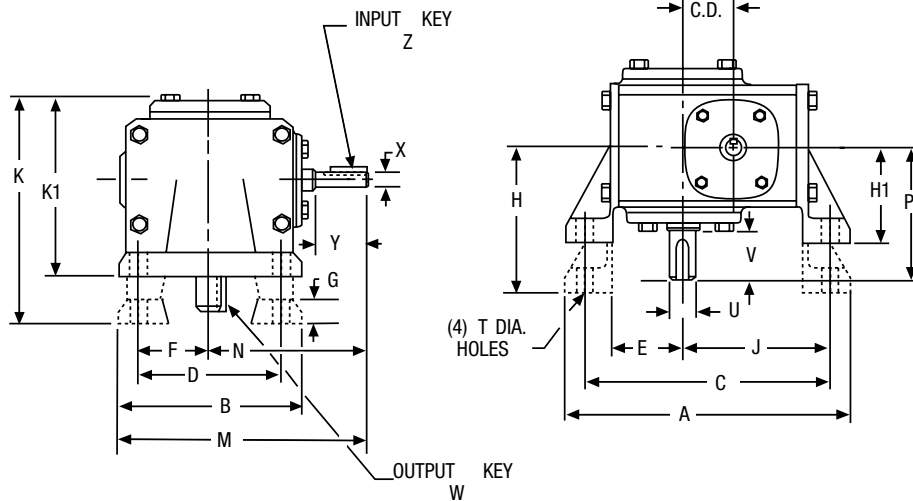
# 700 Series Single Reduction Non-Flanged Reducer Dimensions

## 700 Series

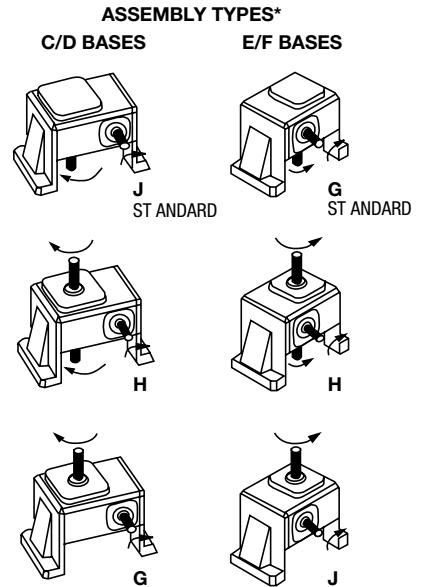
### C/D Position Vertical Base; C/E High Base; D/F Low Base

FOR ORDERING INFORMATION, see Page 16

FOR RATING INFORMATION, See Pages 17, 22-33



ALL DIMENSIONS IN INCHES



| Size | C.D. | A     | B     | C     | D     | E    | F    | G    | H    | H1   | J     | K     | K1    | M     | N     | P     |
|------|------|-------|-------|-------|-------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 710  | 1.00 | 6.06  | 3.22  | 5.13  | 2.31  | 1.38 | 1.16 | .44  | 2.94 | —    | 3.06  | 4.59  | —     | 4.50  | 2.88  | 2.88  |
| 713  | 1.33 | 7.09  | 4.13  | 6.16  | 3.25  | 1.78 | 1.63 | .53  | 3.56 | 2.31 | 3.69  | 5.59  | 4.34  | 6.03  | 3.91  | 4.00  |
| 715  | 1.54 | 8.03  | 5.16  | 6.97  | 4.00  | 1.97 | 2.00 | .69  | 4.38 | 3.00 | 4.25  | 6.88  | 5.50  | 7.28  | 4.69  | 4.31  |
| 718  | 1.75 | 8.44  | 5.16  | 7.38  | 4.00  | 2.13 | 2.00 | .69  | 4.38 | 3.00 | 4.50  | 6.88  | 5.53  | 7.63  | 4.88  | 4.31  |
| 721  | 2.06 | 9.50  | 6.03  | 8.38  | 4.88  | 2.34 | 2.44 | .72  | 4.88 | 3.13 | 5.09  | 7.50  | 5.75  | 8.16  | 5.13  | 4.69  |
| 724  | 2.38 | 10.06 | 6.31  | 8.94  | 4.88  | 2.56 | 2.44 | .75  | 5.25 | 3.38 | 5.44  | 7.97  | 6.09  | 8.94  | 5.75  | 5.09  |
| 726  | 2.62 | 11.69 | 7.38  | 10.13 | 5.75  | 3.00 | 2.88 | .88  | 5.59 | 3.63 | 6.13  | 8.50  | 6.53  | 10.00 | 6.31  | 5.63  |
| 730  | 3.00 | 12.52 | 8.00  | 11.13 | 6.00  | 3.34 | 3.00 | .94  | 5.88 | 3.94 | 6.75  | 9.15  | 7.18  | 10.88 | 6.88  | 6.75  |
| 732  | 3.25 | 13.38 | 9.00  | 11.88 | 6.13  | 3.56 | 3.06 | .88  | 6.25 | 4.69 | 7.13  | 10.00 | 8.44  | 11.94 | 7.44  | 7.06  |
| 738  | 3.75 | 15.69 | 10.00 | 13.94 | 8.00  | 4.00 | 4.00 | .94  | 7.00 | 5.25 | 8.31  | 11.12 | 9.38  | 13.38 | 8.38  | 7.75  |
| 752  | 5.16 | 20.56 | 13.13 | 18.00 | 10.00 | 5.44 | 5.00 | 1.13 | 8.63 | 6.38 | 10.56 | 13.38 | 11.13 | 17.25 | 10.69 | 9.06  |
| 760  | 6.00 | 23.25 | 14.75 | 20.88 | 11.75 | 6.63 | 5.88 | 1.13 | 9.63 | 7.31 | 12.19 | 14.94 | 12.62 | 19.13 | 11.75 | 10.00 |

| Size | T     | Low Speed Shaft     |      |       |         | High Speed Shaft    |      |       |        | High Base                   |                      | Low Base                    |                      | Fan Kit No.** |
|------|-------|---------------------|------|-------|---------|---------------------|------|-------|--------|-----------------------------|----------------------|-----------------------------|----------------------|---------------|
|      |       | U<br>+.000<br>-.001 | V    | W-Key |         | X<br>+.000<br>-.001 | Y    | Z-Key |        | Approx.<br>Weight<br>(LBS.) | Base<br>Kit<br>No. † | Approx.<br>Weight<br>(LBS.) | Base<br>Kit<br>No. † |               |
|      |       |                     |      | Sq.   | Lengh   |                     |      | Sq.   | Length |                             |                      |                             |                      |               |
| 710  | 11/32 | .500                | 1.19 | 1/8   | 5/8     | .3745               | .81  | 3/32  | 3/8    | 7                           | 56576                | —                           | —                    | —             |
| 713  | 11/32 | .625                | 2.00 | 3/16  | 1       | .4995               | 1.31 | 1/8   | 5/8    | 13                          | 56578                | 12                          | 56579                | —             |
| 715  | 13/32 | .750                | 1.78 | 3/16  | 1       | .6245               | 1.56 | 3/16  | 13/16  | 21                          | 56582                | 20                          | 56583                | —             |
| 718  | 13/32 | .875                | 1.78 | 3/16  | 1       | .6245               | 1.56 | 3/16  | 13/16  | 23                          | 56582                | 22                          | 56583                | —             |
| 721  | 15/32 | 1.000               | 2.09 | 1/4   | 1-1/4   | .6245               | 1.56 | 3/16  | 13/16  | 28                          | 56588                | 25                          | 56589                | —             |
| 724  | 15/32 | 1.125               | 2.38 | 1/4   | 1-1/4   | .7495               | 2.00 | 3/16  | 1      | 37                          | 56592                | 35                          | 56593                | —             |
| 726  | 17/32 | 1.125               | 2.63 | 1/4   | 1-15/16 | .7495               | 2.00 | 3/16  | 1      | 51                          | 56596                | 49                          | 56597                | —             |
| 730  | 17/32 | 1.250               | 3.25 | 1/4   | 2-1/4   | .8745               | 2.24 | 3/16  | 1      | 67                          | 65545                | 65                          | 65546                | —             |
| 732  | 17/32 | 1.375               | 3.25 | 5/16  | 2-7/16  | .8745               | 2.31 | 3/16  | 1      | 83                          | 56600                | 81                          | 56601                | 51450         |
| 738  | 19/32 | 1.625               | 3.50 | 3/8   | 2-1/4   | .9995               | 2.75 | 1/4   | 1-1/4  | 143                         | 56604                | 133                         | 56605                | 51451         |
| 752  | 25/32 | 2.000               | 4.16 | 1/2   | 2-15/16 | 1.2495              | 3.25 | 1/4   | 1-1/4  | 238                         | 56608                | 226                         | 56609                | 51452         |
| 760  | 29/32 | 2.250               | 4.56 | 1/2   | 3-3/8   | 1.4995              | 3.88 | 3/8   | 3      | 259                         | 56611                | 275                         | 56612                | 51453         |

\* See Assemblies and Mounting Positions, Page 19.

\*\* For Fan Kits, see Page 130.

† For Base Kits, see Page 129.

# 700 Series Single Reduction Non-Flanged Reducer Dimensions

## 700 Series

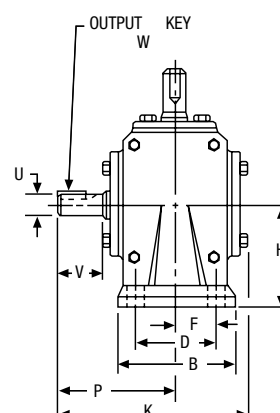
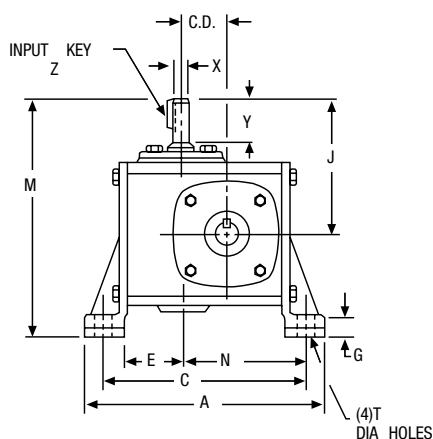
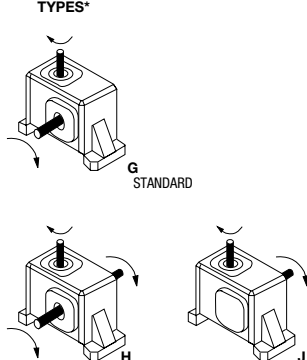
X/Y Position Vertical Base; X = Input Vertical Up, Y = Input Vertical Down

FOR ORDERING INFORMATION, see Page 16

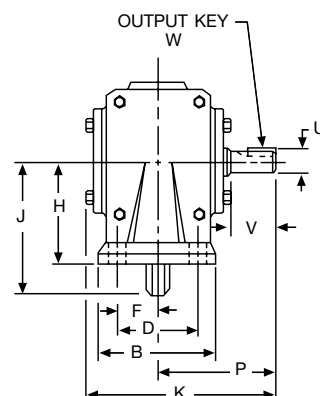
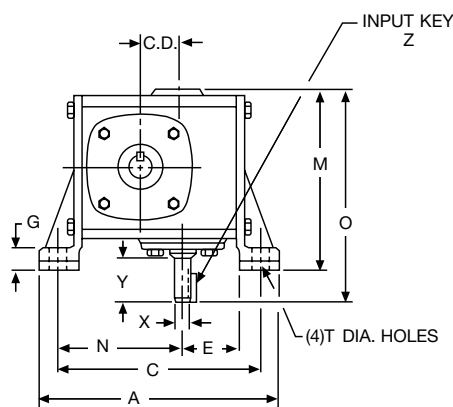
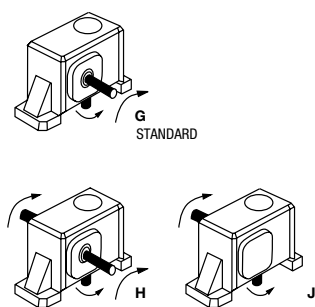
FOR RATING INFORMATION, See Pages 15, 20-31

A

ASSEMBLY TYPES\*



ASSEMBLY TYPES



ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B    | C     | D    | E    | F    | G   | H    | J    | K    | M        |          | N    |
|------|------|-------|------|-------|------|------|------|-----|------|------|------|----------|----------|------|
|      |      |       |      |       |      |      |      |     |      |      |      | X Models | Y Models |      |
| 713  | 1.33 | 7.28  | 2.91 | 6.41  | 2.00 | 1.70 | 1.00 | .53 | 2.94 | 3.91 | 6.03 | 6.84     | 5.06     | 3.92 |
| 715  | 1.54 | 8.25  | 3.72 | 7.25  | 2.50 | 2.00 | 1.25 | .69 | 3.50 | 4.69 | 6.84 | 8.19     | 6.06     | 4.38 |
| 718  | 1.75 | 8.62  | 3.72 | 7.62  | 2.50 | 2.00 | 1.25 | .69 | 3.50 | 4.87 | 6.81 | 8.37     | 6.25     | 4.75 |
| 721  | 2.06 | 9.75  | 3.84 | 8.62  | 2.62 | 2.09 | 1.31 | .72 | 3.94 | 5.12 | 7.28 | 9.06     | 6.94     | 5.47 |
| 724  | 2.38 | 10.31 | 4.12 | 9.19  | 2.87 | 2.12 | 1.44 | .75 | 4.06 | 5.75 | 7.81 | 9.81     | 7.25     | 6.00 |
| 726  | 2.62 | 11.88 | 4.53 | 10.37 | 3.12 | 2.50 | 1.56 | .87 | 4.75 | 6.31 | 8.53 | 11.06    | 8.44     | 6.75 |

| Size | O     | P    | T     | Low Speed Shaft     |      |       |         | High Speed Shaft    |      |       |        | Approx. Weight (LBS.) | Base Kit No.† |
|------|-------|------|-------|---------------------|------|-------|---------|---------------------|------|-------|--------|-----------------------|---------------|
|      |       |      |       | U<br>+.000<br>-.001 | V    | W-Key |         | X<br>+.000<br>-.001 | Y    | Z-Key |        |                       |               |
|      |       |      |       |                     |      | Sq.   | Length  |                     |      | Sq.   | Length |                       |               |
| 713  | 6.03  | 4.00 | 11/32 | .625                | 2.00 | 3/16  | 1       | .4995               | 1.31 | 1/8   | 5/8    | 14                    | 55196         |
| 715  | 7.25  | 4.31 | 13/32 | .750                | 1.78 | 3/16  | 1       | .6245               | 1.56 | 3/16  | 13/16  | 21                    | 55349         |
| 718  | 7.63  | 4.31 | 13/32 | .875                | 1.78 | 3/16  | 1       | .6245               | 1.56 | 3/16  | 13/16  | 23                    | 55349         |
| 721  | 8.13  | 4.69 | 15/32 | 1.000               | 2.09 | 1/4   | 1-1/4   | .6245               | 1.56 | 3/16  | 13/16  | 28                    | 55644         |
| 724  | 8.94  | 5.09 | 15/32 | 1.125               | 2.37 | 1/4   | 1-1/4   | .7495               | 2.00 | 3/16  | 1      | 37                    | 55768         |
| 726  | 10.00 | 5.62 | 17/32 | 1.125               | 2.62 | 1/4   | 1-15/16 | .7495               | 2.00 | 3/16  | 1      | 51                    | 55769         |

\* See Assemblies and Mounting Positions, Page 19.

† For Base Kits, see Page 129.

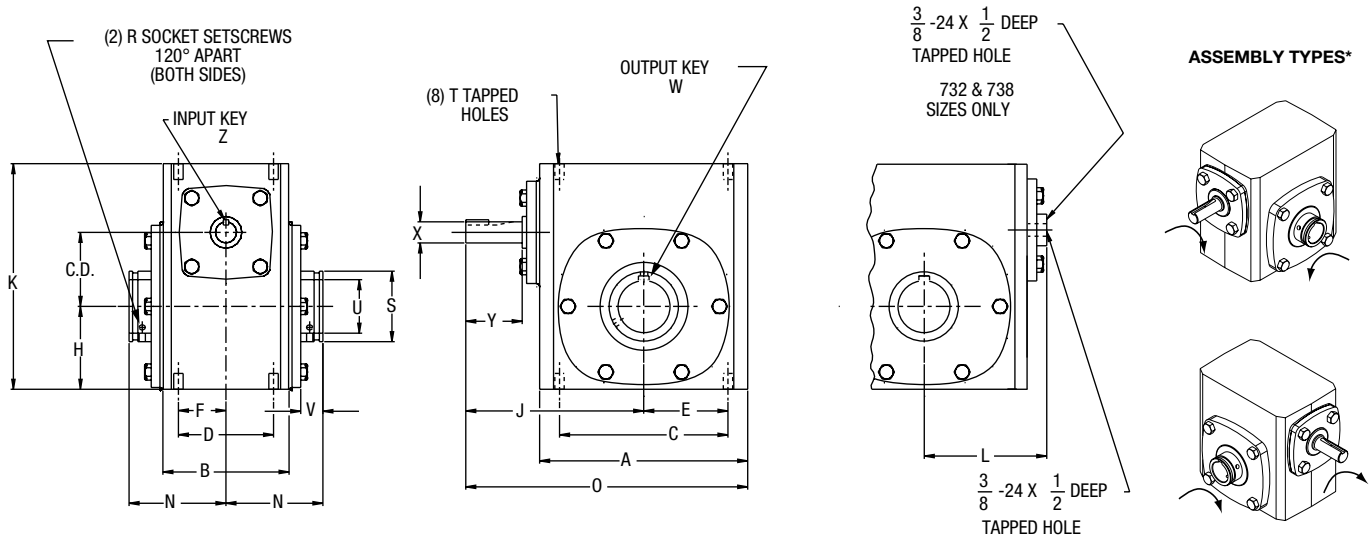
# 700 Series Single Reduction Non-Flanged Reducer Dimensions

## H700 Series

### Basic Models (No Base); Bored to Size, Hollow Output Shaft

FOR ORDERING INFORMATION, see Page 16

FOR RATING INFORMATION, See Pages 15, 20-31



ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B    | C    | D    | E    | F    | H    | J     | K     | L    | N    | O     | R       | S    |
|------|------|-------|------|------|------|------|------|------|-------|-------|------|------|-------|---------|------|
| 713  | 1.33 | 4.25  | 2.88 | 3.25 | 2.00 | 1.63 | 1.00 | 1.72 | 3.91  | 4.66  | —    | 2.50 | 6.03  | #10-32  | .88  |
| 715  | 1.54 | 5.13  | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | 1.91 | 4.69  | 5.38  | —    | 3.03 | 7.25  | #10-32  | 1.38 |
| 718  | 1.75 | 5.50  | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | 2.06 | 4.88  | 5.75  | —    | 3.03 | 7.63  | #10-32  | 1.38 |
| 721  | 2.06 | 6.00  | 3.81 | 5.00 | 2.88 | 2.50 | 1.44 | 2.28 | 5.13  | 6.38  | —    | 3.22 | 8.13  | 1/4-28  | 1.94 |
| 724  | 2.38 | 6.38  | 4.06 | 5.00 | 2.88 | 2.50 | 1.44 | 2.50 | 5.75  | 6.94  | —    | 3.22 | 8.94  | 1/4-28  | 1.94 |
| 726  | 2.62 | 7.38  | 4.44 | 6.38 | 3.38 | 3.19 | 1.69 | 2.94 | 6.31  | 8.00  | —    | 3.44 | 10.00 | 5/16-24 | 2.50 |
| 730  | 3.00 | 8.12  | 5.25 | 7.00 | 4.00 | 3.50 | 2.00 | 3.25 | 6.88  | 8.88  | —    | 4.19 | 10.94 | 5/16-24 | 2.88 |
| 732  | 3.25 | 9.00  | 5.88 | 7.50 | 4.00 | 3.75 | 2.00 | 3.50 | 7.44  | 9.38  | 4.94 | 4.31 | 11.94 | 5/16-24 | 2.88 |
| 738  | 3.75 | 10.00 | 6.38 | 8.50 | 4.75 | 4.25 | 2.38 | 3.88 | 8.38  | 10.44 | 5.50 | 4.81 | 13.38 | 5/16-24 | 3.25 |
| 752  | 5.16 | 13.13 | 7.38 | 11   | 5.81 | 5.5  | 2.91 | 5.31 | 10.69 | 13.75 | 7.19 | 6.12 | 17.25 | 3/1-24  | 4.25 |

| Size | T        |       | Low Speed Shaft        |      |                 |        | High Speed Shaft |      |         |        | Approx. Weight (LBS.) | Fan Kit No.** |
|------|----------|-------|------------------------|------|-----------------|--------|------------------|------|---------|--------|-----------------------|---------------|
|      | Tap Size | Depth | Max U +.0015<br>-.0000 | V    | W - Key         |        | X +.000<br>-.001 | Y    | Z - Key |        |                       |               |
|      |          |       |                        |      | Sq.             | Length |                  |      | Sq.     | Length |                       |               |
| 713  | 5/16-18  | .50   | .625                   | .68  |                 |        | .4995            | 1.31 | 1/8     | 5/8    | 12                    | —             |
| 715  | 5/16-18  | .50   | 1.000                  | .74  |                 |        | .6245            | 1.56 | 3/16    | 13/16  | 19                    | —             |
| 718  | 5/16-18  | .50   | 1.000                  | .74  |                 |        | .6245            | 1.56 | 3/16    | 13/16  | 21                    | —             |
| 721  | 3/8-16   | .56   | 1.4375                 | .87  | See Page        |        | .6245            | 1.56 | 3/16    | 13/16  | 26                    | —             |
| 724  | 3/8-16   | .56   | 1.4375                 | .75  | 128 For         |        | .7495            | 2.00 | 3/16    | 1      | 33                    | —             |
| 726  | 3/8-16   | .56   | 1.9375                 | .78  | Key Information |        | .7495            | 2.00 | 3/16    | 1      | 45                    | —             |
| 730  | 7/16-14  | .88   | 2.1875                 | 1.10 |                 |        | .8745            | 2.24 | 3/16    | 1      | 60                    | —             |
| 732  | 7/16-14  | .66   | 2.1875                 | .93  |                 |        | .8745            | 2.31 | 3/16    | 1      | 76                    | 51450         |
| 738  | 1/2-13   | .81   | 2.4375                 | 1.11 |                 |        | .9995            | 2.75 | 1/4     | 1-1/4  | 110                   | 51451         |
| 752  | 5/8-11   | 1     | 3.4375                 | 1.37 |                 |        | 1.2495           | 3.25 | 4-Jan   | 1-1/4  | 198                   | 51452         |

\* See Assemblies and Mounting Positions, Page 19.

\*\* For Fan Kits, see Page 130.

See Page 128 for available bore sizes.

Input may be rotated clockwise or counterclockwise. Arrows indicate relative rotation.

# 700 Series Single Reduction Non-Flanged Reducer Dimensions

## H700 Series

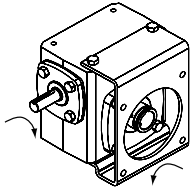
### R/L Position Mounting Bracket; Hollow Output Shaft

FOR ORDERING INFORMATION, see Page 16

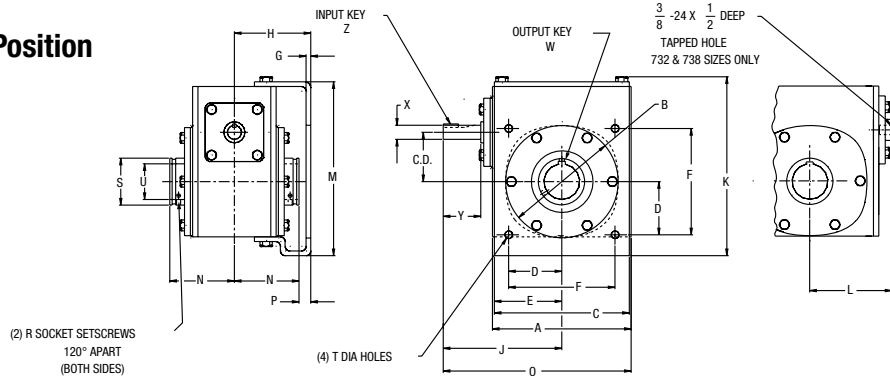
FOR RATING INFORMATION, See Pages 17, 22-33

A

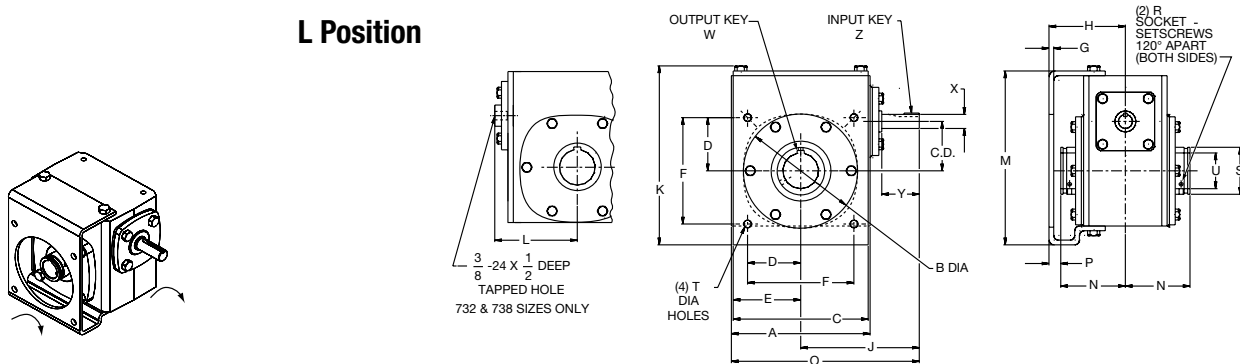
ASSEMBLY TYPES\*



#### R Position



#### L Position



ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B    | C    | D    | E    | F    | G   | H    | J    | K     | L    | M     | N    | O     | P   |
|------|------|-------|------|------|------|------|------|-----|------|------|-------|------|-------|------|-------|-----|
| 713  | 1.33 | 4.25  | 3.62 | 4.25 | 1.77 | 2.12 | 3.54 | .19 | 3.00 | 3.91 | 5.72  | —    | 5.55  | 2.50 | 6.03  | .50 |
| 715  | 1.54 | 5.13  | 3.62 | 4.75 | 1.77 | 2.38 | 3.54 | .19 | 3.56 | 4.69 | 6.40  | —    | 6.16  | 3.03 | 7.25  | .44 |
| 718  | 1.75 | 5.50  | 4.06 | 5.00 | 2.08 | 2.41 | 4.16 | .19 | 3.50 | 4.88 | 6.89  | —    | 6.66  | 3.03 | 7.63  | .47 |
| 721  | 2.06 | 6.00  | 4.50 | 5.92 | 2.30 | 2.96 | 4.60 | .25 | 3.75 | 5.13 | 7.74  | —    | 7.47  | 3.22 | 8.13  | .53 |
| 724  | 2.38 | 6.38  | 5.00 | 5.75 | 2.65 | 2.88 | 5.30 | .25 | 3.72 | 5.75 | 8.57  | —    | 8.30  | 3.22 | 8.94  | .50 |
| 726  | 2.62 | 7.38  | 6.00 | 7.18 | 2.83 | 3.59 | 5.66 | .25 | 4.06 | 6.31 | 9.52  | —    | 9.25  | 3.44 | 10.00 | .62 |
| 730  | 3.00 | 8.12  | 7.00 | 8.00 | 3.18 | 4.00 | 6.36 | .25 | 4.50 | 6.88 | 10.75 | —    | 10.38 | 4.19 | 10.94 | .31 |
| 732  | 3.25 | 9.00  | 7.00 | 8.50 | 3.54 | 4.25 | 7.08 | .25 | 5.25 | 7.44 | 11.22 | 4.94 | 10.91 | 4.31 | 11.94 | .94 |
| 738  | 3.75 | 10.00 | 8.00 | 9.50 | 4.06 | 4.75 | 8.12 | .25 | 5.47 | 8.38 | 12.21 | 5.50 | 11.84 | 4.81 | 13.38 | .66 |

| Size | R       | S    | T<br>Holes | Low Speed Shaft           |                 |        | High Speed Shaft    |      |       |        | Approx.<br>Weight<br>(LBS.) | Fan<br>Kit<br>No.** |
|------|---------|------|------------|---------------------------|-----------------|--------|---------------------|------|-------|--------|-----------------------------|---------------------|
|      |         |      |            | Max U<br>+.0015<br>-.0000 | W-Key           |        | X<br>+.000<br>-.001 | Y    | Z-Key |        |                             |                     |
|      |         |      |            |                           | Sq.             | LENGTH |                     |      | Sq.   | Length |                             |                     |
| 713  | #10-32  | .88  | 11/32      | .625                      |                 |        | .4995               | 1.31 | 1/8   | 5/8    | 14                          | —                   |
| 715  | #10-32  | 1.38 | 11/32      | 1.000                     |                 |        | .6245               | 1.56 | 3/16  | 13/16  | 22                          | —                   |
| 718  | #10-32  | 1.38 | 11/32      | 1.000                     |                 |        | .6245               | 1.56 | 3/16  | 13/16  | 25                          | —                   |
| 721  | 1/4-28  | 1.94 | 13/32      | 1.4375                    | See Page        |        | .6245               | 1.56 | 3/16  | 13/16  | 29                          | —                   |
| 724  | 1/4-28  | 1.94 | 13/32      | 1.4375                    | 128 For         |        | .7495               | 2.00 | 3/16  | 1      | 40                          | —                   |
| 726  | 5/16-24 | 2.50 | 13/32      | 1.9375                    | Key Information |        | .7495               | 2.00 | 3/16  | 1      | 54                          | —                   |
| 730  | 5/16-24 | 2.88 | 13/32      | 2.1875                    |                 |        | .8745               | 2.24 | 3/16  | 1      | 67                          | —                   |
| 732  | 5/16-24 | 2.88 | 9/16       | 2.1875                    |                 |        | .8745               | 2.31 | 3/16  | 1      | 89                          | 51450               |
| 738  | 3/8-24  | 3.25 | 9/16       | 2.4375                    |                 |        | .9995               | 2.75 | 1/4   | 1-1/4  | 132                         | 51451               |

\* See Assemblies and Mounting Positions, Page 19.

\*\* For Fan Kits, see Page 130. See Page 128 for available bore sizes.

Input may be rotated clockwise or counterclockwise. Arrows indicate relative rotation.

# 700 Series Single Reduction Non-Flanged Reducer Dimensions

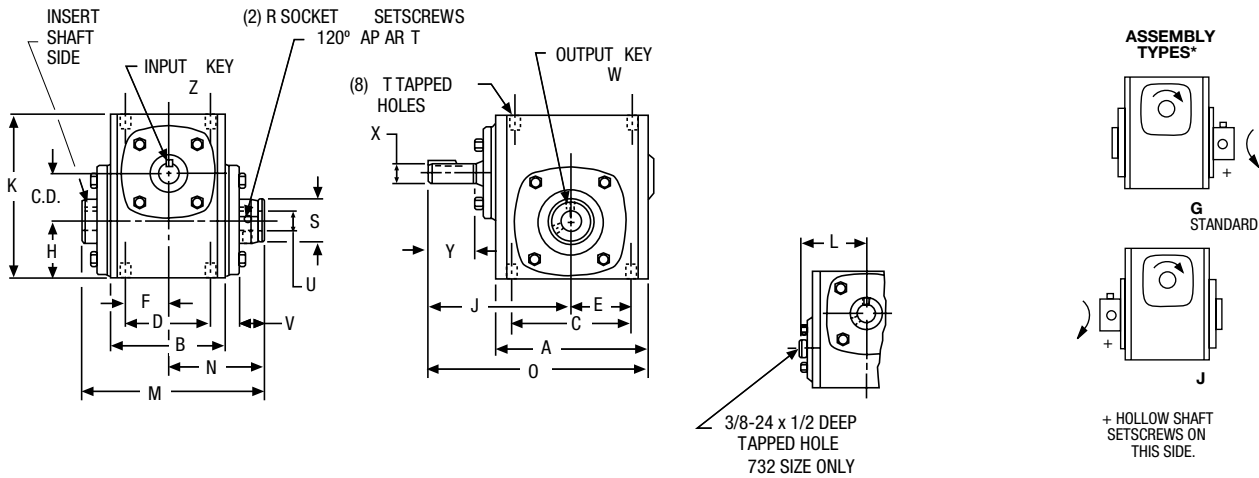
## S700 Series

### Basic Models (No Base); Hollow Output Shaft

FOR ORDERING INFORMATION, see Page 16

FOR ADDITIONAL SIZES, See the H Series Page 49

FOR RATING INFORMATION, See Pages 17, 22-33



ALL DIMENSIONS IN INCHES

| Size | C.D. | A    | B    | C    | D    | E    | F    | H    | J    | K    | M    | N    | O     | R       | S    |
|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|---------|------|
| 718  | 1.75 | 5.50 | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | 2.06 | 4.88 | 5.75 | 5.69 | 3.09 | 7.63  | #10-32  | 1.38 |
| 721  | 2.06 | 6.00 | 3.81 | 5.00 | 2.88 | 2.50 | 1.44 | 2.28 | 5.13 | 6.38 | 5.88 | 3.22 | 8.13  | 1/4-28  | 1.50 |
| 726  | 2.62 | 7.38 | 4.44 | 6.38 | 3.38 | 3.19 | 1.69 | 2.94 | 6.31 | 8.00 | 6.47 | 3.50 | 10.00 | 1/4-28  | 2.16 |
| 732  | 3.25 | 9.00 | 5.88 | 7.50 | 4.00 | 3.75 | 2.00 | 3.50 | 7.44 | 9.38 | 8.06 | 4.38 | 11.94 | 5/16-24 | 2.56 |

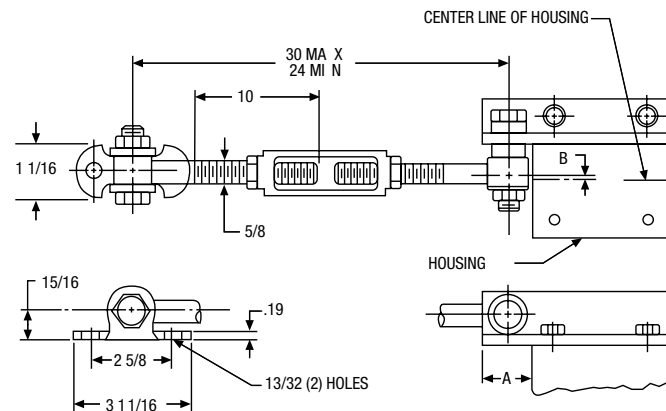
| Size | T        |       | Low Speed Shaft         |      |                 |        | High Speed Shaft    |      |         |        | Approx. Weight (LBS.) | Fan Kit No.** |
|------|----------|-------|-------------------------|------|-----------------|--------|---------------------|------|---------|--------|-----------------------|---------------|
|      | Tap Size | Depth | U ††<br>+.0015<br>-.001 | V    | W - Key         |        | X<br>+.000<br>-.001 | Y    | Z - Key |        |                       |               |
|      |          |       |                         |      | Sq.             | Length |                     |      | Sq.     | Length |                       |               |
| 718  | 5/16-18  | .50   | 1.000                   | .78  | See Page        |        | .6245               | 1.56 | 3/16    | 13/16  | 19                    | —             |
| 721  | 3/8-16   | .56   | 1.125                   | .88  | 128 For         |        | .6245               | 1.56 | 3/16    | 13/16  | 23                    | —             |
| 726  | 3/8-16   | .56   | 1.4375                  | .84  | Key Information |        | .7495               | 2.00 | 3/16    | 1      | 40                    | —             |
| 732  | 7/16-14  | .66   | 1.9375                  | 1.00 |                 |        | .8745               | 2.31 | 3/16    | 1      | 72                    | 51450         |

\* See Assemblies and mounting Positions, Page 19. Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounted surfaces, viewed from end of input shaft. Input may be rotated clockwise or counterclockwise. Arrows indicate relative rotation.

\*\* For Fan Kits, see Page 130.

†† For additional Output Bore Diameters, refer to the H Series, Page 128.

## Reaction Rod Kits



ALL DIMENSIONS IN INCHES

| Size | A    | B   | Catalog Number | Kit No. |
|------|------|-----|----------------|---------|
| S718 | 1.09 | .09 | X718-76K       | 69692   |
| S721 | 1.25 | .03 | X721-76K       | 69693   |
| S726 | 1.25 | .22 | X726-76K       | 69694   |
| S732 | 1.50 | .53 | X732-76K       | 69695   |

All hardware shown is included in the kits.

# 700 Series Single Reduction Non-Flanged Reducer Dimensions

## S700 Series

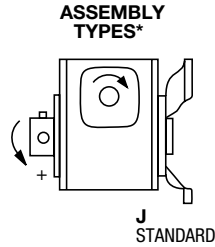
### V/W Position Mounting Flange; Hollow Output Shaft

FOR ORDERING INFORMATION, see Page 16

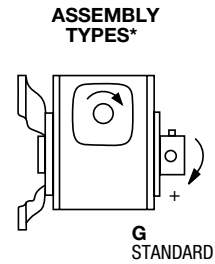
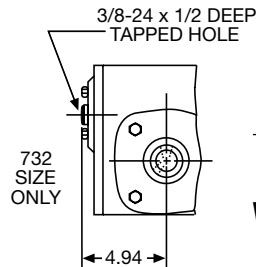
FOR ADDITIONAL SIZES, See the H Series Page 49

FOR RATING INFORMATION, See Pages 17, 22-33

A

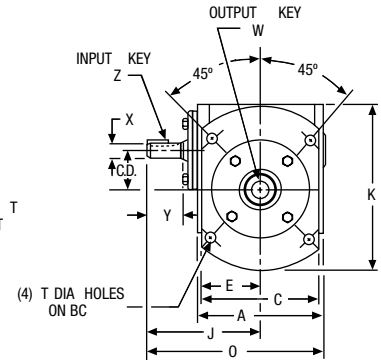
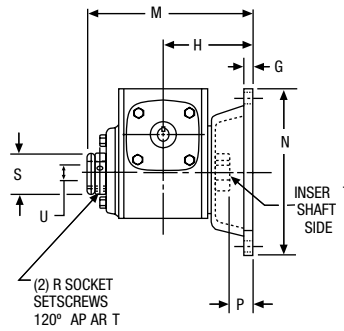


+ HOLLOW SHAFT SETSCREWS ON THIS SIDE.

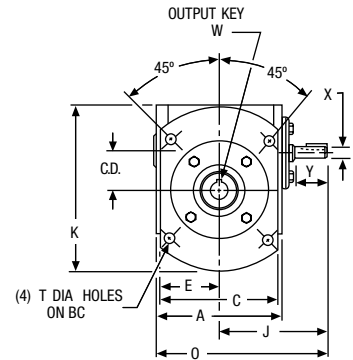
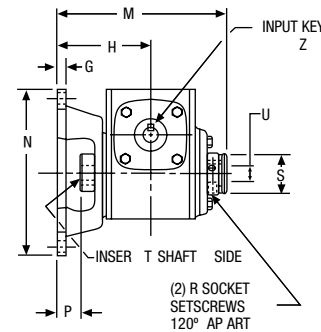


+ HOLLOW SHAFT SETSCREWS ON THIS SIDE

### V Position



### W Position



ALL DIMENSIONS IN INCHES

| Size | C.D. | A    | BC    | C    | E    | G   | H    | J    | K     | M    | N     | O     | P    |
|------|------|------|-------|------|------|-----|------|------|-------|------|-------|-------|------|
| 718  | 1.75 | 5.50 | 5.88  | 4.88 | 2.44 | .38 | 3.50 | 4.88 | 7.06  | 6.59 | 6.75  | 7.63  | .91  |
| 721  | 2.06 | 6.00 | 6.50  | 5.75 | 2.88 | .38 | 3.75 | 5.13 | 7.28  | 6.97 | 7.38  | 8.13  | 1.09 |
| 726  | 2.62 | 7.38 | 8.00  | 7.75 | 3.88 | .38 | 4.06 | 6.31 | 9.50  | 7.56 | 8.88  | 10.19 | 1.09 |
| 732  | 3.25 | 9.00 | 10.00 | 9.00 | 4.50 | .50 | 5.25 | 7.44 | 11.38 | 9.63 | 11.00 | 11.94 | 1.56 |

| Size | R       | S    | T<br>Holes | Low Speed Shaft       |                 |        | High Speed Shaft    |      |       | Approx.<br>Weight<br>(LBS.) | Fan<br>Kit<br>No.** |        |
|------|---------|------|------------|-----------------------|-----------------|--------|---------------------|------|-------|-----------------------------|---------------------|--------|
|      |         |      |            | U<br>+.0015<br>-.0000 | W-Key           |        | X<br>+.000<br>-.001 | Y    | Z-Key |                             |                     |        |
|      |         |      |            |                       | Sq.             | LENGTH |                     |      | Sq.   |                             |                     | Length |
| 718  | #10-32  | 1.38 | 11/32      | 1.000                 | See Page        |        | .6245               | 1.56 | 3/16  | 13/16                       | 24                  | —      |
| 721  | 1/4-28  | 1.50 | 13/32      | 1.125                 | 128 For         |        | .6245               | 1.56 | 3/16  | 13/16                       | 28                  | —      |
| 726  | 1/4-28  | 2.16 | 13/32      | 1.4375                | Key Information |        | .7495               | 2.00 | 3/16  | 1                           | 51                  | —      |
| 732  | 5/16-24 | 2.56 | 9/16       | 1.9375                |                 |        | .8745               | 2.31 | 3/16  | 1                           | 85                  | 51450  |

\* Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounted surfaces, viewed from end of input shaft. Input may be rotated clockwise or counterclockwise. Arrows indicate relative rotation. See Assemblies and Mounting Positions, Page 19.

\*\* For Fan Kits, see Page 130.

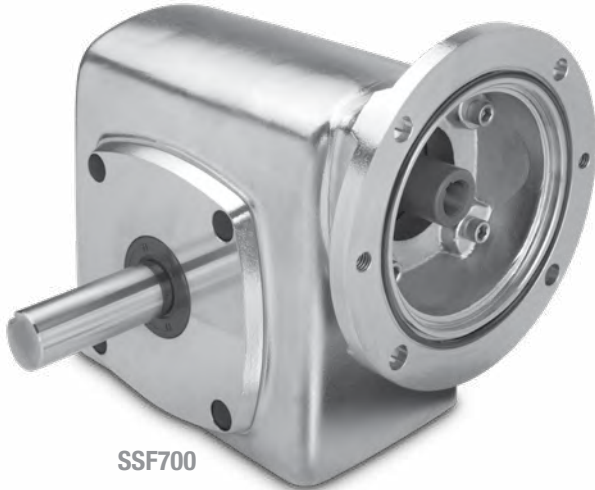


# 700 Series Stainless Steel Washdown Duty Reducers

## SSF700/SSQC/SSHF700 Series Basic Models (No Base)

FOR ORDERING INFORMATION, see Page 16  
FOR RATING INFORMATION, See Pages 17, 22-33

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SSF700



SSHF700



SSHC700

### APPLICATIONS:

- Washdown
- Food Processing
- Chemical Processing
- Pharmaceutical Industry

### STANDARD FEATURES:

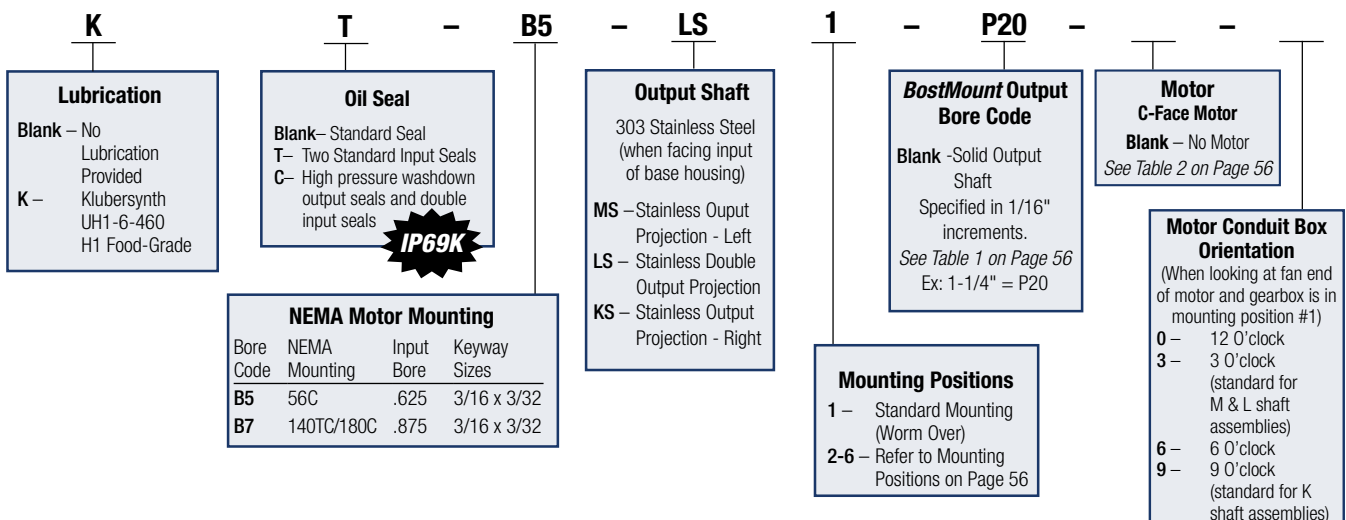
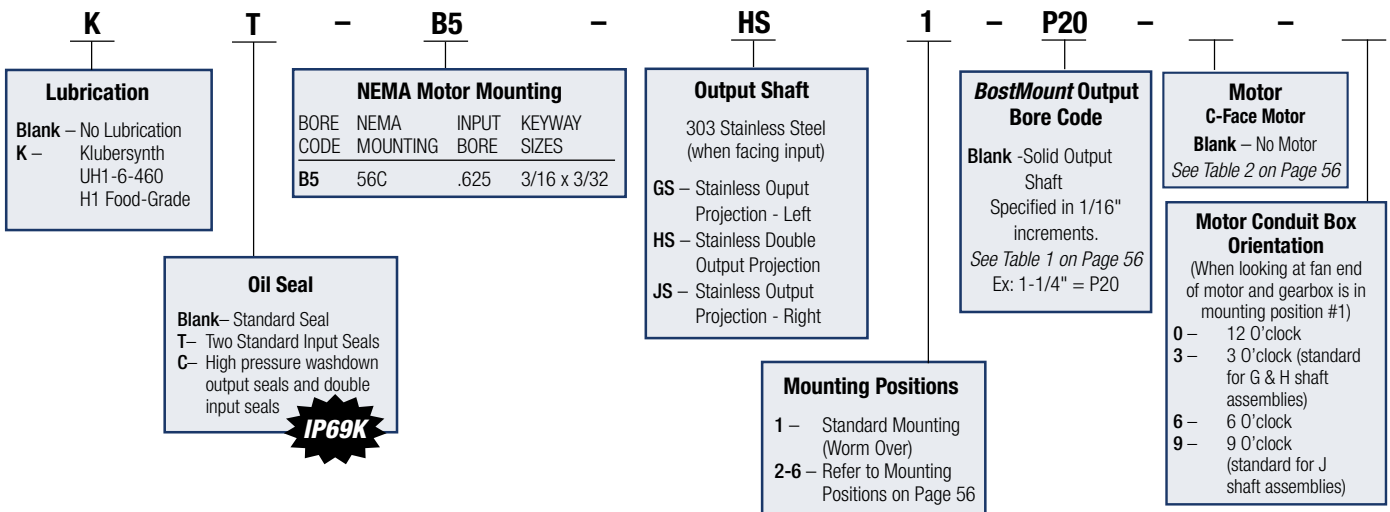
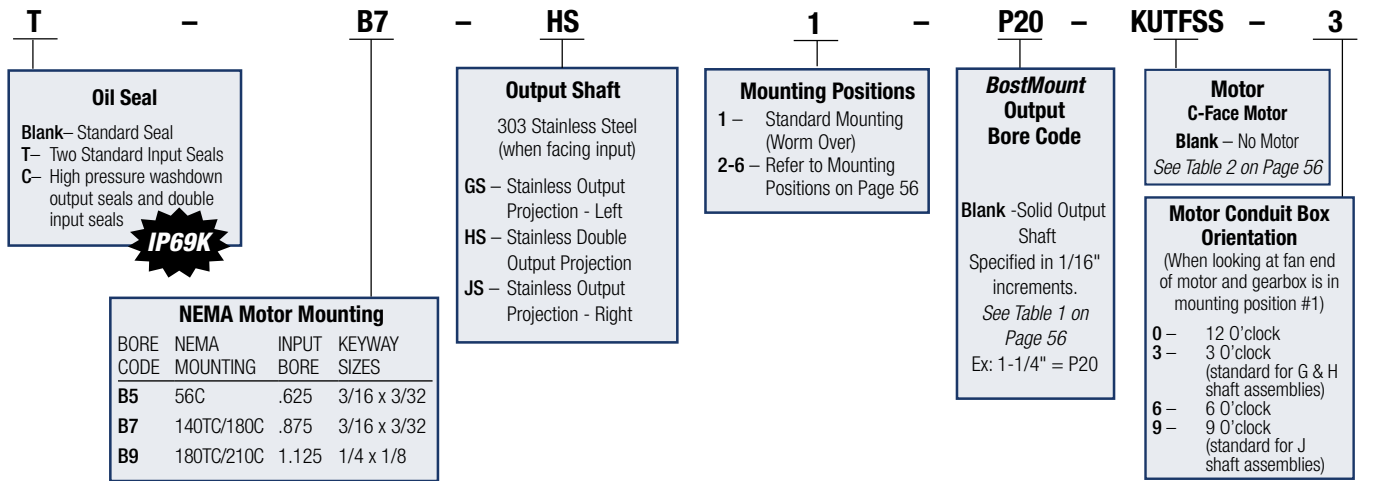
- The original Domed Crown™ Design
- NSF International certified
- Housings, bearing carriers, and flanges are made from 316 cast stainless steel to withstand hostile environments
- 303 stainless steel output shaft
- All stainless steel hardware
- Motor Flange "O" ring sealed
- Flange features two jack screw holes for easy motor removal
- Double lip shaft seals for superior performance in hostile environments
- This is a specially designed internal pressure equalization system which allows the gearbox to operate in all environments without the use of conventional pressure vents
- Lubricated for life with Klubersynth UH1 6-460 synthetic oil for wide temperature ranges, maximum efficiency and long maintenance-free operation
- Oil filled for all mounting positions
- Laser marked nameplate
- Optional high pressure/wash down seals available



# SS700 Series Worm Gear Speed Reducers

## Ordering Information

A



# SS700 Series Worm Gear Speed Reducers

## Ordering Information

### Horizontal Base Kits for SS700 Series

(If ordered separately)

| Size | Kit                  |
|------|----------------------|
| 713  | J00877 XSS713-11H-BK |
| 715  | J00878 XSS715-11H-BK |
| 718  | J00304 XSS718-11H-BK |
| 721  | J00305 XSS721-11H-BK |
| 724  | J00879 XSS724-11H-BK |
| 726  | J00306 XSS726-11H-BK |
| 732  | J00307 XSS732-11H-BK |

Kit includes (2) feet, (4) attaching bolts and (4) hardware covers.

**Table 1: Hollow Output Shaft Bore Codes**

| Fraction Size | Output Bore Code | 713 | 715 | 718 | 721 | 724 | 726 | 732 | Decimal Size* | Key Size†          |
|---------------|------------------|-----|-----|-----|-----|-----|-----|-----|---------------|--------------------|
| 5/8           | P10              | S   |     |     |     |     |     |     | .6250         | .187 x .125 x 1.00 |
| 3/4           | P12              | •   | •   | •   | •   | •   |     |     | .7500         | .187 x .156 x 1.00 |
| 7/8           | P14              | •   | •   | •   | •   | •   |     |     | .8750         | .187 x .156 x 1.00 |
| 15/16         | P15              | •   | •   | •   | •   | •   | •   |     | .9375         | .25 x .218 x 1.37  |
| 1             | P16              | S   | S   | S   | S   | S   | •   |     | 1.0000        | .25 x .218 x 1.37  |
| 1-1/8         | P18              |     |     |     | •   | •   | •   |     | 1.1250        | .25 x .218 x 1.37  |
| 1-3/16        | P19              |     |     |     | S   | S   | •   | •   | 1.1875        | .25 x .218 x 1.37  |
| 1-1/4         | P20              |     |     |     | S   | S   | S   | •   | 1.2500        | .25 x .218 x 1.37  |
| 1-7/16        | P23              |     |     |     | S   | S   | S   | S   | 1.4375        | .375 x .312 x 1.75 |
| 1-1/2         | P24              |     |     |     |     |     | S   | S   | 1.5000        | .375 x .312 x 1.75 |
| 1-15/16       | P31              |     |     |     |     |     | •   | S   | 1.9375        | .50 x .375 x 2.00  |
| 2             | P32              |     |     |     |     |     |     | •   | 2.0000        | .50 x .375 x 2.00  |
| 2 3/16        | P35              |     |     |     |     |     |     | •   | 2.1875        | .50 x .375 x 2.00  |

\*Bore tolerance +.0015 / - .0000

S Standard Bore – Included in Express Program

• Optional Bore

† Rectangular key is provided with reducer to fit hollow shaft. Drive shaft requires standard width and depth keyway.

Note: For all other bore sizes, contact factory.

### Replacement Hardware Covers

| Size | Housing Oil Plugs | Bearing Carrier | Mounting Feet | Output Flange | Motor Flange B5/B7 (56C/140TC) | Motor Flange B9 (180TC) |
|------|-------------------|-----------------|---------------|---------------|--------------------------------|-------------------------|
| 713  | J00195            | N/A             | N/A           | J00195        | J00195                         | J00195 & J00196         |
| 715  | J00195            | J00195          | J00196        | J00195        | J00195                         | J00195 & J00196         |
| 718  | J00195            | J00195          | J00196        | J00195        | J00195                         | J00195 & J00196         |
| 721  | J00195            | J00195          | J00196        | J00195        | J00195                         | J00195 & J00196         |
| 724  | J00195            | J00195          | J00196        | J00195        | J00195                         | J00195 & J00196         |
| 726  | J00195            | J00195          | J00196        | J00195        | J00195                         | J00195 & J00196         |
| 732  | J00195            | J00195          | J00196        | J00196        | J00195                         | J00195 & J00196         |

J00195 has nominal O.D. of 0.605"

J00196 has nominal O.D. of 0.812"

Material: Stainless Steel disk (metal detectable) with over-molded rubber

**Table 2: Stainless Steel AC Motors**

| Part #     | HP   | Type | Frame Size |
|------------|------|------|------------|
| FUT-SS     | 0.5  | TENV | 56C        |
| GUT-SS     | 0.75 | TENV | 56C        |
| HUT5/8-SS  | 1.0  | TENV | 56C        |
| HUTF5/8-SS | 1.0  | TEFC | 56C        |
| HUT-SS     | 1.0  | TENV | 140TC      |
| HUTF-SS    | 1.0  | TEFC | 140TC      |
| JUTF-SS    | 1.5  | TEFC | 140TC      |
| KUTF-SS    | 2.0  | TEFC | 140TC      |
| LUTF-SS    | 3.0  | TEFC | 180TC      |
| MUTF-SS    | 5.0  | TEFC | 180TC      |

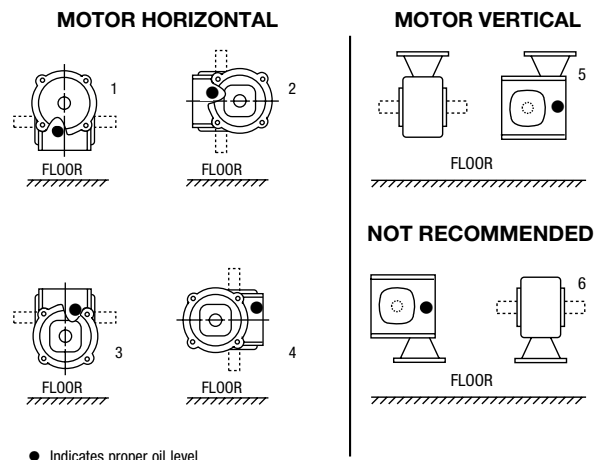
TENV = Totally enclosed, non-ventilated

TEFC = Totally enclosed, fan-cooled

## Mounting Positions & Lubrication

### Oil Levels For Typical Mounting Positions

(Examples shown for single-reduction models only)



NOTE: Double input seals are required for all positions except #1 and #5.

### Enclosed Worm Gear Reducers Lubricant Available from Boston Gear

| Recommended Oil (or equivalent)                    | Viscosity Range SUS @ 100°F | ISO Viscosity Grade No. | Klubersynth UH1 6-460 Qt. Part No. |
|----------------------------------------------------|-----------------------------|-------------------------|------------------------------------|
| Klubersynth* UH1 6-460 Synthetic H1 Food Grade Oil | 1950/2500                   | 460                     | 65159                              |

Ambient temperature range of -20F to +125F is suitable for standard configured products and ratings. Contact technical support for operating conditions beyond this range.

\* Synthetic recommendation is exclusively Klubersynth UH1 6-460, other lubricants will reduce performance ratings.

\*\* The Klubersynth UH1 6-460 lubricant will perform at temperatures considerably higher than 225°F. However, the factory should always be consulted prior to operating at higher temperatures, as damage may occur to oil seals and other components.

### Oil Capacity in Fluid Ounces

(SS700 Units Only)

| Unit Size | Positions |      |      |      |       |
|-----------|-----------|------|------|------|-------|
|           | 1         | 2    | 3    | 4    | 5 & 6 |
| 713       | 3.2       | 3.2  | 4.8  | 3.2  | 3.2   |
| 715       | 11.2      | 13.6 | 17.6 | 13.6 | 13.6  |
| 718       | 14.4      | 17.6 | 20.8 | 17.6 | 17.6  |
| 721       | 17.6      | 20.8 | 22.4 | 20.8 | 20.8  |
| 724       | 21.0      | 22.5 | 25.5 | 22.5 | 22.5  |
| 726       | 37.0      | 37.0 | 41.5 | 37.0 | 37.0  |
| 732       | 81.5      | 85.0 | 93.0 | 85.0 | 85.0  |

Double reduction stainless gearboxes require the primary and secondary boxes to be filled independently to their respective mounting position.

# SS700 Series Single Reduction

## Ratios and Performance

### Single Reduction

| Series Size              |           |            | 713      |               |          | 715      |               |          | 718      |               |          | 721      |               |          | 724      |               |          | 726      |               |          | 732      |               |          |
|--------------------------|-----------|------------|----------|---------------|----------|----------|---------------|----------|----------|---------------|----------|----------|---------------|----------|----------|---------------|----------|----------|---------------|----------|----------|---------------|----------|
| Ratio                    | Input RPM | Output RPM | Input HP | Output Torque |          | Input HP | Output Torque |          | Input HP | Output Torque |          | Input HP | Output Torque |          | Input HP | Output Torque |          | Input HP | Output Torque |          | Input HP | Output Torque |          |
|                          |           |            |          | HP            | (in-lbs) |          | HP            | (in-lbs) |          | HP            | (in-lbs) |          | HP            | (in-lbs) |          | HP            | (in-lbs) |          | HP            | (in-lbs) |          | HP            | (in-lbs) |
| 5                        | 1750      | 350        | 1.39     | 1.31          | 235      | 1.72     | 1.62          | 291      | 2.55     | 2.40          | 432      | 3.66     | 3.44          | 620      | 4.94     | 4.65          | 838      | 6.11     | 5.74          | 1034     | 10.05    | 9.54          | 1716     |
|                          | 1150      | 230        | 0.84     | 0.73          | 200      | 1.15     | 1.04          | 285      | 1.42     | 1.28          | 350      | 2.33     | 2.10          | 575      | 3.05     | 2.74          | 750      | 4.05     | 3.64          | 1000     | 8.43     | 7.91          | 2165     |
|                          | 690       | 138        | 0.50     | 0.45          | 205      | 0.80     | 0.72          | 330      | 0.97     | 0.87          | 400      | 1.64     | 1.47          | 670      | 2.25     | 2.01          | 920      | 3.04     | 2.74          | 1250     | 6.53     | 6.02          | 2749     |
|                          | 100       | 20         | 0.09     | 0.08          | 240      | 0.14     | 0.12          | 370      | 0.17     | 0.14          | 460      | 0.30     | 0.26          | 820      | 0.43     | 0.38          | 1200     | 0.58     | 0.51          | 1600     | 1.38     | 1.19          | 3735     |
| 10                       | 1750      | 175        | 0.86     | 0.78          | 281      | 1.20     | 1.10          | 397      | 1.61     | 1.49          | 536      | 2.34     | 2.19          | 789      | 3.18     | 2.97          | 1069     | 3.94     | 3.74          | 1345     | 6.22     | 5.85          | 2106     |
|                          | 1150      | 115        | 0.51     | 0.44          | 243      | 0.73     | 0.64          | 350      | 0.98     | 0.87          | 480      | 1.49     | 1.32          | 725      | 2.09     | 1.87          | 1025     | 2.82     | 2.54          | 1390     | 4.41     | 3.92          | 2150     |
|                          | 690       | 69         | 0.33     | 0.29          | 266      | 0.47     | 0.42          | 384      | 0.66     | 0.58          | 534      | 1.00     | 0.89          | 814      | 1.46     | 1.31          | 1200     | 1.97     | 1.75          | 1600     | 3.17     | 2.85          | 2600     |
|                          | 100       | 10         | 0.06     | 0.05          | 296      | 0.09     | 0.07          | 432      | 0.12     | 0.10          | 610      | 0.19     | 0.15          | 968      | 0.27     | 0.23          | 1430     | 0.37     | 0.31          | 1960     | 0.62     | 0.52          | 3300     |
| 15                       | 1750      | 116.7      | 0.66     | 0.58          | 305      | 0.91     | 0.79          | 428      | 1.13     | 1.02          | 552      | 1.72     | 1.56          | 840      | 2.34     | 2.15          | 1159     | 2.95     | 2.71          | 1465     | 4.65     | 4.34          | 2344     |
|                          | 1150      | 76.7       | 0.37     | 0.32          | 262      | 0.53     | 0.46          | 376      | 0.67     | 0.57          | 472      | 1.06     | 0.91          | 752      | 1.51     | 1.29          | 1060     | 2.01     | 1.73          | 1425     | 3.15     | 2.74          | 2250     |
|                          | 690       | 46         | 0.26     | 0.21          | 288      | 0.36     | 0.30          | 415      | 0.46     | 0.39          | 534      | 0.72     | 0.61          | 832      | 1.05     | 0.90          | 1239     | 1.41     | 1.22          | 1675     | 2.35     | 2.04          | 2800     |
|                          | 100       | 6.7        | 0.05     | 0.03          | 322      | 0.07     | 0.05          | 468      | 0.09     | 0.06          | 597      | 0.13     | 0.10          | 968      | 0.19     | 0.15          | 1463     | 0.28     | 0.22          | 2057     | 0.48     | 0.39          | 3700     |
| 20                       | 1750      | 87.5       | 0.52     | 0.43          | 308      | 0.72     | 0.60          | 435      | 0.97     | 0.82          | 590      | 1.40     | 1.24          | 892      | 1.95     | 1.71          | 1233     | 2.34     | 2.06          | 1483     | 3.71     | 3.35          | 2413     |
|                          | 1150      | 57.5       | 0.29     | 0.24          | 265      | 0.43     | 0.35          | 380      | 0.58     | 0.48          | 525      | 0.86     | 0.72          | 782      | 1.27     | 1.06          | 1160     | 1.63     | 1.36          | 1500     | 2.77     | 2.37          | 2600     |
|                          | 690       | 34.5       | 0.19     | 0.16          | 286      | 0.28     | 0.23          | 420      | 0.38     | 0.32          | 580      | 0.57     | 0.48          | 875      | 0.83     | 0.70          | 1280     | 1.11     | 0.94          | 1725     | 1.99     | 1.70          | 3100     |
|                          | 100       | 5          | 0.04     | 0.03          | 330      | 0.06     | 0.04          | 485      | 0.08     | 0.06          | 690      | 0.11     | 0.08          | 1018     | 0.17     | 0.12          | 1550     | 0.20     | 0.16          | 2050     | 0.41     | 0.30          | 3846     |
| 25                       | 1750      | 70         | 0.43     | 0.34          | 307      | 0.60     | 0.49          | 437      | 0.76     | 0.64          | 574      | 1.16     | 0.97          | 875      | 1.55     | 1.33          | 1199     | 1.94     | 1.68          | 1514     | 3.08     | 2.71          | 2443     |
|                          | 1150      | 46         | 0.24     | 0.19          | 260      | 0.35     | 0.27          | 375      | 0.48     | 0.36          | 500      | 0.72     | 0.58          | 790      | 1.03     | 0.84          | 1150     | 1.31     | 1.11          | 1525     | 2.29     | 1.90          | 2600     |
|                          | 690       | 27.6       | 0.15     | 0.12          | 280      | 0.22     | 0.18          | 410      | 0.30     | 0.24          | 540      | 0.47     | 0.38          | 875      | 0.69     | 0.56          | 1280     | 0.93     | 0.77          | 1750     | 1.51     | 1.27          | 2900     |
|                          | 100       | 4          | 0.03     | 0.02          | 310      | 0.04     | 0.03          | 451      | 0.06     | 0.04          | 660      | 0.10     | 0.07          | 975      | 0.14     | 0.10          | 1500     | 0.18     | 0.13          | 2075     | 0.31     | 0.22          | 3500     |
| 30                       | 1750      | 58.3       | 0.39     | 0.29          | 311      | 0.54     | 0.41          | 446      | 0.65     | 0.53          | 573      | 0.99     | 0.81          | 871      | 1.33     | 1.11          | 1200     | 1.68     | 1.41          | 1521     | 2.64     | 2.27          | 2456     |
|                          | 1150      | 38.3       | 0.21     | 0.16          | 270      | 0.31     | 0.23          | 388      | 0.40     | 0.32          | 530      | 0.62     | 0.48          | 795      | 0.89     | 0.70          | 1170     | 1.20     | 0.96          | 1575     | 2.80     | 2.23          | 2675     |
|                          | 690       | 23         | 0.14     | 0.11          | 300      | 0.20     | 0.17          | 460      | 0.29     | 0.22          | 600      | 0.41     | 0.32          | 880      | 0.60     | 0.47          | 1300     | 0.81     | 0.65          | 1790     | 1.41     | 1.16          | 3200     |
|                          | 100       | 3.3        | 0.03     | 0.02          | 340      | 0.04     | 0.03          | 496      | 0.06     | 0.04          | 710      | 0.09     | 0.06          | 1050     | 0.12     | 0.08          | 1500     | 0.16     | 0.11          | 2100     | 0.30     | 0.21          | 4000     |
| 40                       | 1750      | 43.8       | 0.31     | 0.21          | 307      | 0.43     | 0.31          | 441      | 0.57     | 0.42          | 609      | 0.81     | 0.61          | 876      | 1.08     | 0.84          | 1206     | 1.33     | 1.05          | 1512     | 2.10     | 1.70          | 2444     |
|                          | 1150      | 28.8       | 0.18     | 0.12          | 265      | 0.24     | 0.17          | 380      | 0.33     | 0.24          | 525      | 0.49     | 0.36          | 785      | 0.70     | 0.53          | 1160     | 0.89     | 0.68          | 1500     | 1.52     | 1.19          | 2600     |
|                          | 690       | 17.3       | 0.10     | 0.08          | 286      | 0.15     | 0.11          | 420      | 0.22     | 0.16          | 580      | 0.33     | 0.24          | 875      | 0.46     | 0.35          | 1280     | 0.61     | 0.47          | 1725     | 1.08     | 0.85          | 3100     |
|                          | 100       | 2.5        | 0.03     | 0.01          | 330      | 0.04     | 0.02          | 485      | 0.05     | 0.03          | 690      | 0.07     | 0.04          | 1018     | 0.11     | 0.06          | 1550     | 0.14     | 0.08          | 2050     | 0.25     | 0.15          | 3846     |
| 50                       | 1750      | 35         | 0.25     | 0.17          | 297      | 0.35     | 0.24          | 429      | 0.44     | 0.32          | 573      | 0.66     | 0.48          | 857      | 0.87     | 0.65          | 1177     | 1.08     | 0.82          | 1484     | 1.70     | 1.33          | 2403     |
|                          | 1150      | 23         | 0.12     | 0.09          | 248      | 0.18     | 0.13          | 360      | 0.24     | 0.17          | 470      | 0.38     | 0.27          | 750      | 0.56     | 0.40          | 1100     | 0.75     | 0.54          | 1482     | 1.21     | 0.89          | 2450     |
|                          | 690       | 13.8       | 0.08     | 0.06          | 265      | 0.12     | 0.09          | 390      | 0.17     | 0.12          | 520      | 0.26     | 0.18          | 840      | 0.37     | 0.26          | 1225     | 0.51     | 0.37          | 1675     | 0.87     | 0.61          | 2800     |
|                          | 100       | 2          | 0.02     | 0.01          | 300      | 0.03     | 0.01          | 440      | 0.04     | 0.02          | 590      | 0.06     | 0.03          | 970      | 0.08     | 0.05          | 1425     | 0.11     | 0.06          | 1975     | 0.19     | 0.10          | 3325     |
| 60                       | 1750      | 29.2       | 0.22     | 0.13          | 271      | 0.28     | 0.18          | 399      | 0.35     | 0.24          | 527      | 0.55     | 0.38          | 826      | 0.73     | 0.52          | 1128     | 0.89     | 0.64          | 1385     | 1.40     | 1.06          | 2281     |
|                          | 1150      | 19.2       | 0.17     | 0.09          | 201      | 0.16     | 0.10          | 312      | 0.21     | 0.13          | 440      | 0.34     | 0.22          | 730      | 0.49     | 0.32          | 1040     | 0.64     | 0.42          | 1390     | 1.05     | 0.70          | 2300     |
|                          | 690       | 11.5       | 0.10     | 0.05          | 253      | 0.11     | 0.06          | 338      | 0.14     | 0.08          | 480      | 0.23     | 0.15          | 805      | 0.33     | 0.21          | 1154     | 0.44     | 0.29          | 1570     | 0.71     | 0.48          | 2650     |
|                          | 100       | 1.7        | 0.02     | 0.01          | 285      | 0.022    | 0.01          | 371      | 0.03     | 0.01          | 530      | 0.06     | 0.03          | 930      | 0.07     | 0.04          | 1330     | 0.10     | 0.05          | 1840     | 0.16     | 0.08          | 3100     |
| 80                       | 1750      | 21.9       | 0.15     | 0.08          | 222      | 0.21     | 0.11          | 318      | 0.23     | 0.13          | 375      | 0.38     | 0.22          | 634      | -        | -             | -        | 0.76     | 0.38          | 1100     | 0.95     | 0.62          | 1795     |
|                          | 1150      | 14.4       | 0.12     | 0.06          | 246      | 0.17     | 0.08          | 358      | 0.16     | 0.09          | 390      | 0.31     | 0.17          | 734      | -        | -             | -        | 0.47     | 0.29          | 1252     | 0.81     | 0.50          | 2171     |
|                          | 690       | 8.6        | 0.09     | 0.04          | 266      | 0.12     | 0.05          | 392      | 0.10     | 0.05          | 350      | 0.23     | 0.11          | 819      | -        | -             | -        | 0.35     | 0.18          | 1340     | 0.61     | 0.34          | 2512     |
|                          | 100       | 1.3        | 0.02     | 0.01          | 293      | 0.03     | 0.01          | 440      | 0.02     | 0.01          | 470      | 0.05     | 0.02          | 942      | -        | -             | -        | 0.07     | 0.03          | 1600     | 0.14     | 0.06          | 3030     |
| 100                      | 1750      | 17.5       | 0.08     | 0.04          | 138      | 0.15     | 0.07          | 251      | 0.17     | 0.09          | 323      | 0.27     | 0.14          | 503      | -        | -             | -        | 0.39     | 0.21          | 757      | 0.65     | 0.39          | 1414     |
|                          | 1150      | 11.5       | 0.07     | 0.028         | 152      | 0.12     | 0.05          | 283      | 0.14     | 0.07          | 360      | 0.22     | 0.11          | 580      | -        | -             | -        | 0.34     | 0.17          | 913      | 0.56     | 0.31          | 1711     |
|                          | 690       | 6.9        | 0.05     | 0.02          | 164      | 0.09     | 0.03          | 309      | 0.10     | 0.04          | 391      | 0.16     | 0.07          | 646      | -        | -             | -        | 0.26     | 0.12          | 1054     | 0.43     | 0.22          | 1980     |
|                          | 100       | 1          | 0.01     | 0.00          | 180      | 0.02     | 0.01          | 347      | 0.02     | 0.01          | 435      | 0.04     | 0.01          | 744      | -        | -             | -        | 0.06     | 0.02          | 1267     | 0.10     | 0.04          | 2387     |
| Overhung Load*           |           |            | 200 lbs  |               |          | 300 lbs  |               |          | 500 lbs  |               |          | 700 lbs. |               |          | 900 lbs  |               |          | 1000 lbs |               |          | 1300 lbs |               |          |
| Output Shaft Thrust Load |           |            | 300 lbs  |               |          | 400 lbs  |               |          | 500 lbs  |               |          | 700 lbs  |               |          | 800 lbs  |               |          | 900 lbs  |               |          | 1100 lbs |               |          |

Ratings shown reflect maximum gear capacity based on AGMA standards (Service Factor = 1.0) with Klubersynth UH1 6-460.

\*Overhung Load is at centerline of output shaft projection and with NO THRUST Load.

Note: For input speeds above 1750 RPM, do NOT exceed maximum listed input horsepower.

# SS700 Series Double Reduction

## Ratios and Performance

### Worm-Planetary Double Reduction (WP)

| Series Size              |           |            | SS_WP713 |        |                 | SS_WP715 |        |                 | SS_WP718 |        |                 | SS_WP721 |        |                 | SS_WP724 |        |                 | SS_WP726 |        |                 | SS_WP732 |        |                 |
|--------------------------|-----------|------------|----------|--------|-----------------|----------|--------|-----------------|----------|--------|-----------------|----------|--------|-----------------|----------|--------|-----------------|----------|--------|-----------------|----------|--------|-----------------|
| Ratio                    | Input RPM | Output RPM | Input HP | Output |                 | Input HP | Output |                 | Input HP | Output |                 | Input HP | Output |                 | Input HP | Output |                 | Input HP | Output |                 | Input HP | Output |                 |
|                          |           |            |          | HP     | Torque (in-lbs) |          | HP     | Torque (in-lbs) |          | HP     | Torque (in-lbs) |          | HP     | Torque (in-lbs) |          | HP     | Torque (in-lbs) |          | HP     | Torque (in-lbs) |          | HP     | Torque (in-lbs) |
| 75                       | 1750      | 23.3       | 0.15     | 0.11   | 293             | 0.24     | 0.16   | 446             | 0.27     | 0.21   | 570             | 0.44     | 0.34   | 910             | 0.66     | 0.51   | 1367            | 0.75     | 0.57   | 1542            | 0.75     | 0.57   | 1542            |
| 100                      | 1750      | 17.5       | 0.13     | 0.09   | 311             | 0.19     | 0.13   | 457             | 0.25     | 0.18   | 643             | 0.38     | 0.27   | 957             | 0.56     | 0.40   | 1435            | 0.74     | 0.53   | 1912            | 0.75     | 0.54   | 2072            |
| 150                      | 1750      | 11.7       | 0.10     | 0.06   | 300             | 0.16     | 0.09   | 509             | 0.18     | 0.12   | 663             | 0.26     | 0.18   | 978             | 0.40     | 0.26   | 1415            | 0.53     | 0.36   | 1969            | 0.75     | 0.51   | 2747            |
| 200                      | 1750      | 8.8        | 0.08     | 0.04   | 309             | 0.13     | 0.07   | 520             | 0.14     | 0.09   | 643             | 0.20     | 0.13   | 957             | 0.35     | 0.20   | 1435            | 0.42     | 0.27   | 1912            | 0.75     | 0.49   | 3509            |
| 250                      | 1750      | 7          | 0.07     | 0.03   | 312             | 0.11     | 0.06   | 505             | 0.10     | 0.06   | 560             | 0.16     | 0.10   | 915             | 0.27     | 0.15   | 1340            | 0.33     | 0.21   | 1848            | 0.54     | 0.34   | 3103            |
| 300                      | 1750      | 5.8        | 0.06     | 0.03   | 273             | 0.09     | 0.04   | 477             | 0.09     | 0.05   | 510             | 0.15     | 0.08   | 877             | 0.24     | 0.12   | 1255            | 0.30     | 0.16   | 1726            | 0.50     | 0.27   | 2909            |
| 400                      | 1750      | 4.4        | 0.05     | 0.02   | 251             | 0.08     | 0.03   | 419             | 0.07     | 0.03   | 413             | 0.13     | 0.06   | 890             | -        | -      | -               | 0.22     | 0.10   | 1490            | 0.44     | 0.20   | 2811            |
| 500                      | 1750      | 3.5        | 0.03     | 0.01   | 197             | 0.05     | 0.02   | 330             | 0.05     | 0.02   | 416             | 0.09     | 0.04   | 702             | -        | -      | -               | 0.16     | 0.07   | 1177            | 0.28     | 0.12   | 2215            |
| Overhung Load*           |           |            | 200 lbs  |        |                 | 300 lbs  |        |                 | 500 lbs  |        |                 | 700 lbs  |        |                 | 900 lbs  |        |                 | 1000 lbs |        |                 | 1300 lbs |        |                 |
| Output Shaft Thrust Load |           |            | 300 lbs  |        |                 | 400 lbs  |        |                 | 500 lbs  |        |                 | 700 lbs  |        |                 | 800 lbs  |        |                 | 900 lbs  |        |                 | 1100 lbs |        |                 |

| Stand-Alone Planetary |           |            | SSFSP5 and SSFSP5A |        |                 |
|-----------------------|-----------|------------|--------------------|--------|-----------------|
| Ratio                 | Input RPM | Output RPM | Input HP           | Output |                 |
|                       |           |            |                    | HP     | Torque (in-lbs) |
| 5                     | 1750      | 350        | 0.75               | 0.69   | 124             |

Ratings shown reflect maximum gear capacity based on AGMA standards (Service Factor = 1.0) with Klubersynth UH1 6-460.

Worm-Planetary and Stand-Alone Planetary gearing is not recommended for use in applications with repetitive vibrational or impact loading.

\*Overhung Load is at centerline of output shaft projection and with NO THRUST Load.

Note: For input speeds above 1750 RPM, do NOT exceed maximum listed input horsepower.

### Worm-Worm Double Reduction (WB & WD)

| Series Size              |           |            | SS_WB/WD713 |        |                 | SS_WB/WD718 |        |                 | SS_WB/WD721 |        |                 | SS_WB/WD726 |        |                 | SS_WB/WD732 |        |                 |
|--------------------------|-----------|------------|-------------|--------|-----------------|-------------|--------|-----------------|-------------|--------|-----------------|-------------|--------|-----------------|-------------|--------|-----------------|
| Ratio                    | Input RPM | Output RPM | Input HP    | Output |                 | Input HP    | Output |                 | Input HP    | Output |                 | Input HP    | Output |                 | Input HP    | Output |                 |
|                          |           |            |             | HP     | Torque (in-lbs) |             | HP     | Torque (in-lbs) |             | HP     | Torque (in-lbs) |             | HP     | Torque (in-lbs) |             | HP     | Torque (in-lbs) |
| 100                      | 1750      | 17.5       | 0.16        | 0.08   | 275             | 0.23        | 0.16   | 570             | 0.41        | 0.25   | 910             | 0.75        | 0.50   | 1785            | 1.33        | 0.96   | 3450            |
| 150                      | 1750      | 11.7       | 0.13        | 0.05   | 280             | 0.23        | 0.11   | 580             | 0.30        | 0.17   | 940             | 0.56        | 0.34   | 1840            | 1.00        | 0.67   | 3600            |
| 200                      | 1750      | 8.8        | 0.12        | 0.05   | 320             | 0.19        | 0.09   | 660             | 0.25        | 0.14   | 990             | 0.47        | 0.26   | 1875            | 0.81        | 0.53   | 3800            |
| 300                      | 1750      | 5.8        | 0.10        | 0.03   | 335             | 0.16        | 0.06   | 690             | 0.20        | 0.09   | 1025            | 0.37        | 0.18   | 1950            | 0.61        | 0.36   | 3950            |
| 400                      | 1750      | 4.4        | 0.09        | 0.02   | 330             | 0.12        | 0.05   | 690             | 0.17        | 0.02   | 1025            | 0.31        | 0.14   | 1950            | 0.48        | 0.27   | 3900            |
| 600                      | 1750      | 2.9        | 0.08        | 0.02   | 340             | 0.10        | 0.03   | 710             | 0.13        | 0.05   | 1025            | 0.25        | 0.09   | 2000            | 0.36        | 0.18   | 4025            |
| 900                      | 1750      | 1.9        | 0.07        | 0.01   | 340             | 0.08        | 0.02   | 710             | 0.11        | 0.03   | 1050            | 0.21        | 0.06   | 2000            | 0.28        | 0.12   | 4025            |
| 1200                     | 1750      | 1.5        | 0.07        | 0.01   | 330             | 0.07        | 0.02   | 690             | 0.10        | 0.02   | 1025            | 0.19        | 0.05   | 1950            | 0.23        | 0.09   | 3900            |
| 1800                     | 1750      | 1          | -           | -      | -               | -           | -      | -               | 0.08        | 0.01   | 900             | 0.16        | 0.03   | 1775            | 0.19        | 0.06   | 3750            |
| 2000                     | 1750      | 0.9        | -           | -      | -               | 0.052       | 0.008  | 590             | -           | -      | -               | 0.16        | 0.03   | 1940            | 0.22        | 0.05   | 3880            |
| 2400                     | 1750      | 0.7        | -           | -      | -               | -           | -      | -               | 0.05        | 0.01   | 900             | 0.15        | 0.02   | 1864            | 0.17        | 0.04   | 3143            |
| 3000                     | 1750      | 0.6        | -           | -      | -               | -           | -      | -               | -           | -      | -               | 0.14        | 0.02   | 1800            | 0.15        | 0.04   | 3750            |
| 3600                     | 1750      | 0.5        | -           | -      | -               | -           | -      | -               | -           | -      | -               | 0.13        | 0.01   | 1865            | 0.14        | 0.02   | 3154            |
| Overhung Load*           |           |            | 200 lbs.    |        |                 | 500 lbs.    |        |                 | 700 lbs.    |        |                 | 1000 lbs.   |        |                 | 1300 lbs.   |        |                 |
| Output Shaft Thrust Load |           |            | 300 lbs.    |        |                 | 500 lbs.    |        |                 | 700 lbs.    |        |                 | 900 lbs.    |        |                 | 1100 lbs.   |        |                 |

Ratings shown reflect maximum gear capacity based on AGMA standards (Service Factor = 1.0) with Klubersynth UH1 6-460.

\*Overhung Load is at centerline of output shaft projection and with NO THRUST Load.

Note: For input speeds above 1750 RPM, do NOT exceed maximum listed input horsepower.

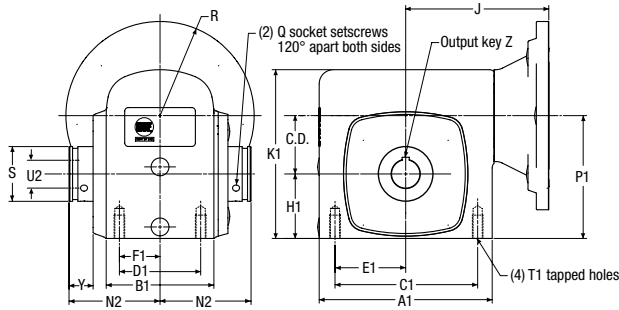


# SS700 Series Single Reduction, With and Without Base

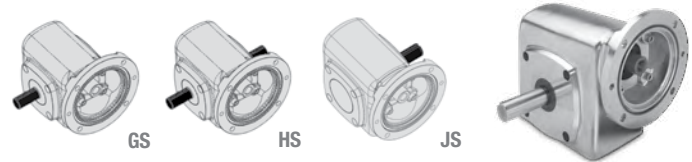
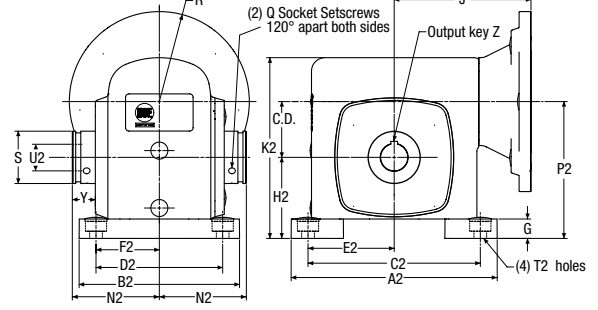
## Dimensions



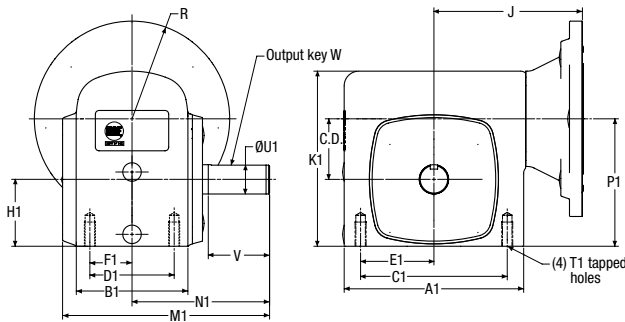
**SSH700 & SSHQC700 Hollow Shaft without Base**



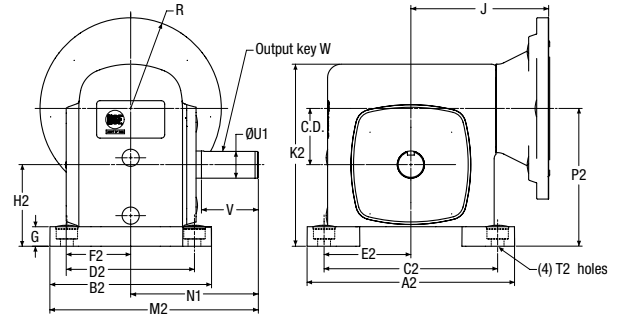
**SSH700 & SSHQC700 Hollow Shaft with Base**



**SSF700 & SSQC700 GS Solid Shaft without Base**



**SSF700 & SSQC700 GS Solid Shaft with Base**



| Size | C.D. | A1   | A2    | B1   | B2   | C1   | C2   | D1   | D2   | E1   | E2   | F1   | F2   |
|------|------|------|-------|------|------|------|------|------|------|------|------|------|------|
| 713  | 1.33 | 4.35 | 5.25  | 2.87 | 4.19 | 3.25 | 4.38 | 2.00 | 3.31 | 1.63 | 2.19 | 1.00 | 1.66 |
| 715  | 1.54 | 5.26 | 6.46  | 3.69 | 5.5  | 4.19 | 5.25 | 2.75 | 4.31 | 2.09 | 2.63 | 1.38 | 2.16 |
| 718  | 1.75 | 5.63 | 7.00  | 3.69 | 5.75 | 4.19 | 5.75 | 2.75 | 4.50 | 2.09 | 2.88 | 1.38 | 2.25 |
| 721  | 2.06 | 6.12 | 7.62  | 3.81 | 5.94 | 5.00 | 6.38 | 2.88 | 4.69 | 2.50 | 3.19 | 1.44 | 2.34 |
| 724  | 2.38 | 6.52 | 8.37  | 4.06 | 6.18 | 5.00 | 7.06 | 2.88 | 4.88 | 2.5  | 3.53 | 1.44 | 2.44 |
| 726  | 2.62 | 7.58 | 9.25  | 4.44 | 6.50 | 6.38 | 8.00 | 3.38 | 5.25 | 3.19 | 4.00 | 1.69 | 2.63 |
| 732  | 3.25 | 9.20 | 11.00 | 5.88 | 7.62 | 7.50 | 9.50 | 4.00 | 6.13 | 3.75 | 4.75 | 2.00 | 3.06 |

| Size | G    | H1   | H2   | J         |       |           |       | K1   | K2    | M1    | M2    | N1   | N2   | P1   | P2   | Q       |     |
|------|------|------|------|-----------|-------|-----------|-------|------|-------|-------|-------|------|------|------|------|---------|-----|
|      |      |      |      | F700      |       | QC700     |       |      |       |       |       |      |      |      |      |         | NEW |
|      |      |      |      | 56C/140TC | 180TC | 56C/140TC | 180TC |      |       |       |       |      |      |      |      |         |     |
| 713  | 0.53 | 1.72 | 2.25 | 3.94      | -     | 5.46      | -     | 4.27 | 4.8   | 5.88  | 6.10  | 4.00 | 2.50 | 3.06 | 3.59 | #10-32  |     |
| 715  | 0.59 | 1.91 | 2.5  | 4.50      | -     | 6.11      | -     | 5.48 | 6.08  | 6.71  | 7.06  | 4.31 | 3.03 | 3.44 | 4.06 | #10-32  |     |
| 718  | 0.69 | 2.06 | 2.75 | 4.69      | -     | 6.29      | -     | 5.31 | 6.00  | 6.74  | 7.19  | 4.31 | 3.03 | 3.81 | 4.50 | #10-32  |     |
| 721  | 0.72 | 2.28 | 3.00 | 5.06      | -     | 6.76      | -     | 5.97 | 6.69  | 7.09  | 7.66  | 4.69 | 3.22 | 4.34 | 5.06 | 1/4-28  |     |
| 724  | 0.75 | 2.5  | 3.25 | 5.25      | 5.69  | 6.95      | 7.81  | 7.04 | 7.79  | 7.61  | 8.18  | 5.09 | 3.22 | 4.88 | 5.63 | 1/4-28  |     |
| 726  | 0.75 | 2.94 | 3.69 | 5.75      | 6.19  | 7.39      | 7.81  | 7.50 | 8.25  | 8.33  | 8.87  | 5.63 | 3.44 | 5.56 | 6.31 | 5/16-24 |     |
| 732  | 0.88 | 3.50 | 4.38 | 6.56      | 7.00  | 8.20      | 8.77  | 9.25 | 10.13 | 10.49 | 10.99 | 7.06 | 4.31 | 6.75 | 7.63 | 5/16-24 |     |

| Size | R         |             | S    | T1      | T2<br>C'Bore/<br>Hole Dias. | U1<br>+.000<br>-.001 | Max<br>U2* | V    | W             | Y    | Z | Approx. Weight (lbs.) |        |         |         |
|------|-----------|-------------|------|---------|-----------------------------|----------------------|------------|------|---------------|------|---|-----------------------|--------|---------|---------|
|      | 56C/140TC | 180TC/210TC |      |         |                             |                      |            |      |               |      |   | SSF700                | SSH700 | SSF700B | SSH700B |
| 713  | 3.33      | -           | 1.38 | 5/16-18 | -                           | 0.625                | 1.0000     | 2.00 | 3/16 x 1      | 0.63 | * | 13                    | 15     | 15      | 17      |
| 715  | 3.33      | -           | 1.38 | 5/16-18 | .60 / .41                   | 0.750                | 1.0000     | 1.78 | 3/16 x 1      | 0.63 | * | 21                    | 24     | 23      | 26      |
| 718  | 3.33      | -           | 1.38 | 5/16-18 | .60 / .41                   | 0.875                | 1.0000     | 1.78 | 3/16 x 1      | 0.60 | * | 22                    | 25     | 25      | 28      |
| 721  | 3.33      | -           | 2.00 | 3/8-16  | .78 / .47                   | 1.000                | 1.4375     | 2.09 | 1/4 x 1-1/4   | 0.82 | * | 27                    | 30     | 30      | 33      |
| 724  | 3.33      | 4.63        | 2.00 | 3/8-16  | .78 / .47                   | 1.125                | 1.4375     | 2.38 | 1/4 x 1-1/4   | 0.70 | * | 37                    | 42     | 41      | 46      |
| 726  | 3.33      | 4.63        | 2.50 | 3/8-16  | .78 / .53                   | 1.125                | 1.9375     | 2.63 | 1/4 x 1-15/16 | 0.73 | * | 40                    | 47     | 44      | 51      |
| 732  | 3.33      | 4.63        | 2.88 | 7/16-14 | .78 / .53                   | 1.375                | 2.1875     | 3.25 | 5/16 x 2-7/16 | 0.89 | * | 63                    | 76     | 70      | 83      |

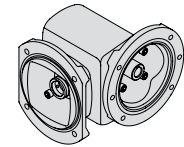
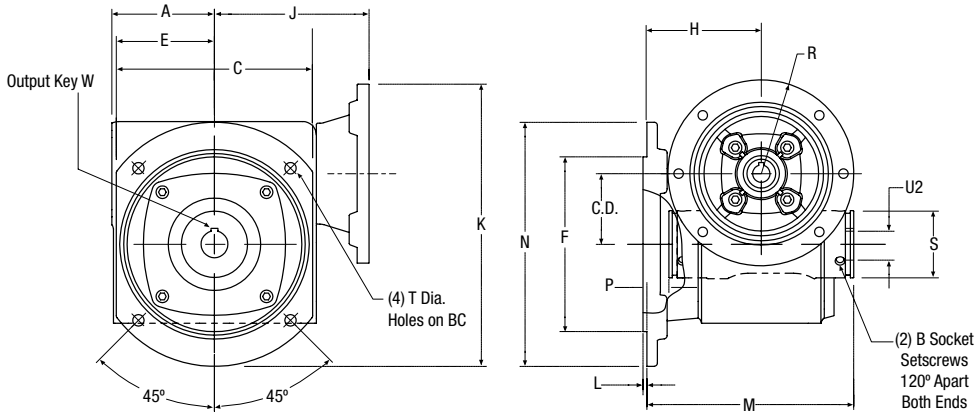
\* Refer to Table 1 on page 56.

# SS700 Series Single Reduction, With Output Flange

## Dimensions

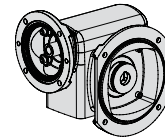
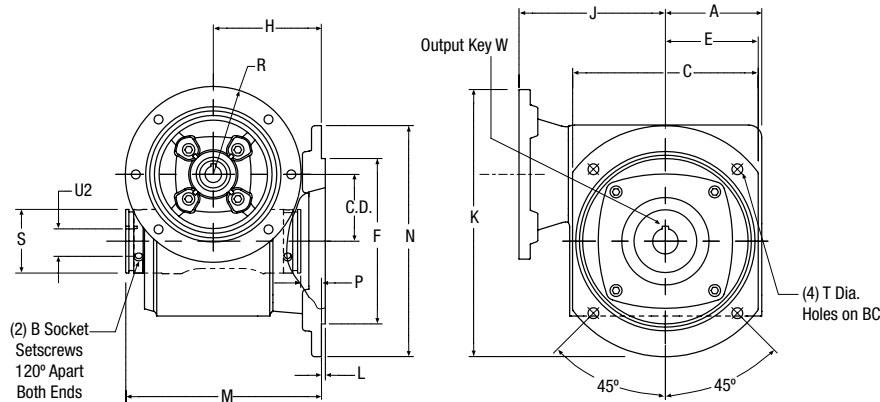


**SSHF700W & SSHQC700W Hollow Output Shaft, W Position**



**W Output Flange**  
(Available for all sizes)

**SSHF700V & SSHQC700V Hollow Output Shaft, V Position**



**V Output Flange**  
(Not available for sizes 718 & 721)

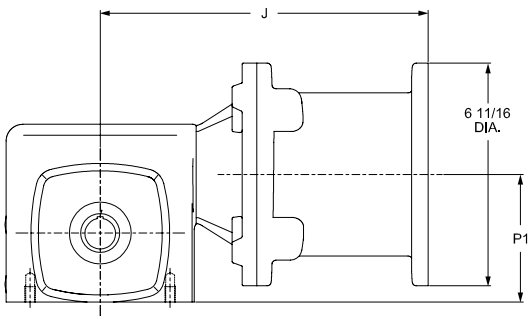
| Size | C.D. | A    | B       | C    | B.C.  | E    | F     | H    | J         |       |                          |       | K     | L    |
|------|------|------|---------|------|-------|------|-------|------|-----------|-------|--------------------------|-------|-------|------|
|      |      |      |         |      |       |      |       |      | F700      |       | QC700 <small>NEW</small> |       |       |      |
|      |      |      |         |      |       |      |       |      | 56C/140TC | 180TC | 56C/140TC                | 180TC |       |      |
| 713  | 1.33 | 2.18 | #10-32  | 4.75 | 5.00  | 2.38 | 4.125 | 3.18 | 3.94      | -     | 5.46                     | -     | 7.55  | 0.15 |
| 715  | 1.54 | 2.63 | #10-32  | 5.54 | 5.88  | 2.77 | 4.750 | 4.08 | 4.50      | -     | 6.11                     | -     | 8.34  | 0.15 |
| 718  | 1.75 | 2.82 | #10-32  | 5.53 | 5.88  | 2.77 | 4.750 | 3.62 | 4.69      | -     | 6.29                     | -     | 8.55  | 0.15 |
| 721  | 2.06 | 3.06 | 1/4-28  | 6.03 | 6.50  | 3.02 | 5.250 | 3.94 | 5.06      | -     | 6.76                     | -     | 9.17  | 0.15 |
| 724  | 2.38 | 3.25 | 1/4-28  | 6.80 | 7.50  | 3.40 | 5.500 | 4.22 | 5.25      | 5.69  | 6.95                     | 7.81  | 9.94  | 0.15 |
| 726  | 2.62 | 3.80 | 5/16-24 | 7.29 | 8.00  | 3.65 | 6.500 | 4.45 | 5.75      | 6.19  | 7.39                     | 7.81  | 10.50 | 0.15 |
| 732  | 3.25 | 4.60 | 5/16-24 | 8.79 | 10.00 | 4.40 | 8.000 | 5.50 | 6.56      | 7.00  | 8.20                     | 8.77  | 12.22 | 0.15 |

| Size | M    | N     | P    | R         |             | S    | T**      |            | Low Speed Shaft    |         |        | Approx Weight (lbs.) |
|------|------|-------|------|-----------|-------------|------|----------|------------|--------------------|---------|--------|----------------------|
|      |      |       |      | 56C/140TC | 180TC/210TC |      | Hole Dia | C-Bore Dia | Hollow Bore Output |         |        |                      |
|      |      |       |      |           |             |      |          |            | Max U2*            | W - Key |        |                      |
|      |      |       |      |           |             |      |          |            |                    | Sq.     | Length |                      |
| 713  | 5.68 | 5.80  | 0.68 | 3.33      | -           | 1.38 | 0.362    | 0.600      | 1.0000             | *       | *      | 16                   |
| 715  | 7.11 | 6.94  | 1.05 | 3.33      | -           | 1.38 | 0.362    | 0.600      | 1.0000             | *       | *      | 26                   |
| 718  | 0.65 | 6.94  | 0.59 | 3.33      | -           | 1.38 | 0.362    | 0.600      | 1.0000             | *       | *      | 29                   |
| 721  | 7.16 | 7.56  | 0.72 | 3.33      | -           | 2.00 | 0.425    | 0.600      | 1.4375             | *       | *      | 34                   |
| 724  | 7.44 | 8.60  | 1.00 | 3.33      | 4.63        | 2.00 | 0.425    | 0.600      | 1.4375             | *       | *      | 48                   |
| 726  | 7.89 | 9.08  | 1.01 | 3.33      | 4.63        | 2.50 | 0.425    | 0.600      | 1.9375             | *       | *      | 51                   |
| 732  | 9.81 | 11.28 | 1.19 | 3.33      | 4.63        | 2.88 | 0.535    | 0.808      | 2.1875             | *       | *      | 80                   |

\* Refer to Table 1 on page 56.

\*\* Designed for use with socket head capscrews.

**SSHFWP700 & SSHQCW700 Hollow Output Shaft**



| Size | C.D. | J         |                          | P1    |
|------|------|-----------|--------------------------|-------|
|      |      | F700      | QC700 <small>NEW</small> |       |
|      |      | 56C/140TC | 56C/140TC                |       |
| 713  | 1.33 | 9.07      | 10.59                    | 3.06* |
| 715  | 1.54 | 9.63      | 11.24                    | 3.44  |
| 718  | 1.75 | 9.82      | 11.42                    | 3.81  |
| 721  | 2.06 | 10.19     | 11.89                    | 4.34  |
| 724  | 2.38 | 10.38     | 12.08                    | 4.88  |
| 726  | 2.62 | 10.88     | 12.52                    | 5.56  |
| 732  | 3.25 | 11.69     | 13.33                    | 6.75  |

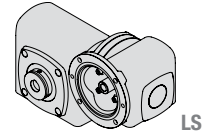
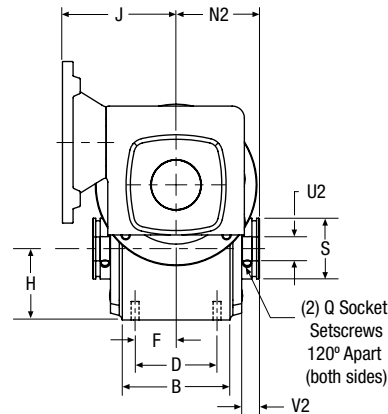
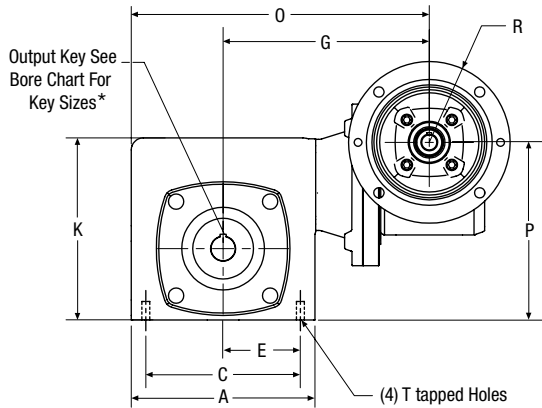
\*Motor flange will drop below the bottom of the speed reducer.  
Same dimensions for SSHFWP700 & SSQCWP700 Solid Output Shaft Models.

# SS700 WB Series Double Reduction, Parallel Shafts

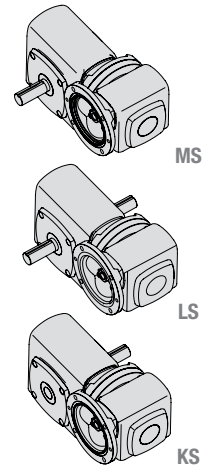
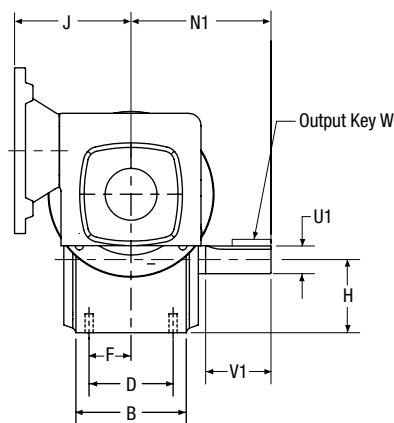
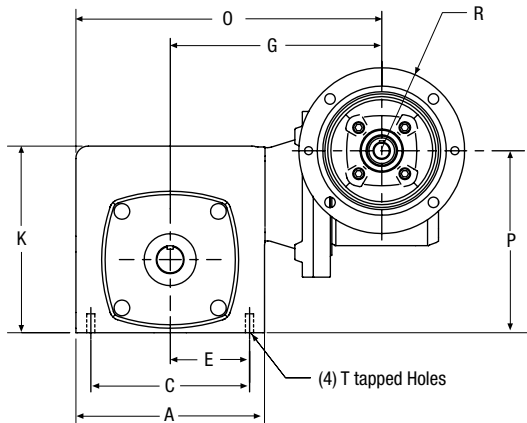
## Dimensions



### SSHFWB700 & SSHQCWB700 Hollow Output Shaft



### SSFWB700 & SSQCWB700 Solid Output Shaft



| Size | A    | B    | C    | D    | E    | F    | G    | H    | J         |                          | K    | N1   | N2   | O     | P    |
|------|------|------|------|------|------|------|------|------|-----------|--------------------------|------|------|------|-------|------|
|      |      |      |      |      |      |      |      |      | F700      | QC700 <small>NEW</small> |      |      |      |       |      |
|      |      |      |      |      |      |      |      |      | 56C/140TC | 56C/140TC                |      |      |      |       |      |
| 713  | 4.35 | 2.87 | 3.25 | 2.00 | 1.63 | 1.00 | 7.00 | 1.72 | 3.94      | 5.46                     | 4.27 | 4.00 | 2.50 | 9.18  | 4.39 |
| 718  | 5.63 | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | 7.75 | 2.06 | 3.94      | 5.46                     | 5.31 | 4.31 | 3.03 | 10.57 | 5.14 |
| 721  | 6.12 | 3.81 | 5.00 | 2.88 | 2.50 | 1.44 | 8.12 | 2.28 | 3.94      | 5.46                     | 5.97 | 4.69 | 3.22 | 11.18 | 5.67 |
| 726  | 7.58 | 4.44 | 6.38 | 3.38 | 3.19 | 1.69 | 8.56 | 2.94 | 4.68      | 6.29                     | 7.50 | 5.63 | 3.44 | 12.35 | 7.32 |
| 732  | 9.20 | 5.88 | 7.50 | 4.00 | 3.75 | 2.00 | 9.37 | 3.50 | 4.68      | 6.29                     | 9.25 | 7.06 | 4.31 | 13.97 | 8.50 |

| Size | Q       | R<br>56C/140TC | S    | T           | Low Speed Shaft      |      |         |         |                    |      | Approx Weight<br>(lbs.) |    |
|------|---------|----------------|------|-------------|----------------------|------|---------|---------|--------------------|------|-------------------------|----|
|      |         |                |      | Tap<br>Size | Solid Output Shaft   |      |         |         | Hollow Bore Output |      |                         |    |
|      |         |                |      |             | U1<br>+.000<br>-.001 | V1   | W - Key |         | Max U2*            | V2   |                         |    |
|      |         |                |      |             |                      |      | Sq.     | Length  |                    |      |                         |    |
| 713  | #10-32  | 3.33           | 1.38 | 5/16-18     | 0.625                | 2.13 | 3/16    | 1       | 1.0000             | 0.63 | 28                      | 30 |
| 718  | #10-32  | 3.33           | 1.38 | 5/16-18     | 0.875                | 1.78 | 3/16    | 1       | 1.0000             | 0.60 | 37                      | 40 |
| 721  | 1/4-28  | 3.33           | 2.00 | 3/8-16      | 1.000                | 2.09 | 1/4     | 1-1/4   | 1.4375             | 0.82 | 42                      | 45 |
| 726  | 5/16-24 | 3.33           | 2.50 | 3/8-16      | 1.125                | 2.63 | 1/4     | 1-15/16 | 1.9375             | 0.73 | 62                      | 69 |
| 732  | 5/16-24 | 3.33           | 2.88 | 7/16-14     | 1.375                | 3.25 | 5/16    | 2-7/16  | 2.1875             | 0.88 | 85                      | 98 |

\* Refer to Table 1 on page 56.

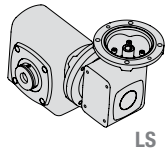
# SS700 WD Series Double Reduction, Right Angle Shafts

## Dimensions

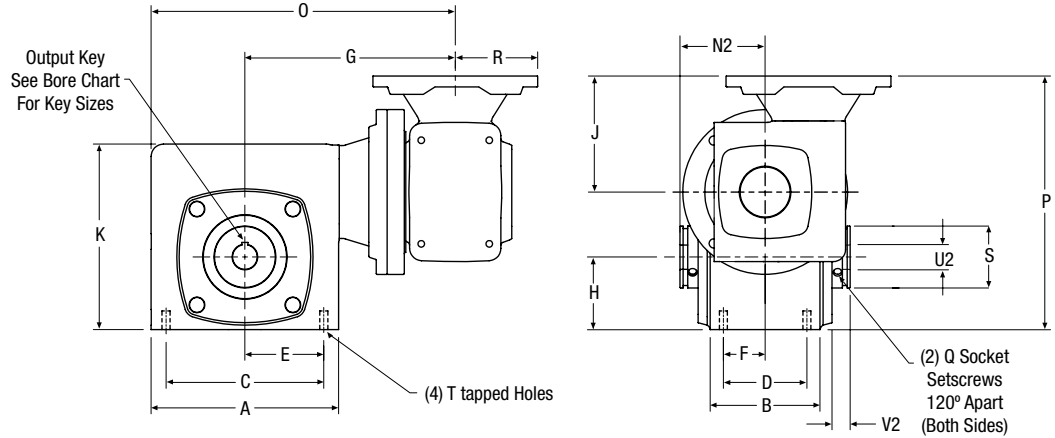


A

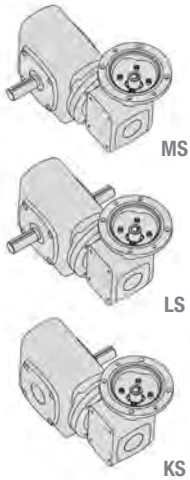
### SSHFW700 & SSHQCWD700 Hollow Output Shaft



LS



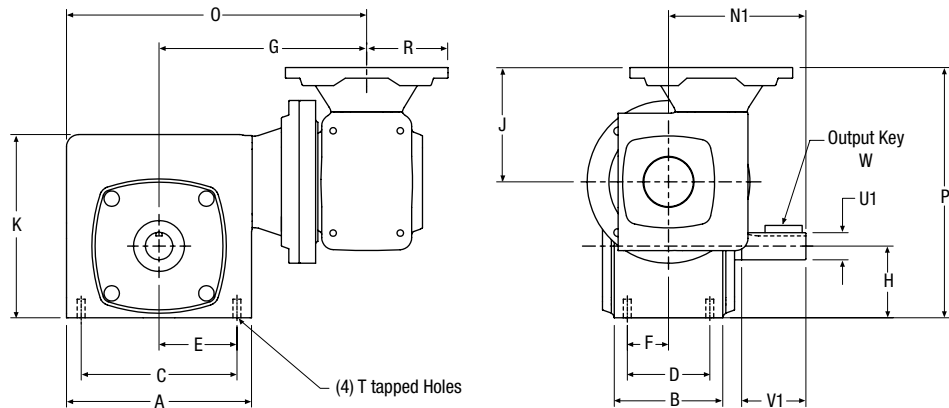
### SSFWD700 & SSQCWD700 Solid Output Shaft



MS

LS

KS



| Size | A    | B    | C    | D    | E    | F    | G    | H    | J         |                          | K    | N1   | N2   | O     | P         |                          |
|------|------|------|------|------|------|------|------|------|-----------|--------------------------|------|------|------|-------|-----------|--------------------------|
|      |      |      |      |      |      |      |      |      | F700      | QC700 <small>NEW</small> |      |      |      |       | F700      | QC700 <small>NEW</small> |
|      |      |      |      |      |      |      |      |      | 56C/140TC | 56C/140TC                |      |      |      |       | 56C/140TC | 56C/140TC                |
| 713  | 4.35 | 2.87 | 3.25 | 2.00 | 1.63 | 1.00 | 7.00 | 1.72 | 3.94      | 5.46                     | 4.27 | 4.00 | 2.50 | 9.18  | 4.39      | 5.91                     |
| 718  | 5.63 | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | 7.75 | 2.06 | 3.94      | 5.46                     | 5.31 | 4.31 | 3.03 | 10.57 | 5.14      | 6.66                     |
| 721  | 6.12 | 3.81 | 5.00 | 2.88 | 2.50 | 1.44 | 8.12 | 2.28 | 3.94      | 5.46                     | 5.97 | 4.69 | 3.22 | 11.18 | 5.67      | 7.19                     |
| 726  | 7.58 | 4.44 | 6.38 | 3.38 | 3.19 | 1.69 | 8.56 | 2.94 | 4.68      | 6.29                     | 7.50 | 5.63 | 3.44 | 12.35 | 10.25     | 11.86                    |
| 732  | 9.20 | 5.88 | 7.50 | 4.00 | 3.75 | 2.00 | 9.37 | 3.50 | 4.68      | 6.29                     | 9.25 | 7.06 | 4.31 | 13.97 | 11.44     | 13.05                    |

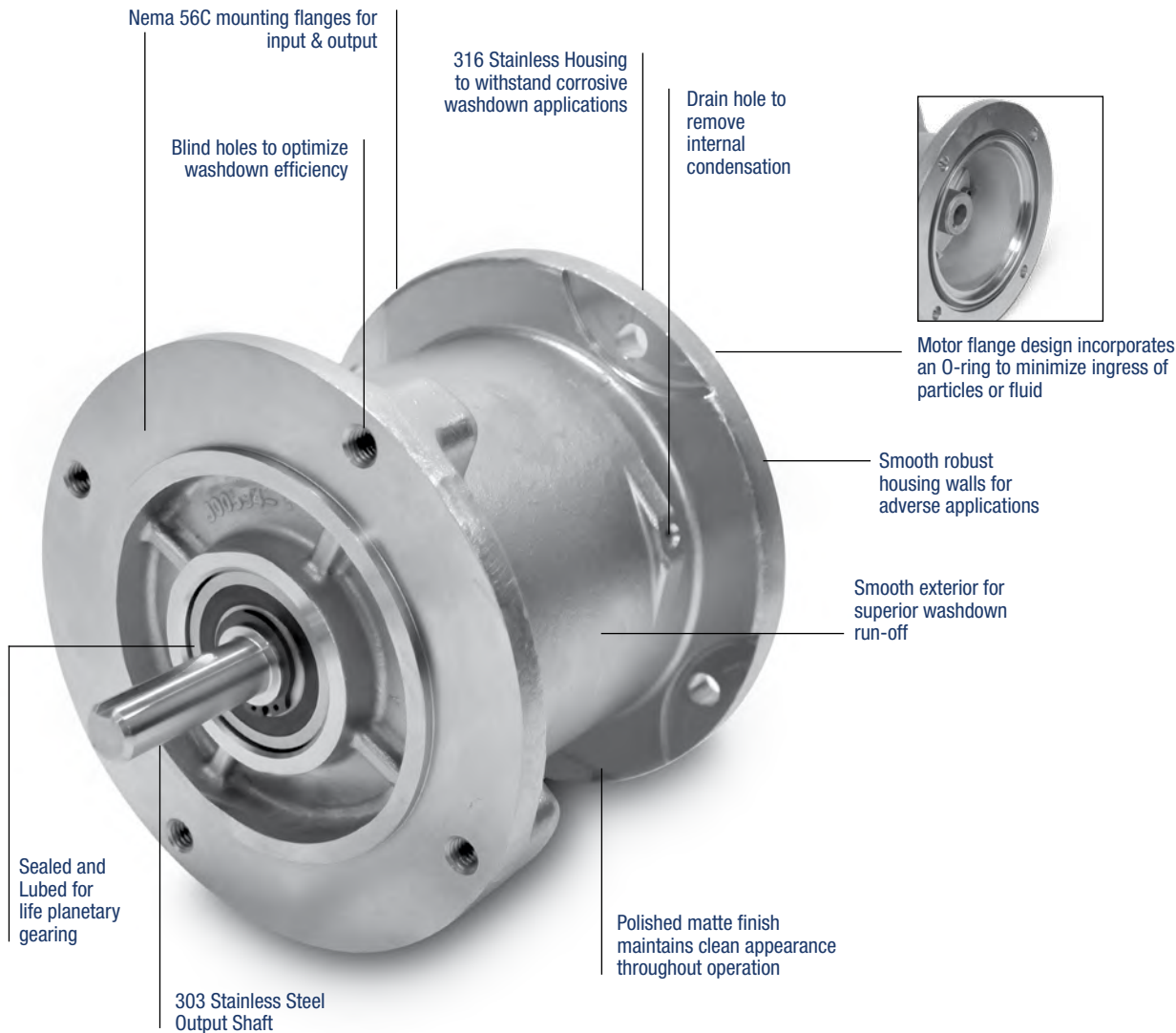
| Size | Q       | R<br>56C/140TC | S    | T           | Low Speed Shaft      |      |         |         |                    |      | Approx Weight<br>(lbs.) |    |
|------|---------|----------------|------|-------------|----------------------|------|---------|---------|--------------------|------|-------------------------|----|
|      |         |                |      | Tap<br>Size | Solid Output Shaft   |      |         |         | Hollow Bore Output |      |                         |    |
|      |         |                |      |             | U1<br>+.000<br>-.001 | V1   | W - Key |         | Max U2*            | V2   |                         |    |
|      |         |                |      |             |                      |      | Sq.     | Length  |                    |      |                         |    |
| 713  | #10-32  | 3.33           | 1.38 | 5/16-18     | 0.625                | 2.13 | 3/16    | 1       | 1.0000             | 0.63 | 28                      | 30 |
| 718  | #10-32  | 3.33           | 1.38 | 5/16-18     | 0.875                | 1.78 | 3/16    | 1       | 1.0000             | 0.60 | 37                      | 40 |
| 721  | 1/4-28  | 3.33           | 2.00 | 3/8-16      | 1.000                | 2.09 | 1/4     | 1-1/4   | 1.4375             | 0.82 | 42                      | 45 |
| 726  | 5/16-24 | 3.33           | 2.50 | 3/8-16      | 1.125                | 2.63 | 1/4     | 1-15/16 | 1.9375             | .73  | 62                      | 69 |
| 732  | 5/16-24 | 3.33           | 2.88 | 7/16-14     | 1.375                | 3.25 | 5/16    | 2-7/16  | 2.1875             | .88  | 85                      | 98 |

\* Refer to Table 1 on page 56.

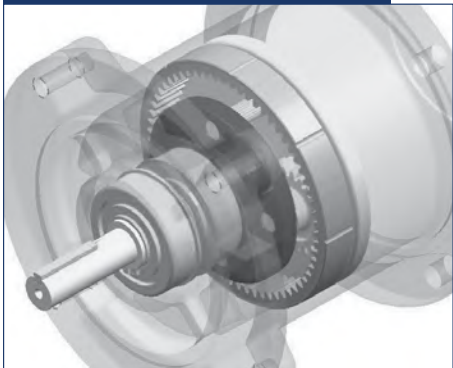
# SSFSP Series Planetary Multiplier

## Expanded Speed Reduction while Maintaining Operating Efficiency

A

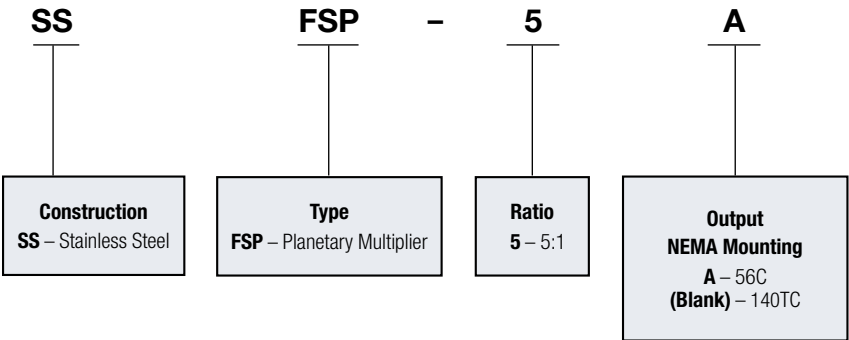


### High Efficiency, Quiet Operation Planetary Gearing





**Stainless Steel Stand - Alone Planetary Multiplier**    Example: **SSFSP-5A**



### Lubrication

All SSFSP Series Planetary Multipliers are supplied as Lubricated-for-Life for maximum efficiency, maintenance-free operation. The inherent design of planetary gearing is conducive to the use of grease as a lubricant, because the rotation of the sun and planet gears inside of the internal ring gear promotes even distribution of the lubricant and consistent recirculation. The lubricant we apply at the time of assembly is Klubersynth UH1 14-222 grease which has the characteristics shown below.

| LUBRICANT              | Type                    | Certifications                              | Comments      |
|------------------------|-------------------------|---------------------------------------------|---------------|
| Klubersynth UH1 14-222 | Synthetic Grease, NLGI2 | FDA 21CFR178.3570 compliant, NSF registered | H1 Food-Grade |

Ambient temperature range of -20F to +125F is suitable for standard configured products and ratings. Contact technical support for operating conditions beyond this range.

Notes: Temperature limit is dictated by multiplier components and not the lubricant.

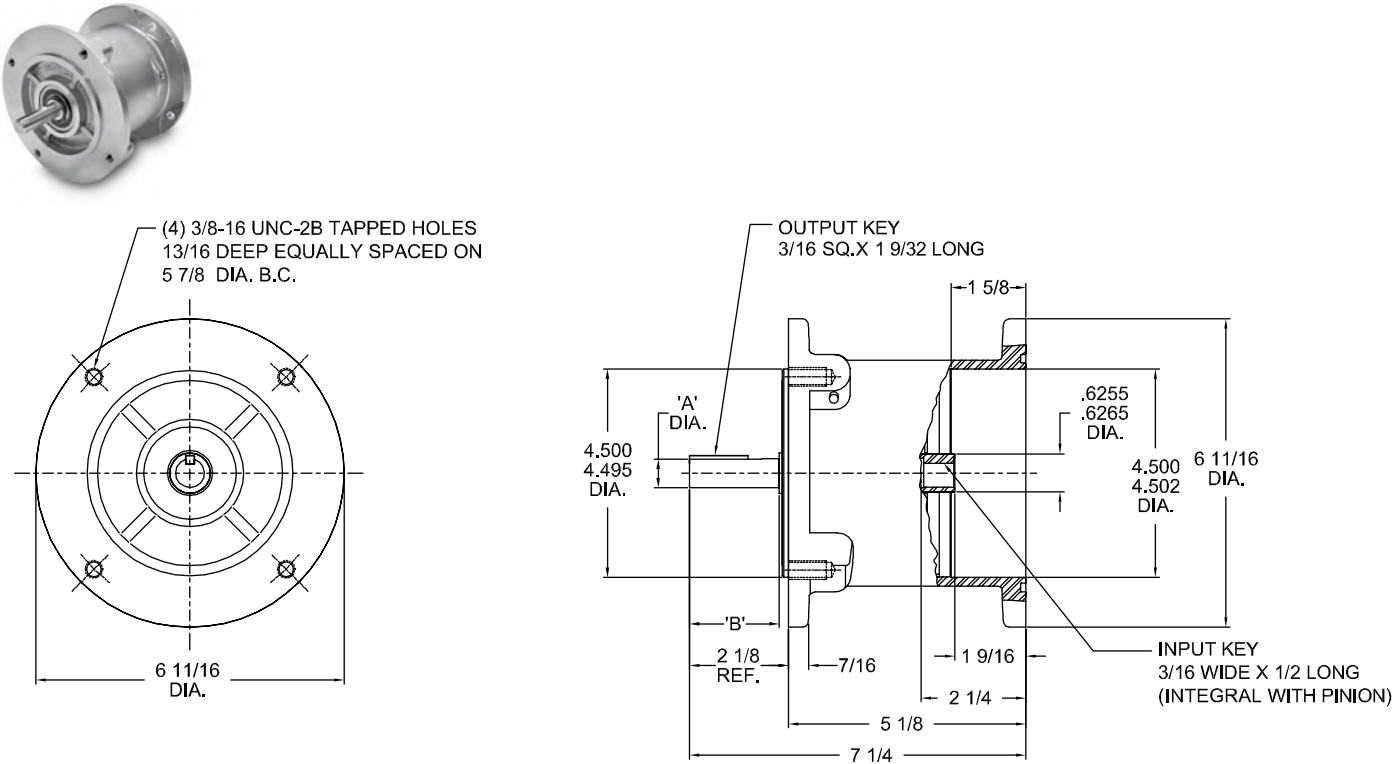
# SSFSP Series Planetary Multiplier

## Performance Data

A

| Output RPM | Ratio | Motor HP<br>(1750 RPM Input) | Output |                 | Multiplier Catalog Number |
|------------|-------|------------------------------|--------|-----------------|---------------------------|
|            |       |                              | HP     | Torque (lb.ins) |                           |
| 350        | 5     | 1/6                          | .14    | 25              | SSFSP-5<br>OR<br>SSFSP-5A |
|            |       | 1/4                          | .21    | 38              |                           |
|            |       | 1/3                          | .29    | 56              |                           |
|            |       | 1/2                          | .45    | 81              |                           |
|            |       | 3/4                          | .69    | 124             |                           |

## Dimensions



## Dimensions in Inches

| Catalog Number | A Shaft Dia.  | B Shaft Length | Ouput NEMA Frame Size | Input NEMA Frame Size |
|----------------|---------------|----------------|-----------------------|-----------------------|
| SSFSP-5A       | .6245 / .6240 | 1-15/16        | 56C                   | 56C                   |
| SSFSP-5        | .8745 / .8740 | 2              | 140TC                 | 56C                   |

# 700 Series Double Reduction Worm Gear Reducers



**B**

## Section Contents

|                                         |        |
|-----------------------------------------|--------|
| Product Reference Guide .....           | 68     |
| Numbering System / How to Order .....   | 68-71  |
| Selection Procedure.....                | 71     |
| Assemblies and Mounting Positions ..... | 72-75  |
| Recommended Lubricants .....            | 76     |
| Output rpm Selection Tables.....        | 77-81  |
| Reducer Dimensions .....                | 82-101 |

**For Other Boston Gear Reducers, Contact Factory.**

# 700 Series Double Reduction Catalog Number & Reference Guide

## 700 Series Right Angle Worm Gearbox - Double Reduction

| SBKC                                                                                                                                                                                                                 | H             | QC                                                                                                                                                                                                                                                                                                                                                                                      | HMA         | 7                                                                                                                                                                                                                                                                                                                                                            | 38 | B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | - | 300       | K             | E          | Z      | T   | -    | B5    | -          |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-----------|---------------|------------|--------|-----|------|-------|------------|-----|------|------|-------------|-----|------------|--------------------------------------------------------------------------------------------|-------------|-----------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----|-------------|-------|-------------|-----|-------|-------|------------|
| <b>Input Shaft Style</b><br><br>Blank—Solid Projecting Input Shaft<br>F— Quill Style Motor Flange<br>RF— Coupling Style Motor Flange<br>QC— <i>Quick Connect</i> Motor Flange (close coupled)                        |               | <b>Output Shaft Style</b><br><br>Blank—Solid Output Shaft<br>H— <i>BostMount</i> Hollow Output (setscrews both sides, bore size selectable)<br>S— Hollow Output (setscrews one side, bore size fixed)                                                                                                                                                                                   |             | <b>Center Distance (inches)</b><br><br>13—1.33<br>18—1.75<br>21—2.06<br>26—2.62<br>30—3.00<br>32—3.25<br>38—3.75<br>52—5.13<br>60—6.00                                                                                                                                                                                                                       |    | <b>Exact Gear Ratio</b><br>Ratio to 1<br><table><tr><td>100</td><td>1200</td></tr><tr><td>150</td><td>1800</td></tr><tr><td>200</td><td>2000</td></tr><tr><td>300</td><td>2400</td></tr><tr><td>400</td><td>3000</td></tr><tr><td>600</td><td>3600</td></tr><tr><td>900</td><td></td></tr></table><br>Check Catalog —<br>Or consult factory for availability                                                                                                                                                                                                                                             |   | 100       | 1200          | 150        | 1800   | 200 | 2000 | 300   | 2400       | 400 | 3000 | 600  | 3600        | 900 |            | <b>Vent</b><br><br>Blank—Standard Vent<br>P— Pressure Vent (5 psi)<br>Z— Posivent (sealed) |             | <b>Endcap</b><br><br>(732-760 only)<br><br>E— Endcap (standard) |            | <b>Oil Seal</b><br><br>Blank— Standard Seal<br>T— Two Standard Input Seals<br>C— High pressure washdown output seals and double input seals (stainless products only) <b>IP69K</b> |           |     |             |       |             |     |       |       |            |
|                                                                                                                                                                                                                      |               |                                                                                                                                                                                                                                                                                                                                                                                         |             |                                                                                                                                                                                                                                                                                                                                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   | 100       | 1200          |            |        |     |      |       |            |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |
| 150                                                                                                                                                                                                                  | 1800          |                                                                                                                                                                                                                                                                                                                                                                                         |             |                                                                                                                                                                                                                                                                                                                                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |           |               |            |        |     |      |       |            |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |
| 200                                                                                                                                                                                                                  | 2000          |                                                                                                                                                                                                                                                                                                                                                                                         |             |                                                                                                                                                                                                                                                                                                                                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |           |               |            |        |     |      |       |            |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |
| 300                                                                                                                                                                                                                  | 2400          |                                                                                                                                                                                                                                                                                                                                                                                         |             |                                                                                                                                                                                                                                                                                                                                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |           |               |            |        |     |      |       |            |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |
| 400                                                                                                                                                                                                                  | 3000          |                                                                                                                                                                                                                                                                                                                                                                                         |             |                                                                                                                                                                                                                                                                                                                                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |           |               |            |        |     |      |       |            |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |
| 600                                                                                                                                                                                                                  | 3600          |                                                                                                                                                                                                                                                                                                                                                                                         |             |                                                                                                                                                                                                                                                                                                                                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |           |               |            |        |     |      |       |            |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |
| 900                                                                                                                                                                                                                  |               |                                                                                                                                                                                                                                                                                                                                                                                         |             |                                                                                                                                                                                                                                                                                                                                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |           |               |            |        |     |      |       |            |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |
|                                                                                                                                                                                                                      |               |                                                                                                                                                                                                                                                                                                                                                                                         |             |                                                                                                                                                                                                                                                                                                                                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |           |               |            |        |     |      |       |            |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |
| <b>Reducer Material/Paint</b><br><br>Blank—Cast Iron, Std. Gray paint<br>BKC— Cast Iron, White <i>BostKleen</i> paint<br>SBKC—Cast Iron, Stainless <i>BostKleen</i> paint<br>SS— Stainless Steel material — no paint |               | <b>Reduction Type</b><br><br>WA— Double Reduction Parallel Shafts<br>WB— Double Reduction Parallel Shafts<br>WC— Double Reduction Right Angle Shafts<br>WD— Double Reduction Right Angle Shafts<br>HMA— Helical Multiplier 12 O'clock<br>HMB— Helical Multiplier 6 O'clock<br>HMC— Helical Multiplier 3 O'clock<br>HMD— Helical Multiplier 9 O'clock<br>WP— Planetary Torque Multiplier |             | <b>Base/Mounting Attachment*</b><br><br>Blank— No base kit required<br>A & B— Horizontal bases<br>C & E— Vertical High bases<br>D & F— Vertical Low bases<br>R/L— <i>BostMount</i> Output Bracket<br>X— Input Vertical Up<br>Y— Input Vertical Down<br>V/W— Hollow O/P with base<br>M/N— Hollow O/P with CFA<br><br>*See catalog for mounting configurations |    | <b>NEMA Motor Mounting</b><br><table><tr><th>BORE CODE</th><th>NEMA MOUNTING</th><th>INPUT BORE</th><th>KEYWAY</th></tr><tr><td>B4</td><td>42CZ</td><td>.500"</td><td>1/8 x 1/16</td></tr><tr><td>B5</td><td>56C</td><td>.625</td><td>3/16 x 3/32</td></tr><tr><td>B7</td><td>140TC/180C</td><td>.875</td><td>3/16 x 3/32</td></tr><tr><td>B9</td><td>180TC/210C</td><td>1.125</td><td>1/4 x 1/8</td></tr><tr><td>B11</td><td>210TC/250UC</td><td>1.375</td><td>5/16 x 5/32</td></tr><tr><td>B13</td><td>250TC</td><td>1.625</td><td>3/8 x 3/16</td></tr></table><br>Blank Solid Input Shaft (No Flange) |   | BORE CODE | NEMA MOUNTING | INPUT BORE | KEYWAY | B4  | 42CZ | .500" | 1/8 x 1/16 | B5  | 56C  | .625 | 3/16 x 3/32 | B7  | 140TC/180C | .875                                                                                       | 3/16 x 3/32 | B9                                                              | 180TC/210C | 1.125                                                                                                                                                                              | 1/4 x 1/8 | B11 | 210TC/250UC | 1.375 | 5/16 x 5/32 | B13 | 250TC | 1.625 | 3/8 x 3/16 |
| BORE CODE                                                                                                                                                                                                            | NEMA MOUNTING | INPUT BORE                                                                                                                                                                                                                                                                                                                                                                              | KEYWAY      |                                                                                                                                                                                                                                                                                                                                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |           |               |            |        |     |      |       |            |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |
| B4                                                                                                                                                                                                                   | 42CZ          | .500"                                                                                                                                                                                                                                                                                                                                                                                   | 1/8 x 1/16  |                                                                                                                                                                                                                                                                                                                                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |           |               |            |        |     |      |       |            |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |
| B5                                                                                                                                                                                                                   | 56C           | .625                                                                                                                                                                                                                                                                                                                                                                                    | 3/16 x 3/32 |                                                                                                                                                                                                                                                                                                                                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |           |               |            |        |     |      |       |            |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |
| B7                                                                                                                                                                                                                   | 140TC/180C    | .875                                                                                                                                                                                                                                                                                                                                                                                    | 3/16 x 3/32 |                                                                                                                                                                                                                                                                                                                                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |           |               |            |        |     |      |       |            |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |
| B9                                                                                                                                                                                                                   | 180TC/210C    | 1.125                                                                                                                                                                                                                                                                                                                                                                                   | 1/4 x 1/8   |                                                                                                                                                                                                                                                                                                                                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |           |               |            |        |     |      |       |            |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |
| B11                                                                                                                                                                                                                  | 210TC/250UC   | 1.375                                                                                                                                                                                                                                                                                                                                                                                   | 5/16 x 5/32 |                                                                                                                                                                                                                                                                                                                                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |           |               |            |        |     |      |       |            |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |
| B13                                                                                                                                                                                                                  | 250TC         | 1.625                                                                                                                                                                                                                                                                                                                                                                                   | 3/8 x 3/16  |                                                                                                                                                                                                                                                                                                                                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |   |           |               |            |        |     |      |       |            |     |      |      |             |     |            |                                                                                            |             |                                                                 |            |                                                                                                                                                                                    |           |     |             |       |             |     |       |       |            |

## 700 Series Double Reduction Flanged & Non-Flanged Reducers

Ordering Information - Page 70

Selection/Rating Information - Pages 71, 77-81

Lubrication - Page 76

Motor Selection - Pages 335 and 336



**FWA/QCWA700 BASIC**  
Dimensions - Page 82



**FWC/QCWC700 BASIC**  
Dimensions - Page 87



**WA700 BASIC**  
Dimensions - Page 92



**WC700 BASIC**  
Dimensions - Page 97



**HFWA/HQCWA700 BASIC**  
Dimensions:  
HFWA/QCWA700 - Page 83  
HFWA/QCWA700R/L - Page 84  
HFWC/QCWC700 - Page 87  
HFWC/QCWC700R/L - Page 89



**SFWA700 BASIC**  
Dimensions:  
SFWA700 - Page 85  
SFWA700V - Page 86  
SFWC700 - Page 90  
SFWC700V/W - Page 91



**HWA/HWC700 BASIC**  
Dimensions:  
HWA700 - Page 92  
HWA700R - Page 94  
HWC700 - Page 98  
HWC700R/L - Page 99



**SWA/SWC700 BASIC**  
Dimensions:  
SWA700 - Page 95  
SWA700V - Page 96  
SWC700 - Page 100  
SWC700V/W - Page 101

# 700 Series Worm Gear Speed Reducers

HS 1 - P24 -

## BostMount Output Bore Code

For H Series Only Specified in 1/16" increments.

Example: 1 1/4" = P20

|              |               |
|--------------|---------------|
| 5/8 - P10    | 1-1/2 - P24   |
| 3/4 - P12    | 1-5/8 - P26   |
| 7/8 - P14    | 1-11/16 - P27 |
| 15/16 - P15  | 1-3/4 - P28   |
| 1 - P16      | 1-7/8 - P30   |
| 1-1/16 - P17 | 1-15/16 - P31 |
| 1-1/8 - P18  | 2 - P32       |
| 1-3/16 - P19 | 2-1/8 - P34   |
| 1-1/4 - P20  | 2-3/16 - P35  |
| 1-5/16 - P21 | 2-1/4 - P36   |
| 1-3/8 - P22  | 2-7/16 - P39  |
| 1-7/16 - P23 | 3-7/16 - P55  |

See catalog page 128 for availability by center distance.  
Consult factory for metric bores

## Mounting Positions

Blank -No Lubrication Supplied

For Factory Prelubrication  
Indicate Mounting Position

- 1 - Standard Mounting(Worm over)  
2-6 - Refer to Mounting Positions on catalog page 72 and 73.

## Output Shaft Assembly

### Double Reduction WA and WB

|    |                                                |
|----|------------------------------------------------|
| G  | Output Projection Opposite Input               |
| H  | Double Output Projection                       |
| J  | Output Projection Same Side as Input           |
| GS | Stainless Output Projection Opposite Input     |
| HS | Stainless Double Output Projection             |
| JS | Stainless Output Projection Same Side as Input |

### Double Reduction WA and WB Mirrored Design

|    |                                                |
|----|------------------------------------------------|
| K  | Output Projection Opposite Input               |
| L  | Double Output Projection                       |
| M  | Output Projection Same Side as Input           |
| KS | Stainless Output Projection Opposite Input     |
| LS | Stainless Double Output Projection             |
| MS | Stainless Output Projection Same Side as Input |

### Double Reduction WC and WD (When facing Input)

|    |                                    |
|----|------------------------------------|
| G  | Output Projection Down             |
| H  | Double Output Projection           |
| J  | Output Projection Upward           |
| GS | Stainless Output Projection Down   |
| HS | Stainless Double Output Projection |
| JS | Stainless Output Projection Upward |

### Double Reduction WC and WD (When facing Input) Mirrored Design

|    |                                    |
|----|------------------------------------|
| K  | Output Projection Down             |
| L  | Double Output Projection           |
| M  | Output Projection Upward           |
| KS | Stainless Output Projection Down   |
| LS | Stainless Double Output Projection |
| MS | Stainless Output Projection Upward |

## Clutch/Brake

CMBA56U-6

## Common C-Face Brakes Installed

| 115/230 VAC 60hz     | Ft-Lb | Bore Code |
|----------------------|-------|-----------|
| CMBA56R-3            | 3     | B5        |
| CMBA56R-6            | 6     | B5        |
| CMBA140TR-6          | 6     | B7        |
| 208-230/460 VAC 60hz | Ft-Lb | Bore Code |
| CMBA56U-3            | 3     | B5        |
| CMBA56U-6            | 6     | B5        |
| CMBA140TU-6          | 6     | B7        |

Other sizes available. See catalog page 343.

## Motor

HUTF5/8-IDB - 3

## Motor Conduit box Orientation

(When looking at fan end of motor and gearbox is in mounting position #1)

- 0 - 12 O'clock  
3 - 3 O'clock(standard for G & H shaft assemblies)  
6 - 6 O'clock  
9 - 9 O'clock (standard for J shaft assemblies)

## Common C-Face Motors Installed

| HP Rating | Bore Code | AC Voltage       |                  |
|-----------|-----------|------------------|------------------|
|           |           | 115/208-230-1-60 | 208-230/460-3-60 |
| 1/4 HP    | B5        | DRTFB            | DUTFB            |
| 1/3 HP    | B5        | ERTFB            | EUTFB            |
| 1/2 HP    | B5        | FRTFB            | FUTFB            |
|           | B5        |                  | FUT-SS           |
|           | B5        |                  | FUTF-IDB         |
| 3/4 HP    | B5        | GRTFB            | GUTFB            |
|           | B5        |                  | GUT-SS           |
|           | B5        |                  | GUTF-IDB         |
| 1 HP      | B5        | HRTF-5/8B        | HUTF5/8B         |
|           | B5        |                  | HUT5/8-SS        |
|           | B5        |                  | HUTF5/8-IDB      |
|           | B7        |                  | HUTFB            |
|           | B7        |                  | HUT-SS           |
|           | B7        |                  | HUTF-IDB         |
| 1.5 HP    | B7        |                  | JUTFB            |
|           | B7        |                  | JUTF-SS          |
|           | B7        |                  | JUTF-IDB         |
| 2 HP      | B5        |                  | KUTF5/8B         |
|           | B7        |                  | KUTFB            |
|           | B7        |                  | KUTF-SS          |
|           | B7        |                  | KUTF-IDB         |
| 3 HP      | B9        |                  | LUTFB            |
|           | B9        |                  | LUTF-SS          |
|           | B9        |                  | LUTF-IDB         |
| 5 HP      | B9        |                  | MUTFB            |

Other motors available, please see catalog pages 333 to 343.

- T - Totally enclosed non-ventilated  
TF - Totally enclosed fan cooled  
SS - Stainless  
IDB - Inverter Duty (10:1 turn down constant torque)  
B5 - 56C  
B7 - 140TC  
B9 - 180TC

# Double Reduction Numbering System / How to Order

| Style | Size | Base | Ratio | Lubrication | Vent | Input Seal | NEMA Mounting | Shaft Assembly | Mounting Position | Output Bore Code |
|-------|------|------|-------|-------------|------|------------|---------------|----------------|-------------------|------------------|
|-------|------|------|-------|-------------|------|------------|---------------|----------------|-------------------|------------------|

## Style Designates reducer or flanged reducer, projecting or hollow output shaft.

|                        |                                                                                                                                |  |  |  |  |  |  |  |  |  |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|
| <b>C-</b>              | Designates cast iron flange and base. Standard on motor flanges 3 HP (180TC) and up and all bases except horizontal (710-726). |  |  |  |  |  |  |  |  |  |
| <b>Prefix</b>          |                                                                                                                                |  |  |  |  |  |  |  |  |  |
| <b>WA-</b>             | Double reduction, parallel shaft reducer with projecting output shaft.                                                         |  |  |  |  |  |  |  |  |  |
| <b>HWA-</b>            | Double reduction, parallel shaft reducer with BostMount hollow output shaft.                                                   |  |  |  |  |  |  |  |  |  |
| <b>SWA-</b>            | Double reduction, parallel shaft reducer with hollow output shaft.                                                             |  |  |  |  |  |  |  |  |  |
| <b>WC-</b>             | Double reduction, right angle shaft reducer with projecting output shaft.                                                      |  |  |  |  |  |  |  |  |  |
| <b>HWC-</b>            | Double reduction, right angle shaft reducer with BostMount hollow output shaft.                                                |  |  |  |  |  |  |  |  |  |
| <b>SWC-</b>            | Double reduction, right angle shaft reducer with hollow output shaft.                                                          |  |  |  |  |  |  |  |  |  |
| <b>FWA-</b>            | Double reduction, parallel shaft flanged reducer (Quill types) with projecting output shaft.                                   |  |  |  |  |  |  |  |  |  |
| <b>HFWA-</b>           | Double reduction, parallel shaft flanged reducer (Quill types) with BostMount hollow output shaft.                             |  |  |  |  |  |  |  |  |  |
| <b>SFWA-</b>           | Double reduction, parallel shaft flanged reducer (Quill types) with hollow output shaft.                                       |  |  |  |  |  |  |  |  |  |
| <b>FWC-</b>            | Double reduction, right angle shaft flanged reducer (Quill types) with projecting output shaft.                                |  |  |  |  |  |  |  |  |  |
| <b>HFWC-</b>           | Double reduction, right angle shaft flanged reducer (Quill types) with BostMount hollow output shaft.                          |  |  |  |  |  |  |  |  |  |
| <b>SFWC-</b>           | Double reduction, right angle shaft flanged reducer (Quill types) with hollow output shaft.                                    |  |  |  |  |  |  |  |  |  |
| <b>QCWA-</b>           | Double reduction, parallel shaft flanged reducer (Coupling types) with projecting output shaft.                                |  |  |  |  |  |  |  |  |  |
| <b>HQCWA-</b>          | Double reduction, parallel shaft flanged reducer (Coupling types) with BostMount hollow output shaft.                          |  |  |  |  |  |  |  |  |  |
| <b>QCWC-</b>           | Double reduction, right angle shaft flanged reducer (Coupling types) with projecting output shaft.                             |  |  |  |  |  |  |  |  |  |
| <b>HQCWC-</b>          | Double reduction, right angle shaft flanged reducer (Coupling types) with projecting output shaft.                             |  |  |  |  |  |  |  |  |  |
| <b>SSFWB/SSFWD-</b>    | Stainless steel double reduction with solid output shaft.                                                                      |  |  |  |  |  |  |  |  |  |
| <b>SSHFWB/SSHFWWD-</b> | Stainless steel double reduction with hollow output shaft.                                                                     |  |  |  |  |  |  |  |  |  |

## Size Center distance, rounded off. On double reduction models this is the Center Distance of the second reduction.

|            |            |            |
|------------|------------|------------|
| 713 - 1.33 | 726 - 2.62 | 738 - 3.75 |
| 718 - 1.75 | 730 - 3.00 | 752 - 5.16 |
| 721 - 2.06 | 732 - 3.25 | 760 - 6.00 |

## Base Base positions relative to output shaft. Shipped separately as Base Kits. See Page 129.

|                |                                                                              |
|----------------|------------------------------------------------------------------------------|
| <b>Blank</b>   | No Base Kit                                                                  |
| <b>A,B</b>     | Horizontal Bases                                                             |
| <b>C,D,E,F</b> | Vertical Bases                                                               |
| <b>R/L</b>     | BostMount Output Bracket                                                     |
| <b>X</b>       | Input Vertical Up                                                            |
| <b>Y</b>       | Input Vertical Down                                                          |
| <b>V,W</b>     | Flanged bases, available on "S" hollow shaft models only. Factory assembled. |
| <b>M,N</b>     | Hollow Output with CFA                                                       |

## Ratio See Selection Tables for available ratios

## Lubrication

### Optional prelubrication.

|              |                          |          |               |
|--------------|--------------------------|----------|---------------|
| <b>Blank</b> | No lubrication supplied. | <b>S</b> | Mobil SHC 634 |
| <b>K</b>     | Klubersynth UH1 6-460    | <b>X</b> | Mobil 600W    |

When specifying optional prelubrication, include mounting position after shaft assembly.

## Vent

### Pressure Relief.

|              |                                         |
|--------------|-----------------------------------------|
| <b>Blank</b> | Standard Vent                           |
| <b>P</b>     | 5 PSI Vent                              |
| <b>Z</b>     | PosiVent® Pressure Compensating Bladder |

When specifying optional prelubrication, include mounting position after shaft assembly.

## Input Oil Seal

|              |                                                                   |
|--------------|-------------------------------------------------------------------|
| <b>Blank</b> | Standard Seal                                                     |
| <b>T</b>     | Double Input Seals. Recommended for mounting positions 2, 3, 4, 6 |

## NEMA Mounting

Designates flange size and input bore diameter. Flanged reducers only. Leave blank for projecting input reducers.

| Bore Code | NEMA Mounting | Input Bore | Keyway      |
|-----------|---------------|------------|-------------|
| <b>B4</b> | 42CZ          | .500"      | 1/8 x 1/16  |
| <b>B5</b> | 56C           | .625       | 3/16 x 3/32 |
| <b>B7</b> | 140TC/180C    | .875       | 3/16 x 3/32 |
| <b>B9</b> | 180TC/210C    | 1.125      | 1/4 x 1/8   |

See page 252 for Mounting Dimensions.

## Shaft Assembly

Assembly shaft arrangements. See Assemblies, Pages 72-75.

|           |                                 |
|-----------|---------------------------------|
| <b>G*</b> | Standard assembly               |
| <b>H*</b> | Double output shaft projection. |
| <b>J*</b> | Opposite to standard.           |

\* Add "S" after letter for Stainless Steel Shaft (ex. GS, HS, JS)

## Mounting Position

Designates the position of oil and vent plugs with respect to mounting.

|              |                                       |
|--------------|---------------------------------------|
| <b>Blank</b> | For units not supplied prelubricated. |
| <b>1-6</b>   | See Pages 58-61.                      |

## Output Bore Code

Specified in 1/16" increments. See Page 114 for complete offering. Example: 1 1/4" = P20  
Required for H Series only.

## How to Order

When ordering reducers please include code letters for Style, Size, Base (if required), Ratio, Lubrication (if required), NEMA Mounting (if flanged reducer), Shaft Assembly and Motor (if required).

**EXAMPLE:** Required size, 726 Quill types flanged double reduction reducer, 100 to 1 ratio, 5/8" input bore, parallel shafts, standard assembly, no base.

Motor to be 3/4 HP, 1750 RPM, 230/460 Volt, 3 Phase, 60 cycle, Open Dripproof.

FWA 726 - 100 - B5 - G - GUB3  
**ORDER: FWA726-100-B5-G-GUB3**

**NOTE:** For other assembly configurations, contact factory.



# Double Reduction Speed Reducer Selection Procedure

B

To properly select a speed reducer, the following application information must be known:

- Input RPM (Ratio)
- Output Torque
- Input Horsepower
- Service Factor

## Non-Motorized Speed Reducer

1. Determine service factor from table below.
2. Determine design horsepower.  
Design Horsepower =  
Application Load x Service Factor
3. Select a speed reducer size that satisfies output RPM, service class and/or output torque requirements.
4. Check overhung load capacity.

## Motorized Speed Reducer

1. Determine service class from table below
2. Select a reducer size that satisfies output RPM, service class and/or output torque requirements.
3. Check overhung load capacity.

## Service Factor Table

| AGMA Class of Service | Service Factor | Operating Conditions                                |
|-----------------------|----------------|-----------------------------------------------------|
| I                     | 1.00           | Moderate Shock-not more than 15 minutes in 2 hours. |
|                       |                | Uniform Load-not more than 10 hours per day.        |
| II                    | 1.25           | Moderate Shock-not more than 10 hours per day.      |
|                       |                | Uniform Load-more than 10 hours per day.            |
|                       | 1.50           | Heavy Shock-not more than 15 minutes in 2 hours.    |
|                       |                | Moderate Shock-more than 10 hours per day.          |
| III                   | 1.75           | Heavy Shock-not more than 10 hours per day.         |
|                       | 2.00           | Heavy Shock-more than 10 hours per day.             |

For complete AGMA Service Factors and Load Classifications, see Engineering Section, Pages 349 and 350.

## Double Reduction Selection Tables

Capacity selection tables on Pages 77-81 list catalog numbers and ratios of both reducers and gearmotors. Output RPM, output torque and horsepower are all based on 1750 RPM input. For motorized reducer selection, select the desired output RPM and refer to the gearmotor ratings column. For non-motorized reducers, refer to the reducer gear capacity columns. For the desired HP, torque and service factor that satisfies your requirements, a 700 Series basic reducer number will be indicated. For complete catalog part number, descriptions and options, refer to Page 70.

## Overhung Load

If the output shaft of a speed reducer is connected to the driven machine by other than a flexible coupling, an overhung load is imposed on the shaft. This load may be calculated as follows:

$$OHL = \frac{2TK}{D}$$

OHL = Overhung Load (LB.)

T = Shaft Torque (LB.IN.)

D = PD of Sprocket, Pinion or Pulley (IN.)

K = Load Connection Factor

## Load Connection Factor

|                                      |      |
|--------------------------------------|------|
| Sprocket or Timing Belt . . . . .    | 1.00 |
| Pinion and Gear Drive . . . . .      | 1.25 |
| Pulley and V-Belt Drive . . . . .    | 1.50 |
| Pulley and Flat Belt Drive . . . . . | 2.50 |

An overhung load greater than permissible load value may be reduced to an acceptable value by the use of a sprocket, pinion or pulley or a larger PD. Relocation of the load closer to the center of reducer will also increase OHL capacity.

Permissible overhung loads and output shaft thrust loads are listed for each reducer in the tables on Pages 30-33.

## Maximum Input Speeds

W713, W718, W721, W726 . . . . .4500 RPM

W730 through W760 . . . . .3600 RPM

**NOTE:** Horsepower ratings for 1750 RPM should NOT be exceeded when operating at higher input speeds.

**Ratings shown reflect maximum gear capacity with Klubersynth UH1 6-460 lubricant. The use of other lubricants may reduce ratings by up to 15%.**

**Ratings are mechanical not thermal.**

# Flanged Reducer Assemblies and Mounting Positions

## Assemblies—FWA/QCWA700 Series

Standard assemblies define output shaft (slow speed) projection with respect to input shaft (high speed) and mounting surface.

Types “A” and “B” are horizontal bases.

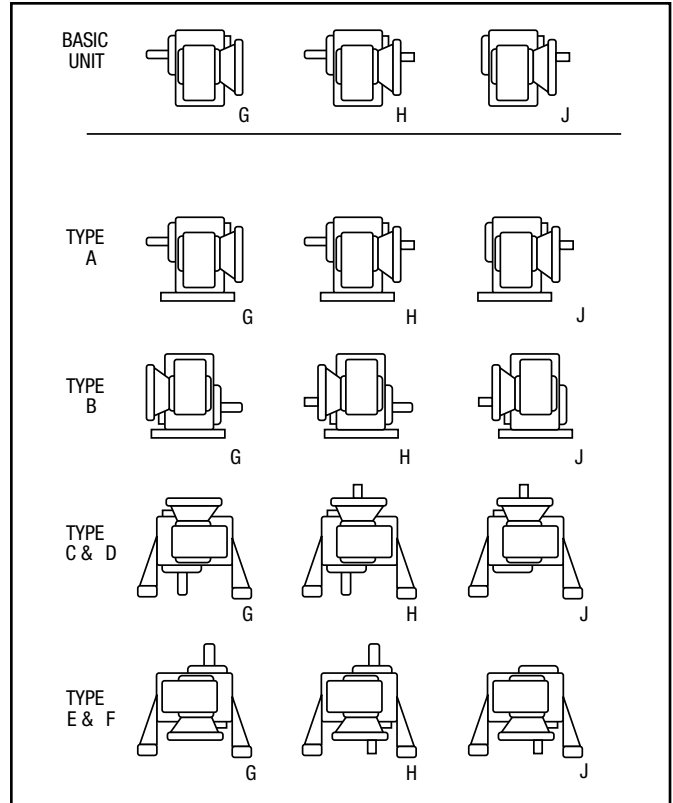
Types “C” and “E” are vertical high bases and Types “D” and “F” are vertical low bases.

Basic models and separate base kits are supplied unless otherwise specified. Assembly “H” available at a slight additional charge.

**See Page 70 for complete ordering instructions.**

Input may rotate clockwise or counter clockwise.

**For other configurations not shown, contact factory.**



## Mounting Positions – FWA/QCWA – HFWA/HQCWA – SFWA700 Series

Standard assemblies are for Position 1. The design permits any types of assembly to be mounted in any position shown by the proper location of the vented oil filler, level and drain plugs, at the time of installation.

For other than Position 1, order standard and relocate vented oil filler, level and drain plugs.

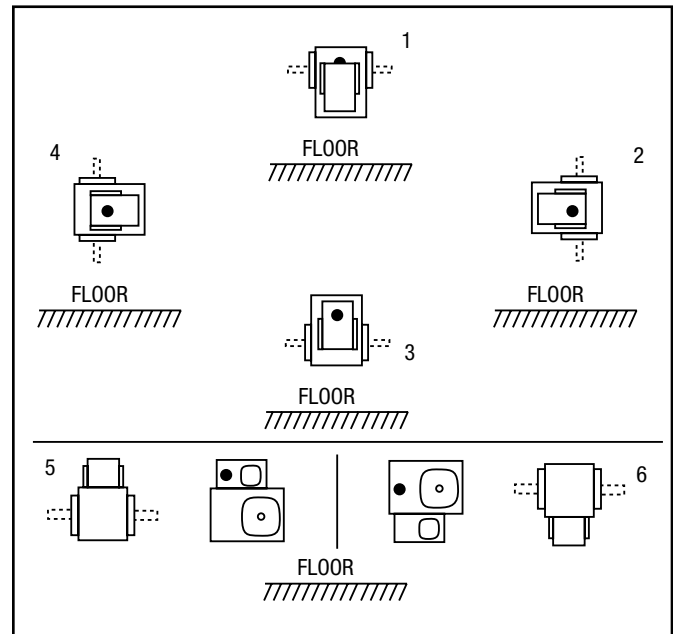
Vented oil filler plug must be located in the uppermost position.

For all mounting positions where the vented filler plug is located in a horizontal plane, the vent hole must point upward.

For all mounting positions where the vented filler plug is located in a vertical plane, the vent hole must point toward center of housing.

For production orders Boston Gear will assemble units for the specified mounting position desired at no additional charge.

**WARNING: The lubricant will flow between the large gearbox and the small gearbox. When filling with oil, make sure both gearboxes are full to the correct/same level. It is strongly recommended the oil level in each gearbox is verified after a short run.**

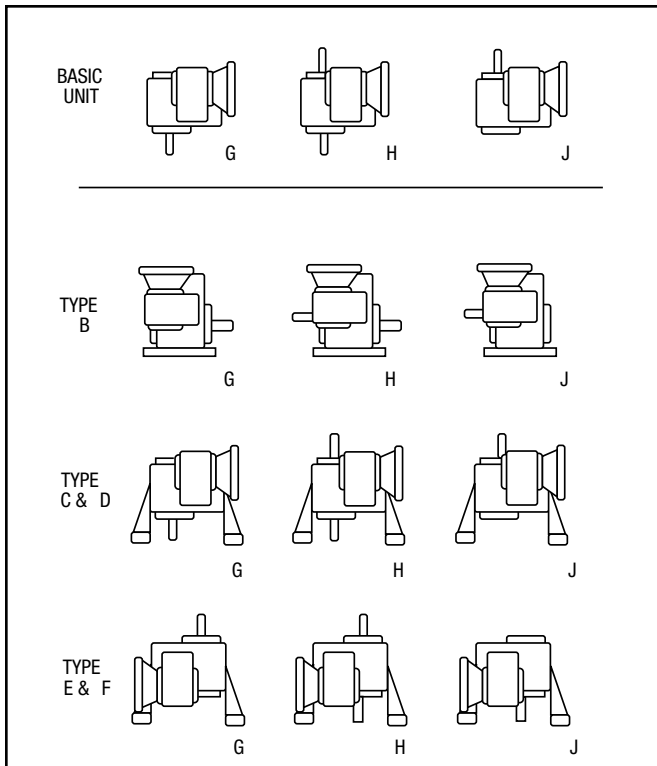


• Indicates proper oil level.

### CAUTION

**When ordering speed reducers pre-lubricated, the Mounting Position must be indicated to ensure proper oil level.**

# Flanged Reducer Assemblies and Mounting Positions



## Assemblies—FWC/QCWC700 Series

Standard assemblies define output shaft (slow speed) projection with respect to input shaft (high speed) and mounting surfaces.

Types “B” is a horizontal base.

Types “C” and “E” are vertical high bases and types “D” and “F” are vertical low bases.

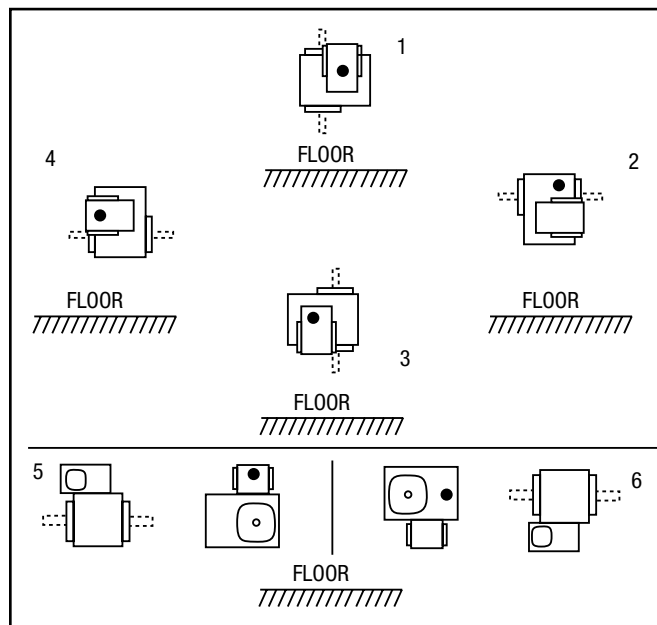
Basic models and separate base kits are supplied unless otherwise specified. Assembly “H” available at a slight additional charge.

**See Page 70 for complete ordering instructions.**

Input may rotate clockwise or counter clockwise.

**For other configurations not shown, contact factory.**

**B**



• Indicates proper oil level.

## CAUTION

**When ordering speed reducers pre-lubricated, the Mounting Position must be indicated to ensure proper oil level.**

## Mounting Positions – FWC/QCWC – HFWC/HQCWC – SFWC700 Series

Standard assemblies are for Position 1. The design permits any types of assembly to be mounted in any position shown by the proper location of the vented oil filler, level and drain plugs, at the time of installation.

For other than Position 1, order standard and relocate vented oil filler, level and drain plug.

Vented oil filler plug must be located in the uppermost position.

For all mounting positions where the vented filler plug is located in a horizontal plane, the vent hole must point upward.

For all mounting positions where the vented filler plug is located in a vertical plane, the vent hole must point toward center of housing.

For production orders Boston Gear will assemble units for the specified mounting position desired at no additional charge.

**WARNING: The lubricant will flow between the large gearbox and the small gearbox. When filling with oil, make sure both gearboxes are full to the correct/same level. It is strongly recommended the oil level in each gearbox is verified after a short run.**

# Non-Flanged Reducer Assemblies and Mounting Positions

## Assemblies—WA700 Series

Standard assemblies define output shaft (slow speed) projection with respect to input shaft (high speed) and mounting surfaces.

Types “A” and “B” are horizontal bases.

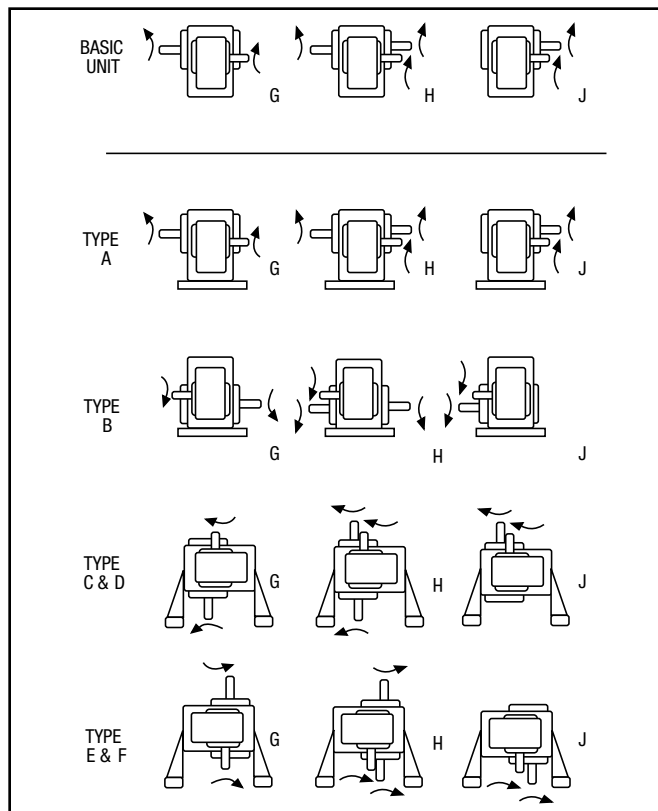
Types “C” and “E” are vertical high bases and types “D” and “F” are vertical low bases.

Basic models and separate base kits are supplied unless otherwise specified. Assembly “H” available at a slight additional charge.

**See Page 70 for complete ordering instructions.**

Input may rotate clockwise or counter clockwise. Arrows indicate relative rotation.

**FOR OTHER CONFIGURATIONS NOT SHOWN, CONTACT FACTORY.**



## Mounting Positions – WA – HWA – SWA 700 Series

Standard assemblies are for Position 1. The design permits any types of assembly to be mounted in any position shown by the proper location of the vented oil filler, level and drain plugs, at the time of installation.

For other than Position 1, order standard and relocate vented oil filler, level and drain plug.

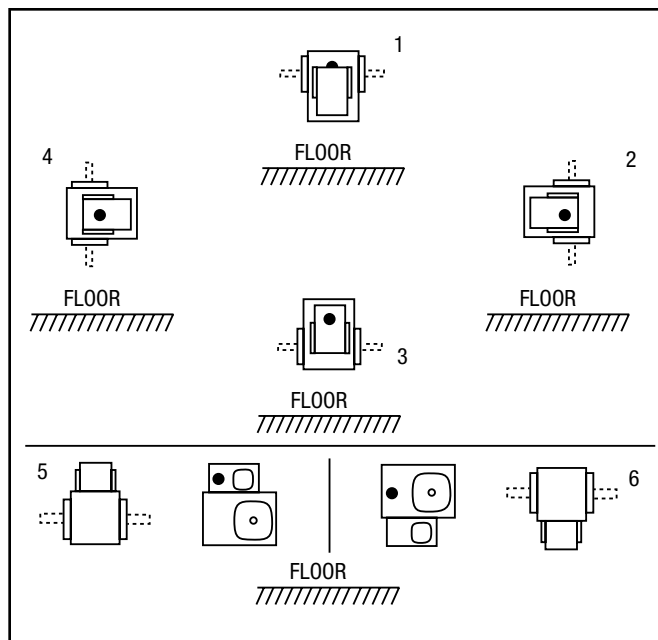
Vented oil filler plug must be located in the uppermost position.

For all mounting positions where the vented filler plug is located in a horizontal plane, the vent hole must point upward.

For all mounting positions where the vented filler plug is located in a vertical plane, the vent hole must point toward center of housing.

For production orders Boston Gear will assemble units for the specified mounting position desired at no additional charge.

**WARNING: The lubricant will flow between the large gearbox and the small gearbox. When filling with oil, make sure both gearboxes are full to the correct/same level. It is strongly recommended the oil level in each gearbox is verified after a short run.**

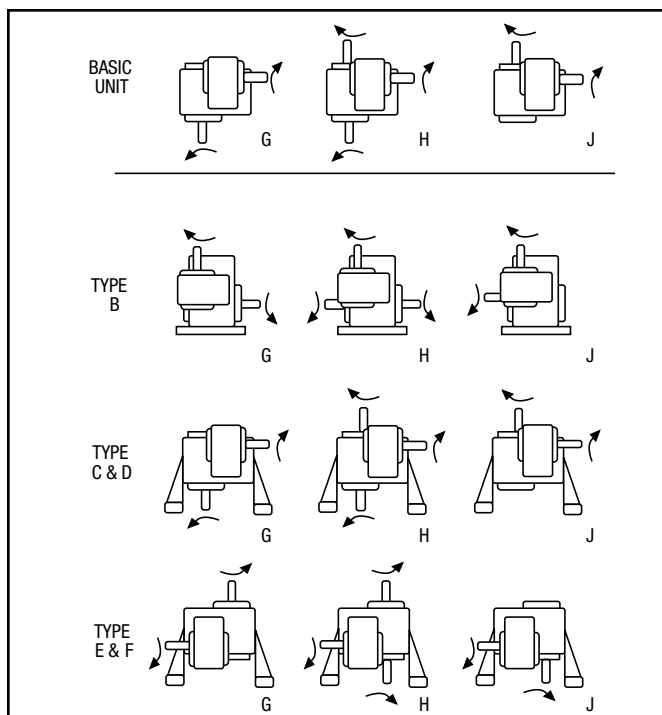


• Indicates proper oil level.

### CAUTION

**When ordering speed reducers pre-lubricated, the Mounting Position must be indicated to ensure proper oil level.**

# Non-Flanged Reducer Assemblies and Mounting Positions



## Assemblies—WC700 Series

Standard assemblies define output shaft (slow speed) projection with respect to input shaft (high speed) and mounting surfaces.

Types “B” is a horizontal base.

Types “C” and “E” are vertical high bases and types “D” and “F” are vertical low bases.

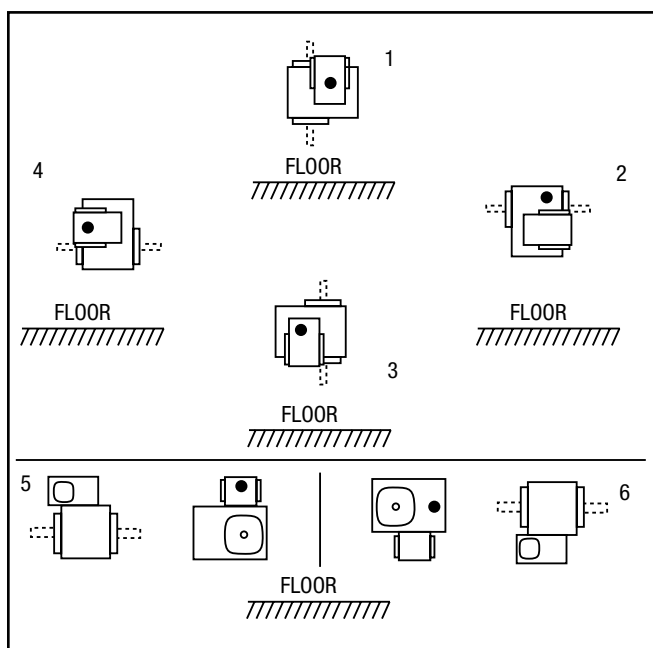
Basic models and separate base kits are supplied unless otherwise specified. Assembly “H” available at a slight additional charge.

**See Page 70 for complete ordering instructions.**

Input may rotate clockwise or counter clockwise. Arrows indicate relative rotation.

**FOR OTHER CONFIGURATIONS NOT SHOWN, CONTACT FACTORY.**

**B**



- Indicates proper oil level.

### CAUTION

**When ordering speed reducers pre-lubricated, the Mounting Position must be indicated to ensure proper oil level.**

## Mounting Positions – WC – HWC – SWC 700 Series

Standard assemblies are for Position 1. The design permits any types of assembly to be mounted in any position shown by the proper location of the vented oil filler, level and drain plugs, at the time of installation.

For other than Position 1, order standard and relocate vented oil filler, level and drain plug.

Vented oil filler plug must be located in the uppermost position.

For all mounting positions where the vented filler plug is located in a horizontal plane, the vent hole must point upward.

For all mounting positions where the vented filler plug is located in a vertical plane, the vent hole must point toward center of housing.

For production orders Boston Gear will assemble units for the specified mounting position desired at no additional charge.

**WARNING: The lubricant will flow between the large gearbox and the small gearbox. When filling with oil, make sure both gearboxes are full to the correct/same level. It is strongly recommended the oil level in each gearbox is verified after a short run.**

## 700 Series Recommended Lubricants

The following table indicates the types and viscosity of lubricants suitable for reducers operating at various temperatures.

Lubrication and maintenance instructions are provided with each speed reducer. These instructions should be followed for best results. It is important that the correct types of oil be used since many oils are not suitable for the lubrication of gears. Various types of gearing require different types of lubricants.

The lubricant must remain free from oxidation and contamination by water or debris, since only a very thin film of oil stands between efficient operation and failure. To assure long service life, the reducer should be periodically drained (preferably while warm) and refilled to the proper level with a recommended gear oil.

Under normal environmental conditions oil changes are suggested after the initial 250 hours of operation and thereafter at regular intervals of 2500 hours or every 6 months.

Synthetic lubricants will allow extended lubrication intervals due to its increased resistance to thermal and oxidation degradation. It is suggested that the initial oil change be made at 1500 hours and, thereafter, at 5000 hour intervals.

During the initial period of operation, higher than normal operating temperatures may be seen. This is due to the initial break-in of the gear set. The temperature of Single Reduction Worm Gear Reducers may reach approximately 225°F.

### ENCLOSED WORM GEAR REDUCERS

| Recommended Oil<br>(or equivalent)  | Viscosity Range<br>SUS<br>@ 100°F | Oil<br>Type | ISO<br>Viscosity Grade<br>No.† |
|-------------------------------------|-----------------------------------|-------------|--------------------------------|
| Klubersynth UH1 6-460*<br>Synthetic | 1950/2500                         | PAG         | 460                            |
| Mobil SHC634<br>Synthetic           | 1950/2500                         | PAO         | 320/460                        |

Ambient temperature range of -20F to +125F is suitable for standard configured products and ratings. Contact technical support for operating conditions beyond this range.

**CAUTION:** Relubricate more frequently if drive is operated in high ambient temperatures or unusually contaminated atmosphere. High loads and operating temperatures will also require more frequent lubrication.

\* Synthetic recommendation is exclusively for Klubersynth UH1 6-460.

† Other lubricants corresponding to AGMA/ISO numbers are available from all major oil companies. See Page 135 for lubricant interchange.

\*\* The Klubersynth UH1 6-460 lubricant will perform at temperatures considerably higher than 225°F. However, the factory should always be consulted prior to operating at higher temperatures as damage may occur to oil seals and other components.

### WORM GEAR LUBRICANT AVAILABLE FROM BOSTON GEAR

| TYPES     | Klubersynth UH1<br>6-460 | Mobil SHC634 |
|-----------|--------------------------|--------------|
| SIZE      | QUART                    | QUART        |
| ITEM CODE | 65159                    | 51493        |

### Mounting Positions For Double Reduction Models Only

The variety of mounting possibilities for double-reduction drives makes it impractical to illustrate positions for these models. In general, the vent filler is at the uppermost plug position, and the drain plug at the lowest possible position. The oil level must be at the approximate centerline of the uppermost gear, with the lower box completely full.

The first and second reduction housings are open to one another allowing free flow of lubricant. Levels should be checked frequently on new installation to assure proper levels are maintained.

**WARNING:** The lubricant will flow between the large gearbox and the small gearbox. When filling with oil, make sure both gearboxes are full to the correct/same level. It is strongly recommended the oil level in each gearbox is verified after a short run.

**WARNING:** Different oil types should not be mixed. For example Klubersynth UH1 6-460 is not compatible with Mobil SHC634.



# 700 Series Double Reduction Output RPM & Capacity Selection Tables

@ 1750 RPM Input

| Output RPM | Ratio#   | Non-Flanged Reducers   |       |        |          | Gearmotor                |                             |                      |                   |    |    |    |     |                      | Bore Code                     | Motors**  |  |
|------------|----------|------------------------|-------|--------|----------|--------------------------|-----------------------------|----------------------|-------------------|----|----|----|-----|----------------------|-------------------------------|-----------|--|
|            |          | Gear Capacity          |       |        | Size*    | Ratings                  |                             |                      | Available Styles† |    |    |    |     |                      |                               | Cat. Nos. |  |
|            |          | Output Torque (lb.in.) | HP    |        |          | Motor HP                 | Output Torque (lb.in.)      | Service Class        | F                 | OC | HF | SF | HQC |                      |                               |           |  |
|            |          |                        | Input | Output |          |                          |                             |                      |                   |    |    |    |     |                      |                               |           |  |
| 17.5       | 100 TO 1 | 275                    | .16   | .076   | W713-100 | 1/6<br>1/6               | 275<br>275                  | I<br>I               |                   |    |    |    |     | B4<br>B5             | ACUT<br>CUTF                  |           |  |
|            |          | 570                    | .23   | .16    | W718-100 | 1/4<br>1/4<br>1/6<br>1/6 | 570<br>570<br>414<br>414    | I<br>I<br>II<br>II   |                   |    |    |    |     | B4<br>B5<br>B4<br>B5 | ADUTF<br>DUTF<br>ACUT<br>CUTF |           |  |
|            |          | 910                    | .41   | .25    | W721-100 | 1/2<br>1/3<br>1/4<br>1/6 | 910<br>750<br>585<br>390    | I<br>II<br>II<br>III |                   |    |    |    |     | B5<br>B5<br>B5<br>B5 | FUTF<br>EUTF<br>DUTF<br>CUTF  |           |  |
|            |          | 1785                   | .75   | .50    | W726-100 | 3/4<br>1/2<br>1/3        | 1785<br>1206<br>804         | I<br>II<br>III       |                   |    |    |    |     | B5<br>B5<br>B5       | GUTF<br>FUTF<br>EUTF          |           |  |
|            |          | 3250                   | 1.24  | .90    | W730-100 | 1<br>3/4<br>1/2          | 2844<br>2138<br>1426        | I<br>II<br>III       |                   |    |    |    |     | B5<br>B5<br>B5       | HUTF-5/8<br>GUTF<br>FUTF      |           |  |
|            |          | 3450                   | 1.33  | .96    | W732-100 | 1-1/2<br>1<br>3/4        | 3450<br>2592<br>1944        | I<br>II<br>III       |                   |    |    |    |     | B7<br>B5<br>B5       | JUTF<br>HUTF-5/8<br>GUTF      |           |  |
|            |          | 4910                   | 1.84  | 1.36   | W738-100 | 2<br>1-1/2<br>1          | 4910<br>3995<br>2664        | I<br>II<br>III       |                   |    |    |    |     | B7<br>B7<br>B7       | KUTF<br>JUTF<br>HUTF          |           |  |
|            |          | 8000                   | 2.97  | 2.22   | W752-100 | 3<br>2<br>1-1/2          | 8000<br>5400<br>4050        | I<br>II<br>III       |                   |    |    |    |     | B9<br>B7<br>B7       | LUTF<br>KUTF<br>JUTF          |           |  |
|            |          | 16500                  | 5.75  | 4.58   | W760-100 | 5<br>3                   | 14200<br>8500               | I<br>III             |                   |    |    |    |     | B9<br>B9             | MUTF<br>LUTF                  |           |  |
| 11.7       | 150 TO 1 | 280                    | .13   | .052   | W713-150 | 1/6<br>1/6               | 280<br>280                  | I<br>I               |                   |    |    |    |     | B4<br>B5             | ACUT<br>CUTF                  |           |  |
|            |          | 580                    | .23   | .11    | W718-150 | 1/4<br>1/4<br>1/6<br>1/6 | 580<br>580<br>433<br>433    | I<br>I<br>II<br>II   |                   |    |    |    |     | B4<br>B5<br>B4<br>B5 | ADUTF<br>DUTF<br>ACUT<br>CUTF |           |  |
|            |          | 940                    | .30   | .17    | W721-150 | 1/3<br>1/4<br>1/6        | 940<br>770<br>513           | I<br>II<br>III       |                   |    |    |    |     | B5<br>B5<br>B5       | EUTF<br>DUTF<br>CUTF          |           |  |
|            |          | 1840                   | .56   | .34    | W726-150 | 3/4<br>1/2<br>1/3<br>1/4 | 1840<br>1647<br>1095<br>823 | I<br>I<br>II<br>III  |                   |    |    |    |     | B5<br>B5<br>B5<br>B5 | GUTF<br>FUTF<br>EUTF<br>DUTF  |           |  |
|            |          | 3523                   | .98   | .65    | W730-150 | 3/4<br>1/2               | 2592<br>1728                | II<br>III            |                   |    |    |    |     | B5<br>B5             | GUTF<br>FUTF                  |           |  |
|            |          | 3600                   | 1.00  | .67    | W732-150 | 1<br>3/4<br>1/2          | 3600<br>2713<br>1800        | I<br>II<br>III       |                   |    |    |    |     | B5<br>B5<br>B5       | HUTF-5/8<br>GUTF<br>FUTF      |           |  |

\* Add "A" (for PARALLEL SHAFTS) or "C" (for RIGHT ANGLE SHAFTS) after "W" in Model Numbers. See Numbering System, Page 70.

\*\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see Pages 337 and 340.

† Shaded areas denote which styles are available for a given center distance and ratio.

# Other ratios available. Contact factory for information.

# 700 Series Double Reduction Output RPM & Capacity Selection Tables

@ 1750 RPM Input

| Output RPM | Ratio#   | Non-Flanged Reducers   |       |        |          | Gearmotor            |                                 |                     |                   |    |    |    |     | Bore Code            | Motors**                        |
|------------|----------|------------------------|-------|--------|----------|----------------------|---------------------------------|---------------------|-------------------|----|----|----|-----|----------------------|---------------------------------|
|            |          | Gear Capacity          |       |        | Size*    | Ratings              |                                 |                     | Available Styles† |    |    |    |     |                      | Cat. Nos.                       |
|            |          | Output Torque (lb.in.) | HP    |        |          | Motor HP             | Output Torque (lb.in.)          | Service Class       | F                 | OC | HF | SF | HQC |                      | 230/460 VAC<br>3 Phase<br>60 Hz |
|            |          |                        | Input | Output |          |                      |                                 |                     |                   |    |    |    |     |                      |                                 |
| 11.7       | 150 TO 1 | 5100                   | 1.35  | .94    | W738-150 | 1-1/2<br>1<br>3/4    | 5100<br>3725<br>2974            | I<br>II<br>III      |                   |    |    |    |     | B7<br>B7<br>B5       | JUTF<br>HUTF<br>GUTF            |
|            |          | 11750                  | 2.99  | 2.18   | W752-150 | 3<br>2<br>1-1/2      | 11750<br>7884<br>5913           | I<br>II<br>III      |                   |    |    |    |     | B9<br>B7<br>B7       | LUTF<br>KUTF<br>JUTF            |
|            |          | 17000                  | 4.22  | 3.15   | W760-150 | 5<br>3<br>2          | 17000<br>11200<br>7992          | I<br>II<br>III      |                   |    |    |    |     | B9<br>B9<br>B9       | MUTF<br>LUTF<br>KUTF            |
| 8.8        | 200 TO 1 | 320                    | .12   | .045   | W713-200 | 1/6<br>1/6           | 320<br>320                      | I<br>I              |                   |    |    |    |     | B4<br>B5             | ACUTF<br>CUTF                   |
|            |          | 660                    | .19   | .09    | W718-200 | 1/4<br>1/4           | 660<br>660                      | I<br>I              |                   |    |    |    |     | B4<br>B5             | ADUTF<br>DUTF                   |
|            |          | 990                    | .25   | .14    | W721-200 | 1/4<br>1/6           | 990<br>720                      | I<br>II             |                   |    |    |    |     | B5<br>B5             | DUTF<br>CUTF                    |
|            |          | 1875                   | .47   | .26    | W726-200 | 1/2<br>1/3<br>1/4    | 1875<br>1440<br>1080            | I<br>II<br>III      |                   |    |    |    |     | B5<br>B5<br>B5       | FUTF<br>EUTF<br>DUTF            |
|            |          | 3477                   | .76   | .48    | W730-200 | 3/4<br>1/2<br>1/4    | 3402<br>2268<br>1134            | I<br>III<br>III     |                   |    |    |    |     | B5<br>B5<br>B5       | GUTF<br>FUTF<br>DUTF            |
|            |          | 3800                   | .81   | .53    | W732-200 | 3/4<br>1/2<br>1/3    | 3510<br>2340<br>1560            | I<br>II<br>III      |                   |    |    |    |     | B5<br>B5<br>B5       | GUTF<br>FUTF<br>EUTF            |
|            |          | 5500                   | 1.14  | .77    | W738-200 | 1<br>3/4<br>1/2      | 4824<br>3618<br>2412            | I<br>II<br>III      |                   |    |    |    |     | B5<br>B5<br>B5       | HUTF-5/8<br>GUTF<br>FUTF        |
|            |          | 12250                  | 2.40  | 1.70   | W752-200 | 3<br>2<br>1          | 12250<br>10080<br>5040          | I<br>II<br>III      |                   |    |    |    |     | B9<br>B7<br>B5       | LUTF<br>KUTF<br>HUTF-5/8        |
|            |          | 18000                  | 3.43  | 2.50   | W760-200 | 5<br>3<br>2<br>1-1/2 | 18000<br>15768<br>10512<br>7884 | I<br>I<br>II<br>III |                   |    |    |    |     | B9<br>B9<br>B7<br>B7 | MUTF<br>LUTF<br>KUTF<br>JUTF    |
| 5.8        | 300 TO 1 | 335                    | .10   | .031   | W713-300 | 1/6<br>1/6           | 335<br>335                      | I<br>I              |                   |    |    |    |     | B4<br>B5             | ACUTF<br>CUTF                   |
|            |          | 690                    | .16   | .063   | W718-300 | 1/6<br>1/6           | 690<br>690                      | I<br>I              |                   |    |    |    |     | B4<br>B5             | ACUTF<br>CUTF                   |
|            |          | 1025                   | .20   | .094   | W721-300 | 1/4<br>1/6           | 1025<br>900                     | I<br>I              |                   |    |    |    |     | B5<br>B5             | DUTF<br>CUTF                    |
|            |          | 1950                   | .37   | .18    | W726-300 | 1/3<br>1/4<br>1/6    | 1800<br>1350<br>900             | I<br>II<br>III      |                   |    |    |    |     | B5<br>B5<br>B5       | EUTF<br>DUTF<br>CUTF            |
|            |          | 3612                   | .57   | .33    | W730-300 | 1/2<br>1/3<br>1/4    | 3132<br>2088<br>1566            | I<br>II<br>III      |                   |    |    |    |     | B5<br>B5<br>B5       | FUTF<br>EUTF<br>DUTF            |
|            |          | 3950                   | .61   | .36    | W732-300 | 3/4<br>1/2<br>1/3    | 3950<br>2700<br>1800            | I<br>II<br>III      |                   |    |    |    |     | B5<br>B5<br>B5       | GUTF<br>FUTF<br>EUTF            |

\* Add "A" (for PARALLEL SHAFTS) or "C" (for RIGHT ANGLE SHAFTS) after "W" in Model Numbers. See Numbering System, Page 70.

\*\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see Pages 337 and 340.

† Shaded areas denote which styles are available for a given center distance and ratio.

# Other ratios available. Contact factory for information.

# 700 Series Double Reduction Output RPM & Capacity Selection Tables

@ 1750 RPM Input

| Output RPM | Ratio#   | Non-Flanged Reducers   |       |        |          | Gearmotor            |                                 |                      |                   |    |    |    |     | Bore Code            | Motors**                        |
|------------|----------|------------------------|-------|--------|----------|----------------------|---------------------------------|----------------------|-------------------|----|----|----|-----|----------------------|---------------------------------|
|            |          | Gear Capacity          |       |        | Size*    | Ratings              |                                 |                      | Available Styles† |    |    |    |     |                      | Cat. Nos.                       |
|            |          | Output Torque (lb.in.) | HP    |        |          | Motor HP             | Output Torque (lb.in.)          | Service Class        | F                 | QC | HF | SF | HQC |                      | 230/460 VAC<br>3 Phase<br>60 Hz |
|            |          |                        | Input | Output |          |                      |                                 |                      |                   |    |    |    |     |                      |                                 |
| 5.8        | 300 TO 1 | 5800                   | .84   | .53    | W738-300 | 1<br>3/4<br>1/2      | 5800<br>4050<br>2700            | I<br>II<br>III       |                   |    |    |    |     | B5<br>B5<br>B5       | HUTF-5/8<br>GUTF<br>FUTF        |
|            |          | 12500                  | 1.72  | 1.15   | W752-300 | 2<br>1-1/2<br>1      | 12500<br>10850<br>7236          | I<br>II<br>III       |                   |    |    |    |     | B7<br>B7<br>B5       | KUTF<br>JUTF<br>HUTF-5/8        |
|            |          | 18500                  | 2.45  | 1.70   | W760-300 | 3<br>2<br>1-1/2<br>1 | 18500<br>14904<br>11180<br>7452 | I<br>II<br>II<br>III |                   |    |    |    |     | B9<br>B7<br>B7<br>B5 | LUTF<br>KUTF<br>JUTF<br>HUTF    |
| 4.4        | 400 TO 1 | 330                    | .089  | .023   | W713-400 | 1/6<br>1/6           | 330<br>330                      | I<br>I               |                   |    |    |    |     | B4<br>B5             | ACUT<br>CUTF                    |
|            |          | 690                    | .12   | .048   | W718-400 | 1/6<br>1/6           | 360<br>360                      | II<br>II             |                   |    |    |    |     | B4<br>B5             | ACUT<br>CUTF                    |
|            |          | 1025                   | .17   | .071   | W721-400 | 1/6                  | 984                             | I                    |                   |    |    |    |     | B5                   | CUTF                            |
|            |          | 1950                   | .31   | .14    | W726-400 | 1/4<br>1/6           | 1620<br>1080                    | I<br>III             |                   |    |    |    |     | B5<br>B5             | DUTF<br>CUTF                    |
|            |          | 3602                   | .40   | .25    | W730-400 | 1/3<br>1/4<br>1/6    | 2856<br>2142<br>1428            | I<br>II<br>III       |                   |    |    |    |     | B5<br>B5<br>B5       | EUTF<br>DUTF<br>CUTF            |
|            |          | 3900                   | .48   | .27    | W732-400 | 1/2<br>1/3<br>1/4    | 3900<br>2688<br>2016            | I<br>II<br>III       |                   |    |    |    |     | B5<br>B5<br>B5       | FUTF<br>EUTF<br>DUTF            |
|            |          | 5700                   | .66   | .40    | W738-400 | 3/4<br>1/2<br>1/3    | 5700<br>4320<br>2880            | I<br>II<br>III       |                   |    |    |    |     | B5<br>B5<br>B5       | GUTF<br>FUTF<br>EUTF            |
|            |          | 12600                  | 1.39  | .88    | W752-400 | 1-1/2<br>1<br>3/4    | 12610<br>9072<br>6804           | I<br>II<br>III       |                   |    |    |    |     | B7<br>B5<br>B5       | JUTF<br>HUTF-5/8<br>GUTF        |
|            |          | 18430                  | 1.94  | 1.29   | W760-400 | 2<br>1-1/2<br>1      | 18430<br>13824<br>9216          | I<br>II<br>II        |                   |    |    |    |     | B7<br>B7<br>B7       | KUTF<br>JUTF<br>HUTF            |
| 2.9        | 600 TO 1 | 340                    | .081  | .016   | W713-600 | 1/6<br>1/6           | 340<br>340                      | I<br>I               |                   |    |    |    |     | B4<br>B5             | ACUT<br>CUTF                    |
|            |          | 710                    | .095  | .032   | W718-600 | 1/6<br>1/6           | 710<br>710                      | I<br>I               |                   |    |    |    |     | B4<br>B5             | ACUT<br>CUTF                    |
|            |          | 1025                   | .13   | .047   | W721-600 | 1/6                  | 1025                            | I                    |                   |    |    |    |     | B5                   | CUTF                            |
|            |          | 2000                   | .25   | .092   | W726-600 | 1/4<br>1/6           | 2000<br>1332                    | I<br>II              |                   |    |    |    |     | B5<br>B5             | DUTF<br>CUTF                    |
|            |          | 3717                   | .32   | .17    | W730-600 | 1/4<br>1/6           | 2862<br>1908                    | II<br>III            |                   |    |    |    |     | B5<br>B5             | DUTF<br>EUTF                    |
|            |          | 4025                   | .36   | .18    | W732-600 | 1/3<br>1/4<br>1/6    | 3600<br>2700<br>1800            | I<br>II<br>III       |                   |    |    |    |     | B5<br>B5<br>B5       | EUTF<br>DUTF<br>CUTF            |

\* Add "A" (for PARALLEL SHAFTS) or "C" (for RIGHT ANGLE SHAFTS) after "W" in Model Numbers. See Numbering System, Page 70.

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† Shaded areas denote which styles are available for a given center distance and ratio.

# Other ratios available. Contact factory for information.

# 700 Series Double Reduction Output RPM & Capacity Selection Tables

## @ 1750 RPM Input

| Output RPM | Ratio#    | Non-Flanged Reducers   |       |        |           | Gearmotor                |                              |                     |                   |    |    |    |     | Bore Code            | Motors**                        |
|------------|-----------|------------------------|-------|--------|-----------|--------------------------|------------------------------|---------------------|-------------------|----|----|----|-----|----------------------|---------------------------------|
|            |           | Gear Capacity          |       |        | Size*     | Ratings                  |                              |                     | Available Styles† |    |    |    |     |                      | Cat. Nos.                       |
|            |           | Output Torque (lb.in.) | HP    |        |           | Motor HP                 | Output Torque (lb.in.)       | Service Class       | F                 | OC | HF | SF | HQC |                      | 230/460 VAC<br>3 Phase<br>60 Hz |
|            |           |                        | Input | Output |           |                          |                              |                     |                   |    |    |    |     |                      |                                 |
| 2.9        | 600 TO 1  | 5900                   | .49   | .27    | W738-600  | 1/2<br>1/3<br>1/4        | 5900<br>3960<br>2970         | I<br>II<br>III      |                   |    |    |    |     | B5<br>B5<br>B5       | FUTF<br>EUTF<br>DUTF            |
|            |           | 13000                  | 1.00  | .60    | W752-600  | 1<br>3/4<br>1/2          | 13000<br>9720<br>6480        | I<br>II<br>III      |                   |    |    |    |     | B5<br>B5<br>B5       | HUTF-5/8<br>GUTF<br>FUTF        |
|            |           | 19000                  | 1.40  | .88    | W760-600  | 1-1/2<br>1<br>3/4        | 19000<br>13608<br>10206      | I<br>II<br>III      |                   |    |    |    |     | B7<br>B7<br>B7       | JUTF<br>HUTF<br>GUTF            |
| 1.9        | 900 TO 1  | 340                    | .071  | .010   | W713-900  | 1/6<br>1/6               | 340<br>340                   | I<br>I              |                   |    |    |    |     | B4<br>B5             | ACUT<br>CUTF                    |
|            |           | 710                    | .079  | .021   | W718-900  | 1/6<br>1/6               | 710<br>710                   | I<br>I              |                   |    |    |    |     | B4<br>B5             | ACUT<br>CUTF                    |
|            |           | 1050                   | .11   | .032   | W721-900  | 1/6                      | 1050                         | I                   |                   |    |    |    |     | B5                   | CUTF                            |
|            |           | 2000                   | .21   | .06    | W726-900  | 1/6                      | 2000                         | I                   |                   |    |    |    |     | B5                   | CUTF                            |
|            |           | 3752                   | .23   | .11    | W730-900  | 1/6                      | 2700                         | II                  |                   |    |    |    |     | B5                   | CUTF                            |
|            |           | 4025                   | .28   | .12    | W732-900  | 1/4<br>1/6               | 3483<br>2322                 | I<br>III            |                   |    |    |    |     | B5<br>B5             | DUTF<br>CUTF                    |
|            |           | 5900                   | .37   | .18    | W738-900  | 1/2<br>1/3<br>1/4<br>1/6 | 5900<br>5292<br>3969<br>2646 | I<br>I<br>II<br>III |                   |    |    |    |     | B5<br>B5<br>B5<br>B5 | FUTF<br>EUTF<br>DUTF<br>CUTF    |
|            |           | 13000                  | .74   | .40    | W752-900  | 3/4<br>1/2<br>1/3        | 13000<br>8748<br>5832        | I<br>II<br>III      |                   |    |    |    |     | B5<br>B5<br>B5       | GUTF<br>FUTF<br>EUTF            |
|            |           | 19000                  | 1.00  | .59    | W760-900  | 1<br>3/4<br>1/2          | 19000<br>14337<br>9558       | I<br>II<br>III      |                   |    |    |    |     | B5<br>B5<br>B5       | HUTF-5/8<br>GUTF<br>FUTF        |
| 1.5        | 1200 TO 1 | 330                    | .068  | .008   | W713-1200 | 1/6<br>1/6               | 330<br>330                   | I<br>I              |                   |    |    |    |     | B4<br>B5             | ACUT<br>CUTF                    |
|            |           | 690                    | .071  | .016   | W718-1200 | 1/6<br>1/6               | 690<br>690                   | I<br>I              |                   |    |    |    |     | B4<br>B5             | ACUT<br>CUTF                    |
|            |           | 1025                   | .10   | .024   | W721-1200 | 1/6                      | 1025                         | I                   |                   |    |    |    |     | B5                   | CUTF                            |
|            |           | 1950                   | .19   | .045   | W726-1200 | 1/6                      | 1728                         | I                   |                   |    |    |    |     | B5                   | CUTF                            |
|            |           | 3650                   | .19   | .084   | W730-1200 | 1/6                      | 3168                         | I                   |                   |    |    |    |     | B5                   | CUTF                            |
|            |           | 3900                   | .23   | .092   | W732-1200 | 1/4<br>1/6               | 3900<br>2880                 | I<br>II             |                   |    |    |    |     | B5<br>B5             | DUTF<br>CUTF                    |
|            |           | 5700                   | .31   | .13    | W738-1200 | 1/3<br>1/4<br>1/6        | 5700<br>4536<br>3024         | I<br>II<br>III      |                   |    |    |    |     | B5<br>B5<br>B5       | EUT<br>DUTF<br>CUTF             |
|            |           | 12610                  | .62   | .29    | W752-1200 | 3/4<br>1/2<br>1/3        | 12610<br>10152<br>6768       | I<br>II<br>III      |                   |    |    |    |     | B5<br>B5<br>B5       | GUTF<br>FUTF<br>EUTF            |

\* Add "A" (for PARALLEL SHAFTS) or "C" (for RIGHT ANGLE SHAFTS) after "W" in Model Numbers. See Numbering System, Page 70.

\*\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see Pages 337 and 340.

† Shaded areas denote which styles are available for a given center distance and ratio.

# Other ratios available. Contact factory for information.

# 700 Series Double Reduction Output RPM & Capacity Selection Tables

@ 1750 RPM Input

| Output RPM | Ratio#    | Non-Flanged Reducers   |       |        |           | Gearmotor              |                                 |                      |                   |    |    |    |     |                                 | Bore Code                        | Motors** |
|------------|-----------|------------------------|-------|--------|-----------|------------------------|---------------------------------|----------------------|-------------------|----|----|----|-----|---------------------------------|----------------------------------|----------|
|            |           | Gear Capacity          |       |        | Size*     | Ratings                |                                 |                      | Available Styles† |    |    |    |     | Cat. Nos.                       |                                  |          |
|            |           | Output Torque (lb.in.) | HP    |        |           | Motor HP               | Output Torque (lb.in.)          | Service Class        | F                 | QC | HF | SF | HQC | 230/460 VAC<br>3 Phase<br>60 Hz |                                  |          |
|            |           |                        | Input | Output |           |                        |                                 |                      |                   |    |    |    |     |                                 |                                  |          |
| 1.5        | 1200 TO 1 | 18430                  | .81   | .43    | W760-1200 | 1<br>3/4<br>1/2<br>1/3 | 18430<br>17172<br>11448<br>7632 | I<br>II<br>II<br>III |                   |    |    |    |     | B5<br>B5<br>B5<br>B5            | HUTF-5/8<br>GUTF<br>FUTF<br>EUTF |          |
| .97        | 1800 to 1 | 900                    | .082  | .013   | W721-1800 | 1/6                    | 900                             | I                    |                   |    |    |    |     | B5                              | CUTF                             |          |
|            |           | 1775                   | .16   | .027   | W726-1800 | 1/6                    | 1775                            | I                    |                   |    |    |    |     | B5                              | CUTF                             |          |
|            |           | 3650                   | .14   | .056   | W730-1800 | 1/6                    | 2880                            | II                   |                   |    |    |    |     | B5                              | CUTF                             |          |
|            |           | 3750                   | .19   | .058   | W732-1800 | 1/6                    | 3240                            | I                    |                   |    |    |    |     | B5                              | CUTF                             |          |
|            |           | 5400                   | .24   | .083   | W738-1800 | 1/4<br>1/6             | 5400<br>3672                    | I<br>II              |                   |    |    |    |     | B5<br>B5                        | DUTF<br>CUTF                     |          |
|            |           | 11760                  | .47   | .18    | W752-1800 | 1/2<br>1/3<br>1/4      | 11760<br>8208<br>6156           | I<br>II<br>III       |                   |    |    |    |     | B5<br>B5<br>B5                  | FUTF<br>EUTF<br>DUTF             |          |
|            |           | 17280                  | .59   | .27    | W760-1800 | 1/2<br>1/3             | 14900<br>9936                   | I<br>III             |                   |    |    |    |     | B5<br>B5                        | FUTF<br>EUTF                     |          |
| .88        | 2000 TO 1 | 590                    | .052  | .008   | W718-2000 | 1/6                    | 590                             | I                    |                   |    |    |    |     | B4<br>B5                        | ACUT<br>CUTF                     |          |
|            |           | 1940                   | .16   | .027   | W726-2000 | 1/6                    | 1940                            | I                    |                   |    |    |    |     | B5                              | CUTF                             |          |
|            |           | 3600                   | .13   | .055   | W730-2000 | 1/6                    | 3243                            | I                    |                   |    |    |    |     | B5                              | CUTF                             |          |
|            |           | 3880                   | .22   | .054   | W732-2000 | 1/6                    | 3600                            | I                    |                   |    |    |    |     | B5                              | CUTF                             |          |
|            |           | 12610                  | .50   | .18    | W752-2000 | 1/2<br>1/3<br>1/4      | 12610<br>8810<br>5985           | I<br>II<br>III       |                   |    |    |    |     | B5<br>B5<br>B5                  | FUTF<br>EUTF<br>DUTF             |          |
|            |           | 18430                  | .66   | .26    | W760-2000 | 1/2                    | 14400                           | II                   |                   |    |    |    |     | B5                              | FUTF                             |          |
| .73        | 2400 TO 1 | 900                    | .053  | .010   | W721-2400 | 1/6                    | 900                             | I                    |                   |    |    |    |     | B5                              | CUTF                             |          |
|            |           | 3600                   | .11   | .042   | W730-2400 | 1/6                    | 3128                            | I                    |                   |    |    |    |     | B5                              | CUTF                             |          |
|            |           | 5725                   | .22   | .066   | W738-2400 | 1/4<br>1/6             | 5725<br>4320                    | I<br>II              |                   |    |    |    |     | B5<br>B5                        | DUTF<br>CUTF                     |          |
| .58        | 3000 TO 1 | 1868                   | .05   | .017   | W726-3000 | 1/6                    | 1800                            | I                    |                   |    |    |    |     | B5                              | CUTF                             |          |
|            |           | 3500                   | .092  | .033   | W730-3000 | 1/6                    | 3135                            | I                    |                   |    |    |    |     | B5                              | CUTF                             |          |
|            |           | 3750                   | .14   | .035   | W732-3000 | 1/6                    | 3750                            | I                    |                   |    |    |    |     | B5                              | CUTF                             |          |
|            |           | 11760                  | .34   | .11    | W752-3000 | 1/3<br>1/4<br>1/6      | 11760<br>8640<br>5760           | I<br>II<br>III       |                   |    |    |    |     | B5<br>B5<br>B5                  | EUTF<br>DUTF<br>CUTF             |          |
|            |           | 17280                  | .41   | .16    | W760-3000 | 1/2<br>1/3<br>1/4      | 17280<br>12270<br>8640          | I<br>II<br>III       |                   |    |    |    |     | B5<br>B5<br>B5                  | FUTF<br>EUTF<br>DUTF             |          |
| .49        | 3600 TO 1 | 3400                   | .082  | .026   | W730-3600 | 1/6                    | 3140                            | I                    |                   |    |    |    |     | B5                              | CUTF                             |          |
|            |           | 5400                   | .17   | .041   | W738-3600 | 1/6                    | 5400                            | I                    |                   |    |    |    |     | B5                              | CUTF                             |          |

\* Add "A" (for PARALLEL SHAFTS) or "C" (for RIGHT ANGLE SHAFTS) after "W" in Model Numbers. See Numbering System, Page 70.

\*\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see Pages 337 and 340.

† Shaded areas denote which styles are available for a given center distance and ratio.

# Other ratios available. Contact factory for information.

# 700 Series Double Reduction Flanged Reducer Dimensions

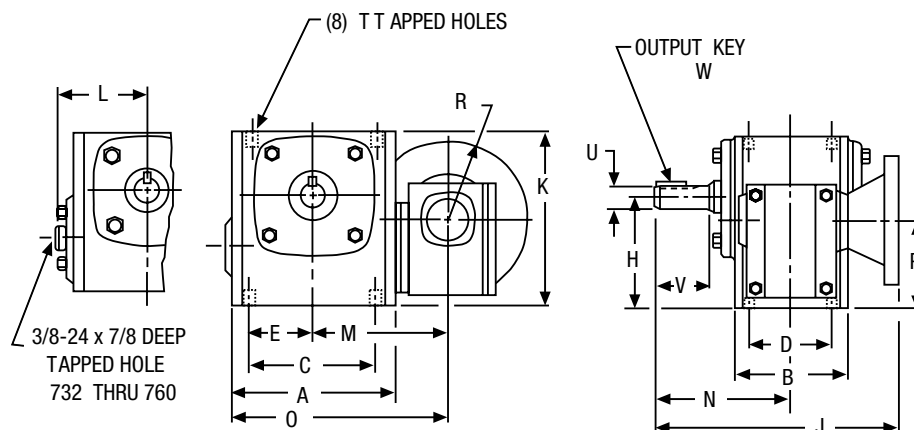
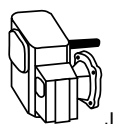
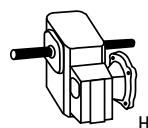
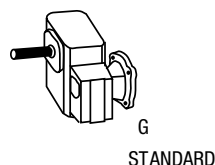
## FWA700/QCWA700 Series Flanged Quill/Flanged Coupling Types

### Basic Models (No Base); Parallel Shafts

FOR ORDERING INFORMATION, see Page 56.

FOR RATING INFORMATION, See Pages 71, 77-81.

ASSEMBLY  
TYPES\*



ALL DIMENSIONS IN INCHES

| Size | A     | B    | C     | D    | E    | H     | J-NEMA Mounting |              |               |         |              |               | K     | L    | M    | N     | O     |
|------|-------|------|-------|------|------|-------|-----------------|--------------|---------------|---------|--------------|---------------|-------|------|------|-------|-------|
|      |       |      |       |      |      |       | FWA700          |              |               | QCWA700 |              |               |       |      |      |       |       |
|      |       |      |       |      |      |       | 42CZ            | 56C<br>140TC | 180TC<br>210C | 42CZ    | 56C<br>140TC | 180TC<br>210C |       |      |      |       |       |
| 713  | 4.25  | 2.88 | 3.25  | 2.00 | 1.63 | 2.94  | 7.16            | 7.97         | —             | 7.63    | 8.59         | —             | 4.66  | —    | 3.75 | 4.00  | 5.88  |
| 718  | 5.50  | 3.69 | 4.19  | 2.75 | 2.09 | 3.69  | 7.47            | 8.28         | —             | 7.83    | 8.79         | —             | 5.75  | —    | 4.44 | 4.31  | 7.19  |
| 721  | 6.00  | 3.81 | 5.00  | 2.88 | 2.50 | 4.09  | —               | 8.66         | —             | —       | 10.73        | —             | 6.38  | —    | 4.94 | 4.69  | 7.94  |
| 726  | 7.38  | 4.44 | 6.38  | 3.38 | 3.19 | 5.06  | —               | 9.60         | —             | —       | 10.14        | —             | 8.00  | —    | 5.66 | 5.63  | 9.35  |
| 730  | 8.12  | 5.25 | 7.00  | 4.00 | 3.50 | 5.63  | —               | 11.44        | —             | —       | 12.20        | —             | 8.88  | —    | 6.12 | 6.75  | 10.18 |
| 732  | 9.00  | 5.88 | 7.50  | 4.00 | 3.75 | 5.88  | —               | 11.75        | —             | —       | 12.51        | —             | 9.38  | 4.94 | 6.48 | 7.06  | 11.00 |
| 738  | 10.00 | 6.38 | 8.50  | 4.75 | 4.25 | 6.56  | —               | 12.81        | —             | —       | 13.48        | —             | 10.44 | 5.50 | 7.27 | 7.75  | 12.27 |
| 752  | 13.13 | 7.38 | 11.00 | 5.81 | 5.50 | 8.44  | —               | 14.81        | 15.25         | —       | 16.45        | 17.37         | 13.75 | 7.19 | 9.28 | 9.06  | 15.84 |
| 760  | 14.50 | 8.13 | 12.75 | 6.38 | 6.38 | 10.00 | —               | —            | —             | —       | 18.20        | 19.13         | 16.50 | 7.94 | 9.56 | 10.00 | 16.81 |

| Size | P    | R-NEMA Mounting |              |       | T           |       | Low Speed Shaft     |      |       |         | Approx. Weight<br>(Lbs.) |      | Horizontal<br>Base Kit<br>No. † |
|------|------|-----------------|--------------|-------|-------------|-------|---------------------|------|-------|---------|--------------------------|------|---------------------------------|
|      |      | 42CZ            | 56C<br>140TC | 180TC | Tap<br>Size | Depth | U<br>+.000<br>-.001 | V    | W-Key |         | FWA                      | QCWA |                                 |
|      |      |                 |              |       |             |       |                     |      | Sq.   | Length  |                          |      |                                 |
| 713  | 2.59 | 2.16            | 3.31         | —     | 5/16-18     | .50   | .625                | 2.00 | 3/16  | 1       | 16                       | 18   | 56577                           |
| 718  | 2.94 | 2.16            | 3.31         | —     | 5/16-18     | .50   | .875                | 1.78 | 3/16  | 1       | 27                       | 30   | 56585                           |
| 721  | 3.38 | —               | 3.31         | —     | 3/8-16      | .56   | 1.000               | 2.09 | 1/4   | 1-1/4   | 37                       | 39   | 56440                           |
| 726  | 3.78 | —               | 3.31         | —     | 3/8-16      | .56   | 1.125               | 2.62 | 1/4   | 1-15/16 | 62                       | 62   | 56595                           |
| 730  | 4.38 | —               | 3.31         | —     | 7/16-14     | .88   | 1.250               | 3.25 | 1/4   | 2-1/4   | 85                       | 91   | 65544                           |
| 732  | 4.38 | —               | 3.31         | —     | 7/16-14     | .66   | 1.375               | 3.25 | 5/16  | 2-7/16  | 104                      | 119  | 56599                           |
| 738  | 4.88 | —               | 3.31         | —     | 1/2-13      | .75   | 1.625               | 3.50 | 3/8   | 2-1/4   | 142                      | 158  | 56603                           |
| 752  | 5.88 | —               | 3.31         | 4.63  | 5/8-11      | 1.00  | 2.000               | 4.16 | 1/2   | 2-15/16 | 247                      | 267  | 56607                           |
| 760  | 7.25 | —               | 3.31         | 4.63  | 5/8-11      | 1.00  | 2.250               | 4.56 | 1/2   | 3-3/8   | —                        | 340  | 56610                           |

\* See Assemblies and Mounting Positions, Page 72.

† For Base Kits, see Page 129.

**Note:** For base dimensions see Single Reduction Flanged Reducer Dimension pages.

# 700 Series Double Reduction Flanged Reducer Dimensions

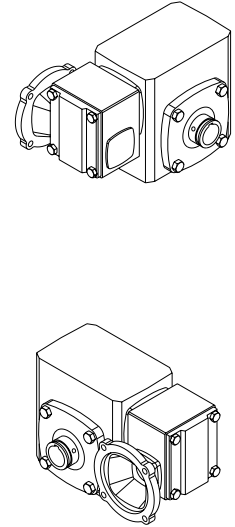
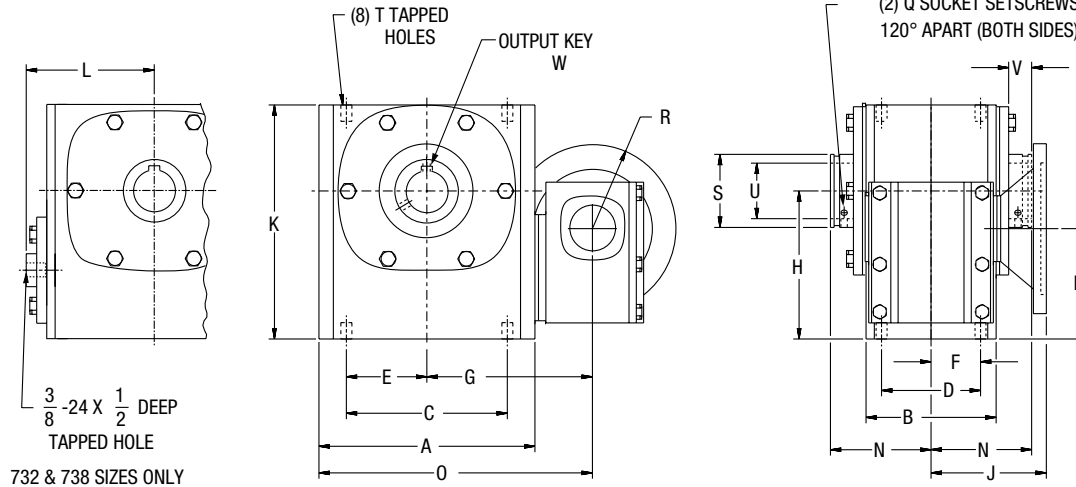
## HFWA700/HQCWA700 Series Flanged Quill/Flanged Coupling Types

Basic Models (No Base); Parallel Shafts; Bored to Size Hollow Output

FOR ORDERING INFORMATION, see Page 56.

FOR RATING INFORMATION, See Pages 71, 77-81.

### ASSEMBLY TYPES\*



ALL DIMENSIONS IN INCHES

| Size | A     | B    | C    | D    | E    | F    | G    | H    | J-NEMA Mounting |              |         |              | K     | L    | N    |
|------|-------|------|------|------|------|------|------|------|-----------------|--------------|---------|--------------|-------|------|------|
|      |       |      |      |      |      |      |      |      | FWA700          |              | QCWA700 |              |       |      |      |
|      |       |      |      |      |      |      |      |      | 42CZ            | 56C<br>140TC | 42CZ    | 56C<br>140TC |       |      |      |
| 713  | 4.25  | 2.88 | 3.25 | 2.00 | 1.63 | 1.00 | 3.75 | 2.94 | 3.16            | 3.94         | 4.15    | 5.01         | 4.66  | —    | 2.50 |
| 718  | 5.50  | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | 4.44 | 3.69 | 3.16            | 3.94         | 4.15    | 5.01         | 5.75  | —    | 3.03 |
| 721  | 6.00  | 3.81 | 5.00 | 2.88 | 2.50 | 1.44 | 4.94 | 4.09 | —               | 3.94         | —       | 5.46         | 6.38  | —    | 3.22 |
| 726  | 7.38  | 4.44 | 6.38 | 3.38 | 3.19 | 1.69 | 5.66 | 5.06 | —               | 3.94         | —       | 5.46         | 8.00  | —    | 3.44 |
| 730  | 8.12  | 5.25 | 7.00 | 4.00 | 3.50 | 2.00 | 6.12 | 5.63 | —               | 4.69         | —       | 6.29         | 8.88  | —    | 4.19 |
| 732  | 9.00  | 5.88 | 7.50 | 4.00 | 3.75 | 2.00 | 6.48 | 5.88 | —               | 4.69         | —       | 6.29         | 9.38  | 4.94 | 4.31 |
| 738  | 10.00 | 6.38 | 8.50 | 4.75 | 4.25 | 2.38 | 7.27 | 6.56 | —               | 5.06         | —       | 6.76         | 10.44 | 5.50 | 4.81 |

| Size | O     | P    | Q       | R-NEMA Mounting |           | S    | T        |       | Low Speed Shaft      |      |                 |        | Approx. Weight (LBS.) |       |
|------|-------|------|---------|-----------------|-----------|------|----------|-------|----------------------|------|-----------------|--------|-----------------------|-------|
|      |       |      |         | 42CZ            | 56C 140TC |      | Tap Size | Depth | Max U +.0015 - .0000 | V    | W-Key           |        |                       |       |
|      |       |      |         |                 |           |      |          |       |                      |      | Sq.             | Length | HFWA                  | HQCWA |
| 713  | 5.88  | 2.59 | #10-32  | 2.16            | 3.31      | .88  | 5/16-18  | .50   | .625                 | .68  |                 |        | 17                    | 19    |
| 718  | 7.19  | 2.94 | #10-32  | 2.16            | 3.31      | 1.38 | 5/16-18  | .50   | 1.000                | .74  |                 |        | 27                    | 31    |
| 721  | 7.94  | 3.38 | 1/4-28  | —               | 3.31      | 1.94 | 3/8-16   | .56   | 1.4375               | .87  | See Page        |        | 37                    | 39    |
| 726  | 9.35  | 3.78 | 5/16-24 | —               | 3.31      | 2.50 | 3/8-16   | .56   | 1.9375               | .78  | 128 For         |        | 60                    | 67    |
| 730  | 10.18 | 4.38 | 5/16-24 | —               | 3.31      | 2.88 | 7/16-14  | .88   | 2.1875               | 1.11 | Key Information |        | 82                    | 95    |
| 732  | 11.00 | 4.38 | 5/16-24 | —               | 3.31      | 2.88 | 7/16-14  | .66   | 2.1875               | .93  |                 |        | 104                   | 121   |
| 738  | 12.27 | 4.88 | 5/16-24 | —               | 3.31      | 3.25 | 1/2-13   | .75   | 2.4375               | 1.11 |                 |        | 149                   | 166   |

\* See Assemblies and Mounting Positions, Page 72.

Input may be rotated clockwise or counterclockwise.

**Note:** For base dimensions see Single Reduction Flanged Reducer Dimension pages. See Page 128 for available bore sizes.



# 700 Series Double Reduction Flanged Reducer Dimensions

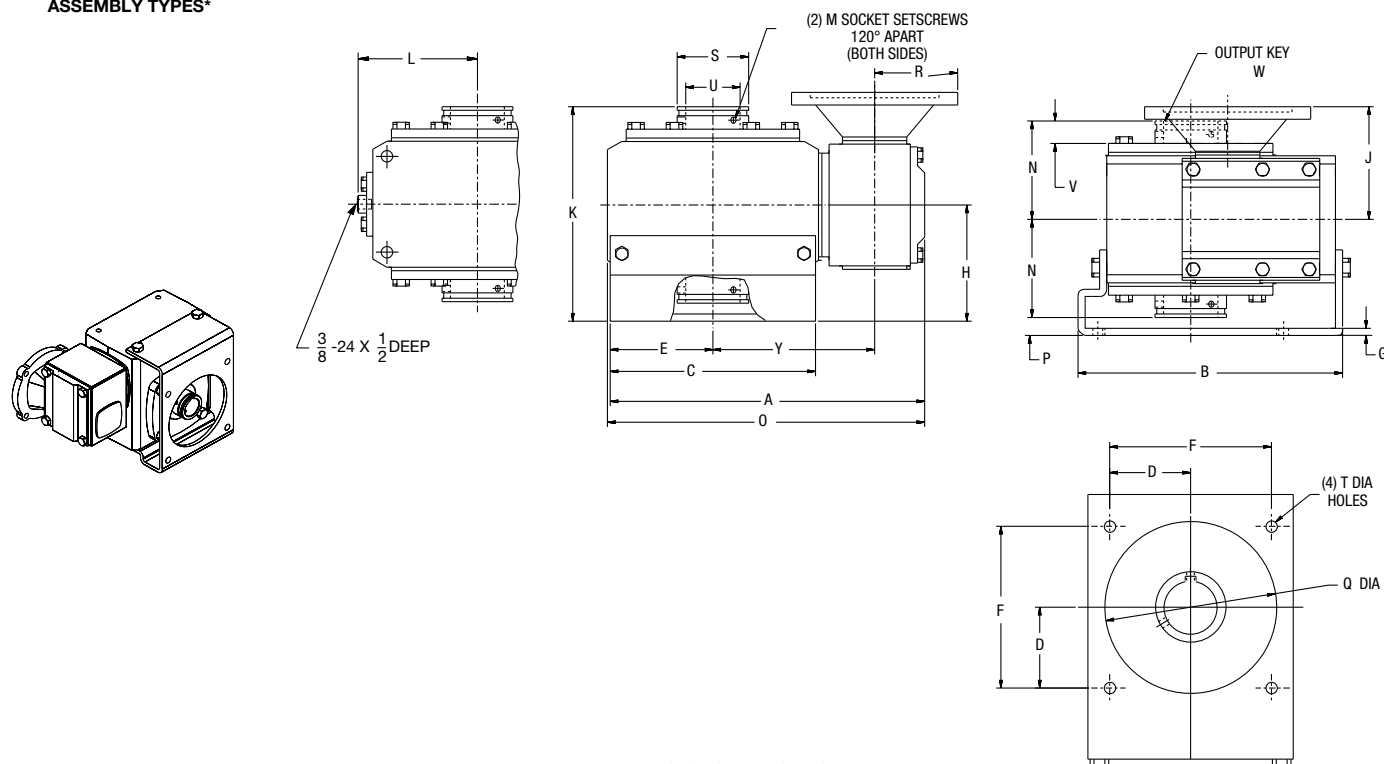
## HFWA700/HQCWA700 Series Flanged Quill/Flanged Coupling Types

### R Position Mounting Bracket; Parallel Shafts; Bored to Size Hollow Output

FOR ORDERING INFORMATION, see Page 56.

FOR RATING INFORMATION, See Pages 71, 77-81.

#### ASSEMBLY TYPES\*



ALL DIMENSIONS IN INCHES

| Size | A     | B     | C    | D    | E    | F    | G   | H    | J-NEMA Mounting |              |          |              | K     | L    | M       | N    |
|------|-------|-------|------|------|------|------|-----|------|-----------------|--------------|----------|--------------|-------|------|---------|------|
|      |       |       |      |      |      |      |     |      | HFWA700         |              | HQCWA700 |              |       |      |         |      |
|      |       |       |      |      |      |      |     |      | 42CZ            | 56C<br>140TC | 42CZ     | 56C<br>140TC |       |      |         |      |
| 713  | 7.40  | 5.55  | 4.25 | 1.77 | 2.12 | 3.54 | .19 | 3.00 | 3.16            | 3.94         | 4.15     | 5.01         | 5.50  | —    | #10-32  | 2.50 |
| 718  | 8.38  | 6.66  | 4.81 | 2.08 | 2.41 | 4.16 | .19 | 3.50 | 3.16            | 3.94         | 4.15     | 5.01         | 6.53  | —    | #10-32  | 3.03 |
| 721  | 9.57  | 7.47  | 5.75 | 2.30 | 2.88 | 4.60 | .19 | 3.75 | —               | 3.94         | —        | 5.46         | 6.97  | —    | 1/4-28  | 3.22 |
| 726  | 11.00 | 9.25  | 7.18 | 2.83 | 3.59 | 5.66 | .25 | 4.06 | —               | 3.94         | —        | 5.46         | 7.50  | —    | 5/16-24 | 3.44 |
| 730  | 12.39 | 10.38 | 8.00 | 3.18 | 4.00 | 6.36 | .25 | 4.50 | —               | 4.69         | —        | 6.29         | 8.69  | —    | 5/16-24 | 4.19 |
| 732  | 13.44 | 10.91 | 8.50 | 3.54 | 4.25 | 7.08 | .25 | 5.25 | —               | 4.69         | —        | 6.29         | 9.56  | 4.94 | 5/16-24 | 4.31 |
| 738  | 14.91 | 11.84 | 9.50 | 4.06 | 4.75 | 8.12 | .25 | 5.47 | —               | 5.06         | —        | 6.76         | 10.28 | 5.50 | 5/16-24 | 4.81 |

| Size | O     | P   | Q    | R-NEMA Mounting |           | S    | T Holes | Low Speed Shaft     |      |                 |        | Y   | Approx. Weight (LBS.) |       |
|------|-------|-----|------|-----------------|-----------|------|---------|---------------------|------|-----------------|--------|-----|-----------------------|-------|
|      |       |     |      | 42CZ            | 56C 140TC |      |         | Max U +.0015 -.0000 | V    | W-Key           |        |     | HFWA                  | HQCWA |
|      |       |     |      |                 |           |      |         |                     |      | Size            | Length |     |                       |       |
| 713  | 7.41  | .50 | 3.62 | 2.16            | 3.31      | .88  | 11/32   | .625                | .68  |                 | 3.75   | 18  | 20                    |       |
| 718  | 8.72  | .47 | 4.06 | 2.16            | 3.31      | 1.38 | 11/32   | 1.000               | .74  |                 | 4.44   | 30  | 36                    |       |
| 721  | 9.69  | .53 | 4.50 | —               | 3.31      | 1.94 | 13/32   | 1.4375              | .87  | See Page        | 4.94   | 42  | 47                    |       |
| 726  | 11.09 | .62 | 6.00 | —               | 3.31      | 2.50 | 13/32   | 1.9375              | .78  | 128 For         | 5.66   | 56  | 80                    |       |
| 730  | 12.45 | .31 | 7.00 | —               | 3.31      | 2.88 | 13/32   | 2.1875              | 1.10 | Key Information | 6.12   | 95  | 116                   |       |
| 732  | 13.69 | .94 | 7.00 | —               | 3.31      | 2.88 | 9/16    | 2.1875              | .93  |                 | 6.48   | 134 | 151                   |       |
| 738  | 15.16 | .66 | 8.00 | —               | 3.31      | 3.25 | 9/16    | 2.4375              | 1.11 |                 | 7.27   | 178 | 200                   |       |

\* See Assemblies and Mounting Positions, Page 72.

See Page 128 for available bore sizes.

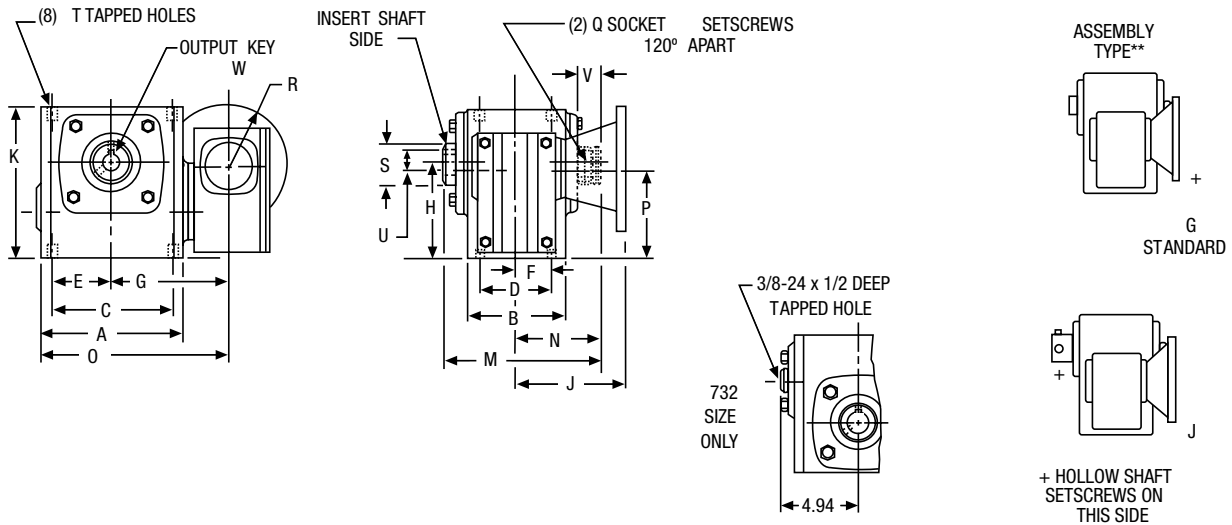
Input may be rotated clockwise or counterclockwise.

# 700 Series Double Reduction Flanged Reducer Dimensions

## SFWA700 Series Flanged Quill Type Basic Models (No Base); Parallel Shafts; Hollow Output

FOR ORDERING INFORMATION, see Page 56.

FOR ADDITIONAL SIZES, See the H Series Pages 88-89.  
FOR RATING INFORMATION, See Pages 71, 77-81.



ALL DIMENSIONS IN INCHES

| Size | A    | B    | C    | D    | E    | F    | G    | H    | J-NEMA Mounting |              | K    | M    | N    |
|------|------|------|------|------|------|------|------|------|-----------------|--------------|------|------|------|
|      |      |      |      |      |      |      |      |      | SFWA            |              |      |      |      |
|      |      |      |      |      |      |      |      |      | 42CZ            | 56C<br>140TC |      |      |      |
| 718  | 5.50 | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | 4.44 | 3.69 | 3.16            | 3.94         | 5.75 | 5.47 | 3.09 |
| 721  | 6.00 | 3.81 | 5.00 | 2.88 | 2.50 | 1.44 | 4.94 | 4.09 | —               | 3.94         | 6.38 | 5.69 | 3.22 |
| 726  | 7.38 | 4.44 | 6.38 | 3.38 | 3.19 | 1.69 | 5.66 | 5.06 | —               | 3.94         | 8.00 | 6.28 | 3.50 |
| 732  | 9.00 | 5.88 | 7.50 | 4.00 | 3.75 | 2.00 | 6.48 | 5.88 | —               | 4.69         | 9.38 | 7.88 | 4.38 |

| Size | O     | P    | Q       | R-NEMA Mounting |              | S    | T           |       | Low Speed Shaft      |      |                 |        | Approx. Weight |
|------|-------|------|---------|-----------------|--------------|------|-------------|-------|----------------------|------|-----------------|--------|----------------|
|      |       |      |         | 42CZ            | 56C<br>140TC |      | Tap<br>Size | Depth | U<br>+.0015<br>-.000 | V    | W-Key           |        | (LBS.)         |
|      |       |      |         |                 |              |      |             |       |                      |      | Sq.             | Length | SFWA           |
| 718  | 7.19  | 2.94 | #10-32  | 2.16            | 3.31         | 1.38 | 5/16-18     | .50   | 1.000                | .78  | See Page        |        | 26             |
| 721  | 7.94  | 3.38 | 1/4-28  | —               | 3.31         | 1.50 | 3/8-16      | .56   | 1.125                | .88  | 128 For         |        | 35             |
| 726  | 9.34  | 3.78 | 1/4-28  | —               | 3.31         | 2.16 | 3/8-16      | .56   | 1.4375               | .84  | Key Information |        | 57             |
| 732  | 11.00 | 4.38 | 5/16-24 | —               | 3.31         | 2.56 | 7/16-14     | .66   | 1.9375               | 1.00 |                 |        | 99             |

\*\* Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounted surfaces.  
Input may be rotated clockwise or counterclockwise.

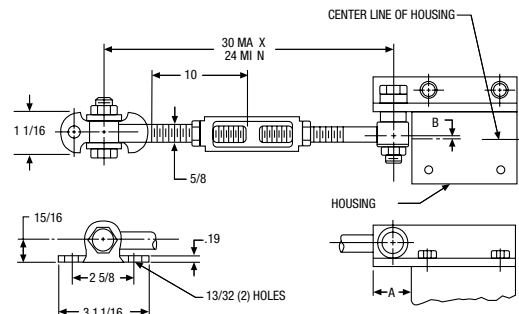
**Note:** For base dimensions see Single Reduction Flanged Reducer Dimension pages.  
See Assemblies and Mounting Positions, Page 72.

## Reaction Rod Kits

ALL DIMENSIONS IN INCHES

| Size | A    | B   | Catalog Number | Kit No. |
|------|------|-----|----------------|---------|
| 718  | 1.09 | .09 | X718-76K       | 69692   |
| 721  | 1.25 | .03 | X721-76K       | 69693   |
| 726  | 1.25 | .22 | X726-76K       | 69694   |
| 732  | 1.50 | .53 | X732-76K       | 69695   |

All hardware shown is included in the kits.



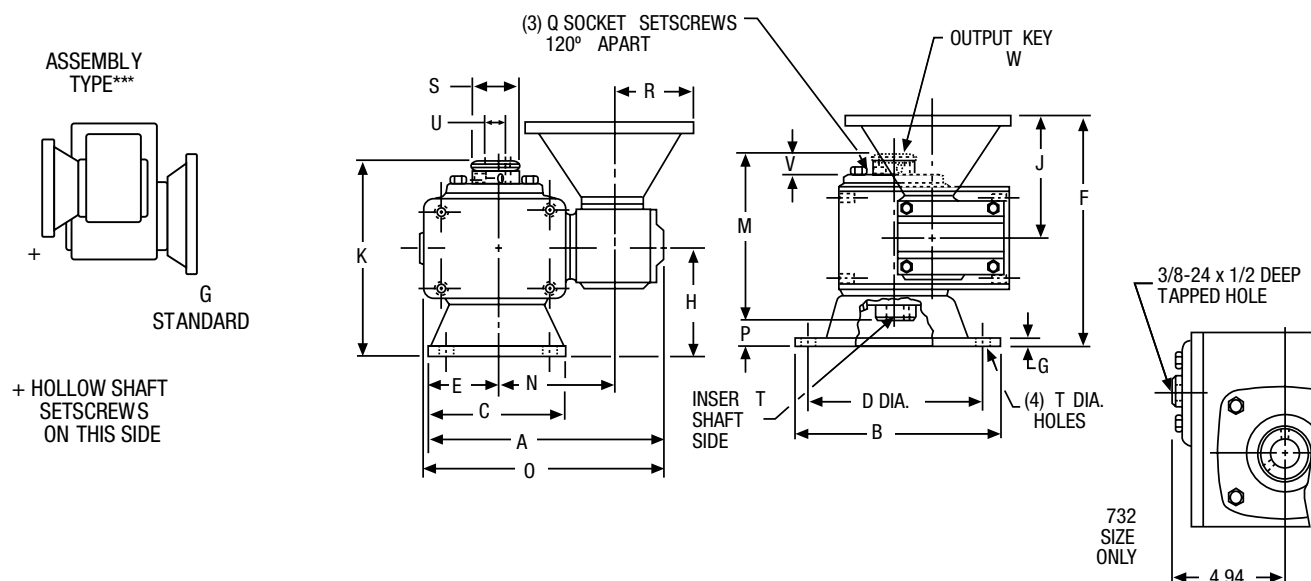
# 700 Series Double Reduction Flanged Reducer Dimensions

## SFWA700 Series Flanged Quill Type

### V Position Mounting Flange; Parallel Shafts; Hollow Output

FOR ORDERING INFORMATION, see Page 56.

FOR ADDITIONAL SIZES, See the H Series Pages 88-89.  
FOR RATING INFORMATION, See Pages 71, 77-81.



ALL DIMENSIONS IN INCHES

| Size | A     | B     | C    | D DIA. | E    | G   | H    | J-NEMA Mounting |              | K    | M    | N    |
|------|-------|-------|------|--------|------|-----|------|-----------------|--------------|------|------|------|
|      |       |       |      |        |      |     |      | SFWA            |              |      |      |      |
|      |       |       |      |        |      |     |      | 42CZ            | 56C<br>140TC |      |      |      |
| 718  | 8.41  | 6.75  | 4.88 | 5.88   | 2.44 | .38 | 3.50 | 3.16            | 3.94         | 6.59 | 5.69 | 4.44 |
| 721  | 9.56  | 7.38  | 5.75 | 6.50   | 2.88 | .38 | 3.75 | —               | 3.94         | 6.97 | 5.88 | 4.94 |
| 726  | 11.28 | 8.88  | 7.75 | 8.00   | 3.88 | .38 | 4.06 | —               | 3.94         | 7.56 | 6.47 | 5.66 |
| 732  | 13.25 | 11.00 | 9.00 | 10.00  | 4.50 | .50 | 5.25 | —               | 4.69         | 9.63 | 8.06 | 6.48 |

| Size | O     | P    | Q       | R-NEMA Mounting |              | S    | T<br>Holes | Low Speed Shaft      |      |                 |        | Approx. Weight<br>(LBS.) |
|------|-------|------|---------|-----------------|--------------|------|------------|----------------------|------|-----------------|--------|--------------------------|
|      |       |      |         | 42CZ            | 56C<br>140TC |      |            | U<br>+.0015<br>-.000 | V    | W-Key           |        |                          |
|      |       |      |         |                 |              |      |            |                      |      | Size            | Length | SFWA                     |
| 718  | 8.72  | .91  | #10-32  | 2.16            | 3.31         | 1.38 | 11/32      | 1.000                | .78  | See Page        |        | 29                       |
| 721  | 9.69  | 1.09 | 1/4-28  | —               | 3.31         | 1.50 | 13/32      | 1.125                | .88  | 128 For         |        | 40                       |
| 726  | 11.09 | 1.09 | 1/4-28  | —               | 3.31         | 2.16 | 13/32      | 1.4375               | .84  | Key Information |        | 53                       |
| 732  | 13.25 | 1.56 | 5/16-24 | —               | 3.31         | 2.56 | 9/16       | 1.9375               | 1.00 |                 |        | 128                      |

\*Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft. See Assemblies and Mounting Positions, Page 72.

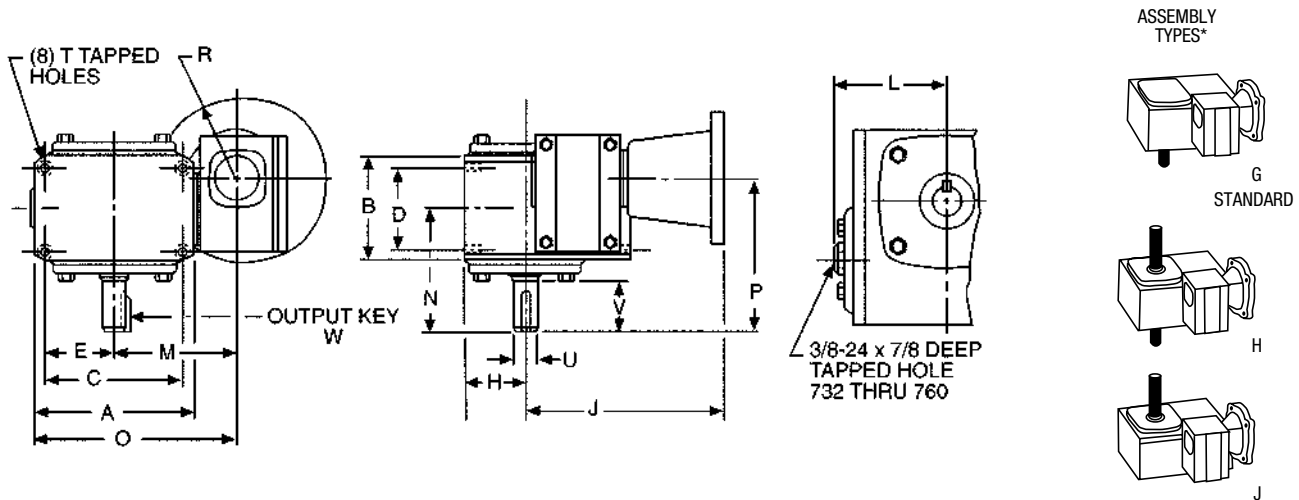
# 700 Series Double Reduction Flanged Reducer Dimensions

## FWC700/QCWC700 Series Flanged Quill/Flanged Coupling Types

### Basic Models (No Base); Right Angle Shafts

FOR ORDERING INFORMATION, see Page 56.

FOR RATING INFORMATION, See Pages 71, 77-81.



ALL DIMENSIONS IN INCHES

| Size | A     | B    | C     | D    | E    | H    | J-NEMA Mounting |              |               |         |              |               | L    | M    | N     | O     |
|------|-------|------|-------|------|------|------|-----------------|--------------|---------------|---------|--------------|---------------|------|------|-------|-------|
|      |       |      |       |      |      |      | FWC700          |              |               | QCWC700 |              |               |      |      |       |       |
|      |       |      |       |      |      |      | 42CZ            | 56C<br>140TC | 180TC<br>210C | 42CZ    | 56C<br>140TC | 180TC<br>210C |      |      |       |       |
| 713  | 4.25  | 2.88 | 3.25  | 2.00 | 1.63 | 1.72 | 4.49            | 5.30         | —             | 5.48    | 6.35         | —             | —    | 3.75 | 4.00  | 5.88  |
| 718  | 5.50  | 3.69 | 4.19  | 2.75 | 2.09 | 2.06 | 4.91            | 5.72         | —             | 5.90    | 6.76         | —             | —    | 4.44 | 4.31  | 7.19  |
| 721  | 6.00  | 3.81 | 5.00  | 2.88 | 2.50 | 2.28 | —               | 6.00         | —             | —       | 7.52         | —             | —    | 4.94 | 4.69  | 7.94  |
| 726  | 7.38  | 4.44 | 6.38  | 3.38 | 3.19 | 2.94 | —               | 6.56         | —             | —       | 9.22         | —             | —    | 5.66 | 5.63  | 9.35  |
| 730  | 8.12  | 5.25 | 7.00  | 4.00 | 3.50 | 3.25 | —               | 7.69         | —             | —       | 9.29         | —             | —    | 6.12 | 6.75  | 10.18 |
| 732  | 9.00  | 5.88 | 7.50  | 4.00 | 3.75 | 3.50 | —               | 7.94         | —             | —       | 9.54         | —             | 4.94 | 6.48 | 7.06  | 10.98 |
| 738  | 10.00 | 6.38 | 8.50  | 4.75 | 4.25 | 3.88 | —               | 8.81         | —             | —       | 10.51        | —             | 5.50 | 7.27 | 7.75  | 12.27 |
| 752  | 13.13 | 7.38 | 11.00 | 5.81 | 5.50 | 5.31 | —               | 11.00        | 11.34         | —       | 12.64        | 13.55         | 7.19 | 9.28 | 9.06  | 15.84 |
| 760  | 14.50 | 8.12 | 12.75 | 6.38 | 6.38 | 6.50 | —               | —            | —             | —       | 14.70        | 15.12         | 7.94 | 9.56 | 10.00 | 16.81 |

| Size | P     | R-NEMA Mounting |              |               | T        |       | Low Speed Shaft     |      |       |         | Approx. Weight (LBS.) |      | Vertical Base Kit No. † |       |
|------|-------|-----------------|--------------|---------------|----------|-------|---------------------|------|-------|---------|-----------------------|------|-------------------------|-------|
|      |       | 42CZ            | 56C<br>140TC | 180TC<br>210C | Tap Size | Depth | U<br>+.000<br>-.001 | V    | W-Key |         | FWA                   | QCWC | High                    | Low   |
|      |       |                 |              |               |          |       |                     |      | Sq.   | Length  |                       |      |                         |       |
| 713  | 5.00  | 2.16            | 3.31         | —             | 5/16-18  | .50   | .625                | 2.00 | 3/16  | 1       | 16                    | 18   | 56578                   | 56579 |
| 718  | 5.31  | 2.16            | 3.31         | —             | 5-16-18  | .50   | .875                | 1.78 | 3/16  | 1       | 27                    | 30   | 56582                   | 56583 |
| 721  | 6.03  | —               | 3.31         | —             | 3/8-16   | .56   | 1.000               | 2.09 | 1/4   | 1-1/4   | 37                    | 39   | 56588                   | 56589 |
| 726  | 6.97  | —               | 3.31         | —             | 3/8-16   | .56   | 1.125               | 2.62 | 1/4   | 1-15/16 | 62                    | 62   | 56596                   | 56597 |
| 730  | 8.50  | —               | 3.31         | —             | 7/16-14  | .88   | 1.250               | 3.25 | 1/4   | 2-1/4   | 83                    | 91   | 65545                   | 65546 |
| 732  | 8.81  | —               | 3.31         | —             | 7/16-14  | .66   | 1.375               | 3.25 | 5/16  | 2-7/16  | 103                   | 119  | 56600                   | 56601 |
| 738  | 9.81  | —               | 3.31         | —             | 1/2-13   | .75   | 1.625               | 3.50 | 3/8   | 2-1/4   | 142                   | 158  | 56604                   | 56605 |
| 752  | 11.69 | —               | 3.31         | 4.63          | 5/8-11   | 1.00  | 2.000               | 4.16 | 1/2   | 2-15/16 | 247                   | 267  | 56608                   | 56609 |
| 760  | 13.25 | —               | 3.31         | 4.63          | 5/8-11   | 1.00  | 2.250               | 4.56 | 1/2   | 3-3/8   | —                     | 340  | 56611                   | 56612 |

\* See Assemblies and Mounting Positions, Page 73.

† For Base Kits, see Page 129.

# 700 Series Double Reduction Flanged Reducer Dimensions

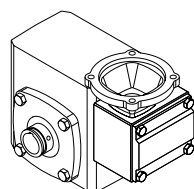
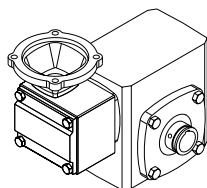
## HFWC700/HQCWC700 Series Flanged Quill/Flanged Coupling Types

### Basic Models (No Base); Right Angle Shafts; Bored to Size Hollow Output

FOR ORDERING INFORMATION, see Page 56.

FOR RATING INFORMATION, See Pages 71, 77-81.

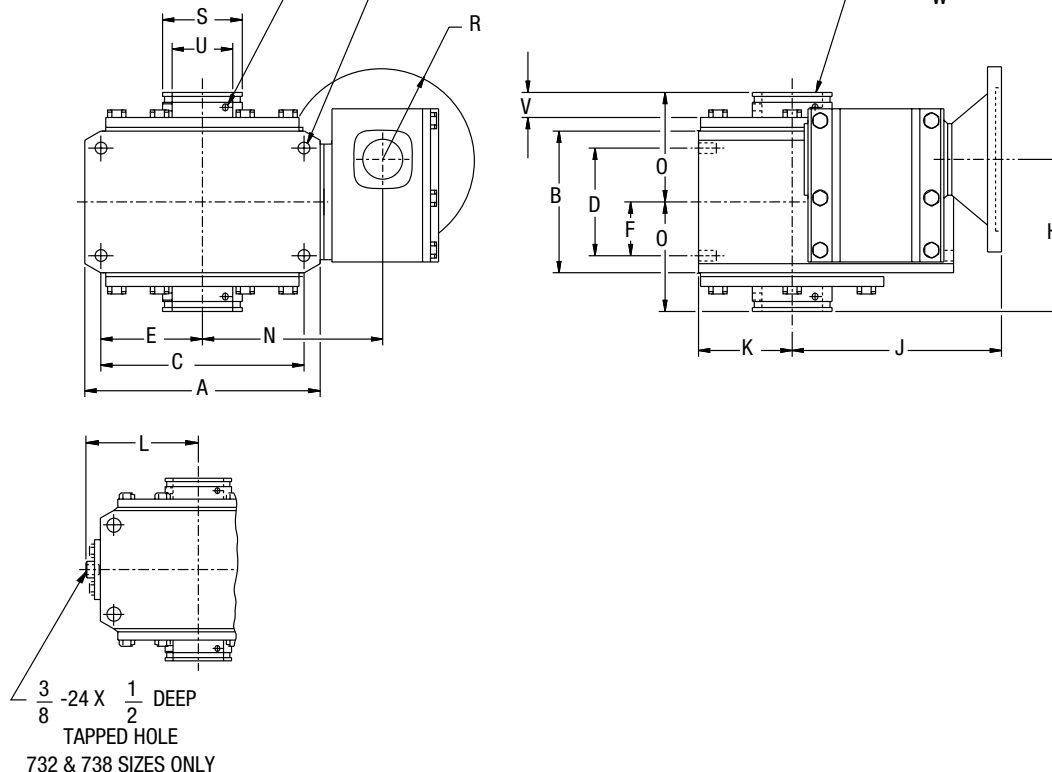
ASSEMBLY TYPES\*



(2) G SOCKET SETSCREWS  
120° APART (BOTH SIDES)

(8) T TAPPED HOLES

OUTPUT KEY  
W



ALL DIMENSIONS IN INCHES

| Size | A     | B    | C    | D    | E    | F    | G       | H    | J-NEMA Mounting |           |       |           | K    | L    |
|------|-------|------|------|------|------|------|---------|------|-----------------|-----------|-------|-----------|------|------|
|      |       |      |      |      |      |      |         |      | HFWC            |           | HQCWC |           |      |      |
|      |       |      |      |      |      |      |         |      | 42CZ            | 56C 140TC | 42CZ  | 56C 140TC |      |      |
| 713  | 4.25  | 2.88 | 3.25 | 2.00 | 1.63 | 1.00 | #10-32  | 3.50 | 4.49            | 5.30      | 5.48  | 6.35      | 1.72 | —    |
| 718  | 5.50  | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | #10-32  | 4.03 | 4.91            | 5.72      | 5.90  | 6.76      | 2.06 | —    |
| 721  | 6.00  | 3.81 | 5.00 | 2.88 | 2.50 | 1.44 | 1/4-28  | 4.55 | —               | 6.00      | —     | 7.52      | 2.28 | —    |
| 726  | 7.38  | 4.44 | 6.38 | 3.38 | 3.19 | 1.69 | 5/16-24 | 4.77 | —               | 6.56      | —     | 9.22      | 2.94 | —    |
| 730  | 8.12  | 5.25 | 7.00 | 4.00 | 3.50 | 2.00 | 5/16-24 | 5.94 | —               | 7.69      | —     | 9.29      | 3.25 | —    |
| 732  | 9.00  | 5.88 | 7.50 | 4.00 | 3.75 | 2.00 | 5/16-24 | 6.06 | —               | 7.94      | —     | 9.54      | 3.50 | 4.94 |
| 738  | 10.00 | 6.38 | 8.50 | 4.75 | 4.25 | 2.38 | 5/16-24 | 6.87 | —               | 8.81      | —     | 10.51     | 3.88 | 5.50 |

| Size | N    | O    | R-NEMA Mounting |           | S    | T        |       | Low Speed Shaft     |      |                 | Approx. Weight (LBS.) |      |       |
|------|------|------|-----------------|-----------|------|----------|-------|---------------------|------|-----------------|-----------------------|------|-------|
|      |      |      | 42CZ            | 56C 140TC |      | Tap Size | Depth | Max U +.0015 -.0000 | V    | W-Key           |                       | HFWC | HQCWC |
|      |      |      |                 |           |      |          |       |                     |      | Size            | Length                |      |       |
| 713  | 3.75 | 2.50 | 2.16            | 3.31      | .88  | 5/16-18  | .50   | .625                | .68  |                 |                       | 17   | 19    |
| 718  | 4.44 | 3.03 | 2.16            | 3.31      | 1.38 | 5/16-18  | .50   | 1.000               | .74  |                 |                       | 27   | 31    |
| 721  | 4.94 | 3.22 | —               | 3.31      | 1.94 | 3/8-16   | .56   | 1.4375              | .87  | See Page        |                       | 37   | 39    |
| 726  | 5.66 | 3.44 | —               | 3.31      | 2.50 | 3/8-16   | .56   | 1.9375              | .78  | 128 For         |                       | 60   | 67    |
| 730  | 6.12 | 4.19 | —               | 3.31      | 2.88 | 7/16-14  | .88   | 2.1875              | 1.10 | Key Information |                       | 82   | 95    |
| 732  | 6.48 | 4.31 | —               | 3.31      | 2.88 | 7/16-14  | .66   | 2.1875              | .93  |                 |                       | 104  | 121   |
| 738  | 7.27 | 4.81 | —               | 3.31      | 3.25 | 1/2-13   | .75   | 2.4375              | 1.11 |                 |                       | 149  | 166   |

\* See Assemblies and Mounting Positions, Page 73.

**Note:** For base dimensions see Single Reduction Flanged Reducer Dimension pages. See Page 128 for available bore sizes.

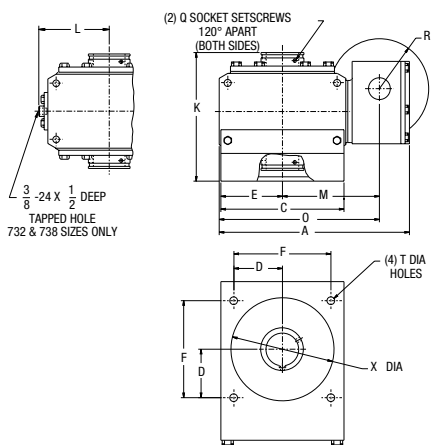
# 700 Series Double Reduction Flanged Reducer Dimensions

## HFWC700/HQCWC700 Series Flanged Quill/Flanged Coupling Types

R/L Position Mounting Bracket; Right Angle Shafts; Bored to Size Hollow Output

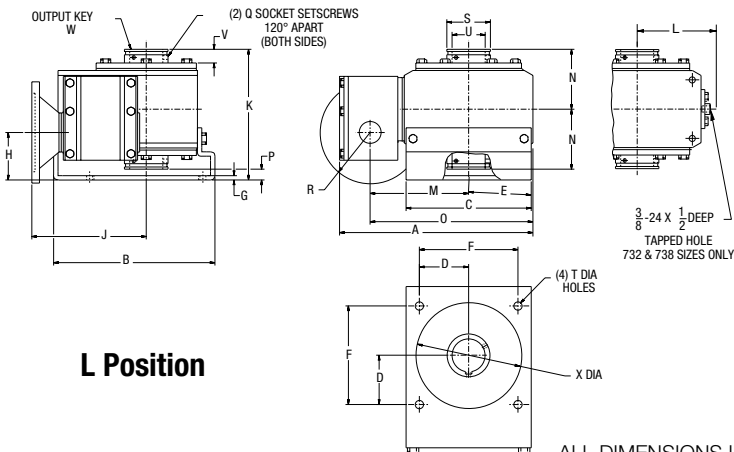
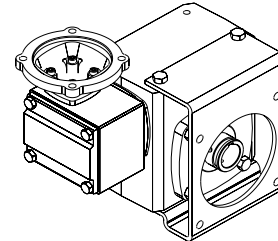
FOR ORDERING INFORMATION, see Page 56.

FOR RATING INFORMATION, See Pages 71, 77-81.

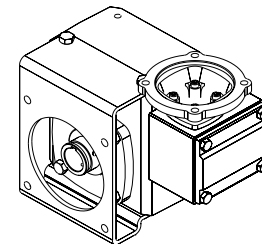


R Position

ASSEMBLY TYPES\*



L Position



ALL DIMENSIONS IN INCHES

| Size | A     | B     | C    | D    | E    | F    | G   | H          |            | J-NEMA Mounting |              |       |              | K     | L    | M    |
|------|-------|-------|------|------|------|------|-----|------------|------------|-----------------|--------------|-------|--------------|-------|------|------|
|      |       |       |      |      |      |      |     | R<br>Model | L<br>Model | HFWC            |              | HQCWC |              |       |      |      |
|      |       |       |      |      |      |      |     |            |            | 42CZ            | 56C<br>140TC | 42CZ  | 56C<br>140TC |       |      |      |
| 713  | 7.41  | 5.55  | 4.24 | 1.77 | 2.12 | 3.54 | .19 | 4.00       | 2.00       | 4.49            | 5.30         | 5.48  | 6.35         | 5.50  | —    | 3.75 |
| 718  | 8.72  | 6.66  | 5.00 | 2.08 | 2.41 | 4.16 | .19 | 4.50       | 2.50       | 4.91            | 5.72         | 5.90  | 6.76         | 6.53  | —    | 4.44 |
| 721  | 9.69  | 7.47  | 5.76 | 2.30 | 2.88 | 4.60 | .19 | 5.08       | 2.42       | —               | 6.00         | —     | 7.52         | 6.97  | —    | 4.94 |
| 726  | 11.09 | 9.25  | 7.18 | 2.83 | 3.59 | 5.66 | .25 | 5.39       | 2.73       | —               | 6.56         | —     | 9.22         | 7.50  | —    | 5.66 |
| 730  | 12.45 | 10.38 | 8.00 | 3.18 | 4.00 | 6.36 | .25 | 6.25       | 2.75       | —               | 7.69         | —     | 9.29         | 8.69  | —    | 6.12 |
| 732  | 13.69 | 10.91 | 8.50 | 3.54 | 4.25 | 7.08 | .25 | 7.00       | 3.50       | —               | 7.94         | —     | 9.54         | 9.56  | 4.94 | 6.48 |
| 738  | 15.16 | 11.84 | 9.50 | 4.06 | 4.75 | 8.12 | .25 | 7.53       | 3.41       | —               | 8.81         | —     | 10.51        | 10.28 | 5.50 | 7.27 |

| Size | N    | O     | P   | Q       | R-NEMA Mounting |           | S    | T Holes | Low Speed Shaft      |      |                                  |        | X   | Approx. Weight (LBS.) |       |
|------|------|-------|-----|---------|-----------------|-----------|------|---------|----------------------|------|----------------------------------|--------|-----|-----------------------|-------|
|      |      |       |     |         | 42CZ            | 56C 140TC |      |         | Max U +.0015 - .0000 | V    | W-Key                            |        |     | HFWC                  | HQCWC |
|      |      |       |     |         |                 |           |      |         |                      |      | Size                             | Length |     |                       |       |
| 713  | 2.50 | 5.87  | .50 | #10-32  | 2.16            | 3.31      | .88  | 11/32   | .625                 | .68  |                                  | 3.62   | 18  | 20                    |       |
| 718  | 3.03 | 7.19  | .47 | #10-32  | 2.16            | 3.31      | 1.38 | 11/32   | 1.000                | .74  |                                  | 4.06   | 30  | 36                    |       |
| 721  | 3.22 | 7.94  | .53 | 1/4-28  | —               | 3.31      | 1.94 | 13/32   | 1.4375               | .87  | See Page 128 For Key Information | 4.50   | 42  | 47                    |       |
| 726  | 3.44 | 9.35  | .62 | 5/16-24 | —               | 3.31      | 2.50 | 13/32   | 1.9375               | .78  |                                  | 6.00   | 56  | 80                    |       |
| 730  | 4.19 | 10.18 | .31 | 5/16-24 | —               | 3.31      | 2.88 | 13/32   | 2.1875               | 1.10 | Key Information                  | 7.00   | 95  | 116                   |       |
| 732  | 4.31 | 10.98 | .94 | 5/16-24 | —               | 3.31      | 2.88 | 9/16    | 2.1875               | .93  |                                  | 7.00   | 134 | 151                   |       |
| 738  | 4.81 | 12.27 | .66 | 5/16-24 | —               | 3.31      | 3.25 | 9/16    | 2.4375               | 1.11 |                                  | 8.00   | 178 | 200                   |       |

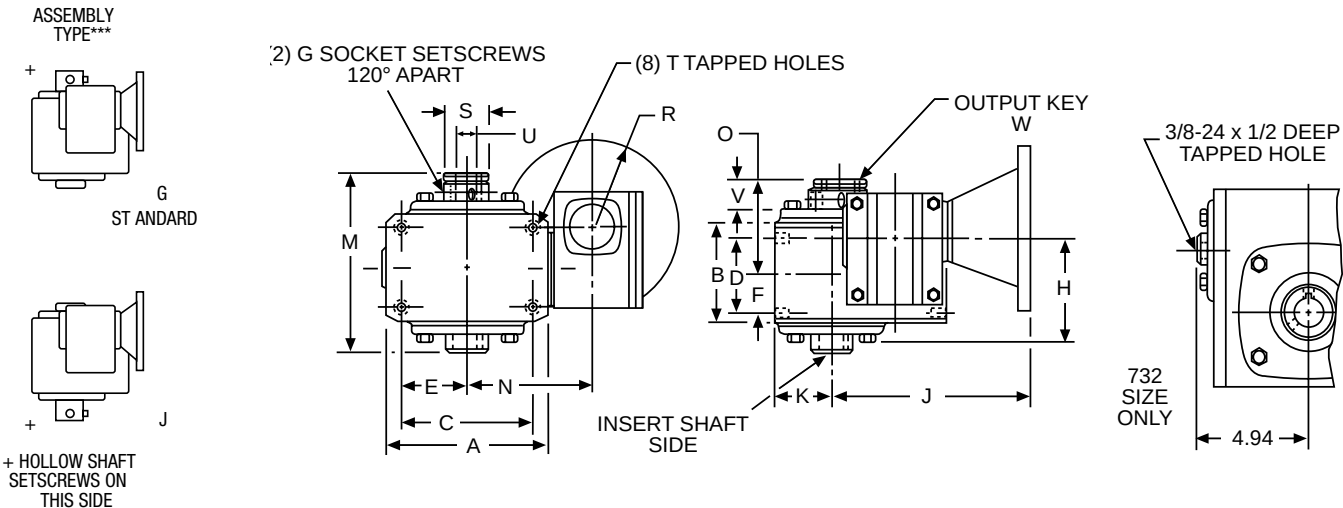
\* See Assemblies and Mounting Positions, Page 73.  
See Page 128 for available bore sizes.

# 700 Series Double Reduction Flanged Reducer Dimensions

## SFWC700 Series Flanged Quill Type Basic Models (No Base); Right Angle Shafts; Hollow Output

FOR ORDERING INFORMATION, see Page 56.

FOR ADDITIONAL SIZES, See the H Series Pages 88-89.  
FOR RATING INFORMATION, See Pages 71, 77-81.



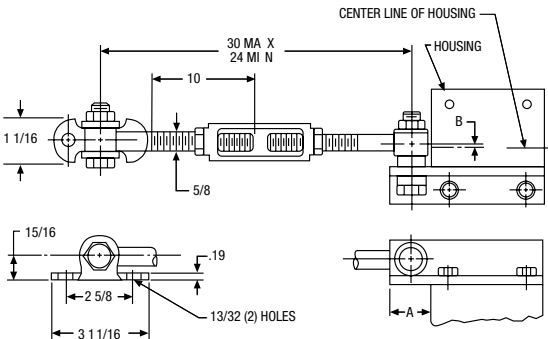
ALL DIMENSIONS IN INCHES

| Size | A    | B    | C    | D    | E    | F    | G       | H    | J-NEMA Mounting |              | K    | M    |
|------|------|------|------|------|------|------|---------|------|-----------------|--------------|------|------|
|      |      |      |      |      |      |      |         |      | SFWC            |              |      |      |
|      |      |      |      |      |      |      |         |      | 42CZ            | 56C<br>140TC |      |      |
| 718  | 5.50 | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | #10-32  | 3.50 | 4.91            | 5.69         | 2.06 | 5.69 |
| 721  | 6.00 | 3.81 | 5.00 | 2.88 | 2.50 | 1.44 | 1/4-28  | 3.94 | —               | 6.00         | 2.28 | 5.88 |
| 726  | 7.38 | 4.44 | 6.38 | 3.38 | 3.19 | 1.69 | 1/4-28  | 4.25 | —               | 6.56         | 2.94 | 6.47 |
| 732  | 9.00 | 5.88 | 7.50 | 4.00 | 3.75 | 2.00 | 5/16-24 | 5.34 | —               | 7.94         | 3.50 | 8.06 |

| Size | N    | O    | R-NEMA Mounting |           | S    | T        |       | Low Speed Shaft |      |                 | Approx. Weight (LBS.) |
|------|------|------|-----------------|-----------|------|----------|-------|-----------------|------|-----------------|-----------------------|
|      |      |      | 42CZ            | 56C 140TC |      | Tap Size | Depth | U +.0015 -.000  | V    | W-Key           |                       |
|      |      |      |                 |           |      |          |       |                 |      | Size            | Length                |
| 718  | 4.44 | 3.09 | 2.16            | 3.31      | 1.38 | 5/16-18  | .50   | 1.000           | .78  | See Page        | 24                    |
| 721  | 4.94 | 3.22 | —               | 3.31      | 1.50 | 3/8-16   | .56   | 1.125           | .88  | 128 For         | 32                    |
| 726  | 5.66 | 3.50 | —               | 3.31      | 2.16 | 3/8-16   | .56   | 1.4375          | .84  | Key Information | 51                    |
| 732  | 6.48 | 4.38 | —               | 3.31      | 2.56 | 7/16-14  | .66   | 1.9375          | 1.00 |                 | 99                    |

\*See Assemblies and Mounting Positions, Page 73. Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft.

### Reaction Rod Kits



ALL DIMENSIONS IN INCHES

| Size | A    | B   | Catalog Number | Kit No. |
|------|------|-----|----------------|---------|
| 718  | 1.09 | .09 | X718-76K       | 69692   |
| 721  | 1.25 | .03 | X721-76K       | 69693   |
| 726  | 1.25 | .22 | X726-76K       | 69694   |
| 732  | 1.50 | .53 | X732-76K       | 69695   |

All hardware shown is included in the kits.

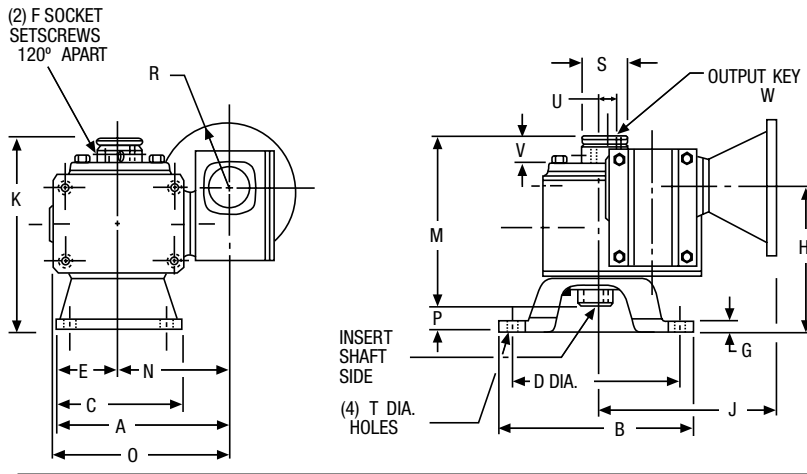


# 700 Series Double Reduction Flanged Reducer Dimensions

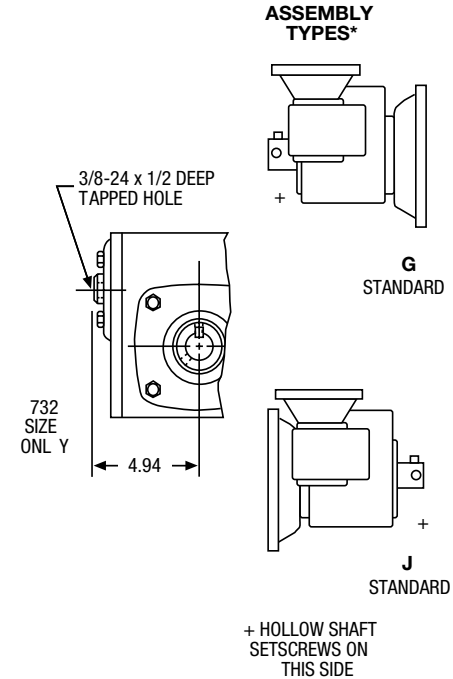
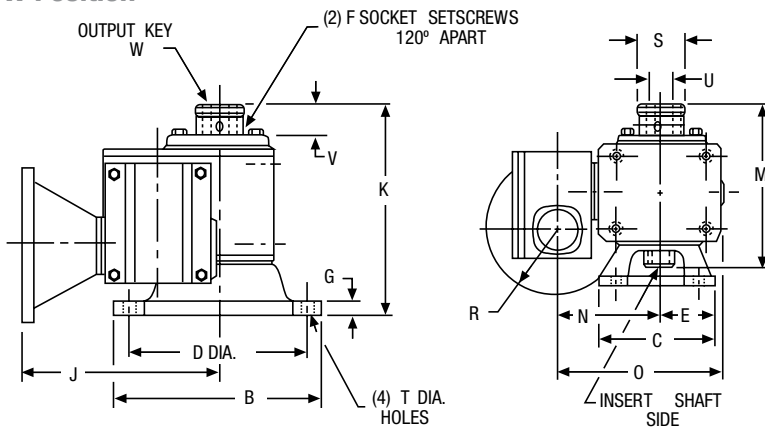
## SFWC700 Series Flanged Quill Type V/W Position Mounting Flange; Right Angle Shafts; Hollow Output

FOR ORDERING INFORMATION, see Page 56.  
FOR ADDITIONAL SIZES, See the H Series Page 88-89.  
FOR RATING INFORMATION, See Pages 71, 77-81.

### V Position



### W Position



ALL DIMENSIONS IN INCHES

| SIZE | A     | B     | C    | D<br>DIA | E    | F       | G   | H    | J-NEMA Mounting |              | K    | M    |
|------|-------|-------|------|----------|------|---------|-----|------|-----------------|--------------|------|------|
|      |       |       |      |          |      |         |     |      | SFWC            |              |      |      |
|      |       |       |      |          |      |         |     |      | 42CZ            | 56C<br>140TC |      |      |
| 718  | 6.88  | 6.75  | 4.88 | 5.88     | 2.44 | #10-32  | .38 | 4.50 | 4.91            | 5.69         | 6.59 | 5.69 |
| 721  | 7.81  | 7.38  | 5.75 | 6.50     | 2.88 | 1/4-28  | .38 | 5.09 | —               | 6.00         | 6.97 | 5.88 |
| 726  | 9.54  | 8.88  | 7.75 | 8.00     | 3.88 | 5/16-24 | .38 | 5.41 | —               | 6.56         | 7.56 | 6.47 |
| 732  | 11.00 | 11.00 | 9.00 | 10.00    | 4.50 | 5/16-24 | .50 | 7.00 | —               | 7.94         | 9.63 | 8.06 |

| SIZE | N    | O     | P    | R-NEMA Mounting |           | S    | T Hole | Low Speed Shaft |      |                 | Approx. Weight (LBS.) |
|------|------|-------|------|-----------------|-----------|------|--------|-----------------|------|-----------------|-----------------------|
|      |      |       |      | 42CZ            | 56C 140TC |      |        | U +.0015 -.000  | V    | W-KEY           |                       |
|      |      |       |      |                 |           |      |        |                 |      | Size            | Length                |
| 718  | 4.44 | 7.19  | 0.91 | 2.16            | 3.31      | 1.38 | 11/32  | 1.000           | 0.78 |                 | 29                    |
| 721  | 4.94 | 7.94  | 1.09 | —               | 3.31      | 1.50 | 13/32  | 1.125           | 0.88 | See Page        | 40                    |
| 726  | 5.66 | 9.34  | 1.09 | —               | 3.31      | 2.16 | 13/32  | 1.4375          | 0.84 | 128 For         | 53                    |
| 732  | 6.48 | 11.00 | 1.56 | —               | 3.31      | 2.56 | 9/16   | 1.9375          | 1.00 | Key Information | 128                   |

\* See Assemblies and Mounting Positions, Page 73. Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft.

# 700 Series Double Reduction Non-Flanged Reducer Dimensions

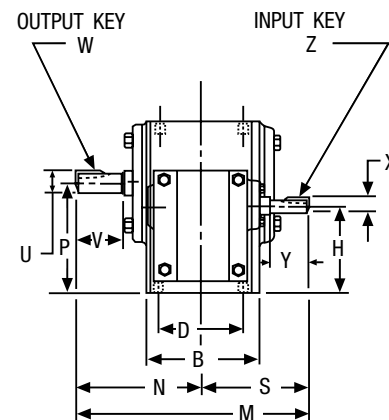
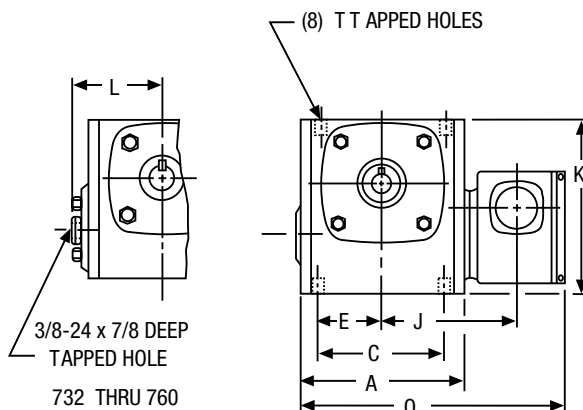
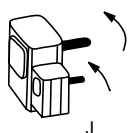
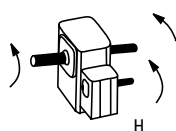
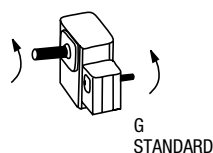
## WA700 Series

### Basic Models (No Base); Parallel Shafts

FOR ORDERING INFORMATION, see Page 56.

FOR RATING INFORMATION, See Pages 71, 77-81.

ASSEMBLY  
TYPES\*



ALL DIMENSIONS IN INCHES

| SIZE | A     | B    | C     | D    | E    | H    | J    | K     | L    | M     | N     | O     | P     |
|------|-------|------|-------|------|------|------|------|-------|------|-------|-------|-------|-------|
| 713  | 4.25  | 2.88 | 3.25  | 2.00 | 1.63 | 2.63 | 3.75 | 4.66  | —    | 6.88  | 4.00  | 7.41  | 2.94  |
| 718  | 5.50  | 3.69 | 4.19  | 2.75 | 2.09 | 2.94 | 4.44 | 5.75  | —    | 7.19  | 4.31  | 8.72  | 3.69  |
| 721  | 6.00  | 3.81 | 5.00  | 2.88 | 2.50 | 3.38 | 4.94 | 6.38  | —    | 8.59  | 4.69  | 9.69  | 4.09  |
| 726  | 7.38  | 4.44 | 6.38  | 3.38 | 3.19 | 3.78 | 5.66 | 8.00  | —    | 9.53  | 5.63  | 11.09 | 5.06  |
| 730  | 8.12  | 5.25 | 7.00  | 4.00 | 3.50 | 4.38 | 6.12 | 8.88  | —    | 11.59 | 6.75  | 12.45 | 5.63  |
| 732  | 9.00  | 5.88 | 7.50  | 4.00 | 3.75 | 4.38 | 6.48 | 9.38  | 4.94 | 11.90 | 7.06  | 13.69 | 5.88  |
| 738  | 10.00 | 6.38 | 8.50  | 4.75 | 4.25 | 4.88 | 7.27 | 10.44 | 5.50 | 12.88 | 7.75  | 15.16 | 6.56  |
| 752  | 13.13 | 7.38 | 11.00 | 5.81 | 5.50 | 5.88 | 9.28 | 13.75 | 7.19 | 15.38 | 9.06  | 19.34 | 8.41  |
| 760  | 14.50 | 8.13 | 12.75 | 6.38 | 6.38 | 7.25 | 9.56 | 16.50 | 7.94 | 17.44 | 10.00 | 21.13 | 10.00 |

| Size | S    | T        |       | Low Speed Shaft     |      |       |         | High Speed Shaft    |      |       |        | Approx.<br>Weight<br>(Lbs.) | Horizontal<br>Base<br>Kit No. |
|------|------|----------|-------|---------------------|------|-------|---------|---------------------|------|-------|--------|-----------------------------|-------------------------------|
|      |      |          |       | U<br>+.000<br>-.001 | V    | W-KEY |         | X<br>+.000<br>-.001 | Y    | Z-KEY |        |                             |                               |
|      |      | Tap Size | Depth |                     |      | Sq    | Length  |                     |      | Sq    | Length |                             |                               |
| 713  | 2.88 | 5/16-18  | .50   | .625                | 2.00 | 3/16  | 1       | .3745               | .81  | 3/32  | 3/8    | 15                          | 56577                         |
| 718  | 2.88 | 5/16-18  | .50   | .875                | 1.78 | 3/16  | 1       | .3745               | .81  | 3/32  | 3/8    | 28                          | 56585                         |
| 721  | 3.91 | 3/8-16   | .56   | 1.000               | 2.09 | 1/4   | 1-1/4   | .4995               | 1.31 | 1/8   | 5/8    | 37                          | 56587                         |
| 726  | 3.91 | 3/8-16   | .56   | 1.125               | 2.63 | 1/4   | 1-5/16  | .4995               | 1.31 | 1/8   | 5/8    | 55                          | 56595                         |
| 730  | 4.84 | 7/16-14  | .88   | 1.250               | 3.25 | 1/4   | 2-1/4   | .6245               | 1.56 | 3/16  | 13/16  | 73                          | 65544                         |
| 732  | 4.84 | 7/16-14  | .66   | 1.375               | 3.25 | 5/16  | 2-7/16  | .6245               | 1.56 | 3/16  | 13/16  | 93                          | 56599                         |
| 738  | 5.13 | 1/2-13   | .75   | 1.625               | 3.50 | 3/8   | 2-1/4   | .6245               | 1.56 | 3/16  | 13/16  | 132                         | 56603                         |
| 752  | 6.31 | 5/8-11   | 1.00  | 2.000               | 4.16 | 1/2   | 2-15/16 | .7495               | 2.38 | 3/16  | 1      | 235                         | 56607                         |
| 760  | 7.44 | 5/8-11   | 1.00  | 2.250               | 4.56 | 1/2   | 3-3/8   | .8745               | 2.31 | 3/16  | 1      | 298                         | 56610                         |

\* See Assemblies and Mounting Positions, Page 74.

† For Base Kits, see Page 129.

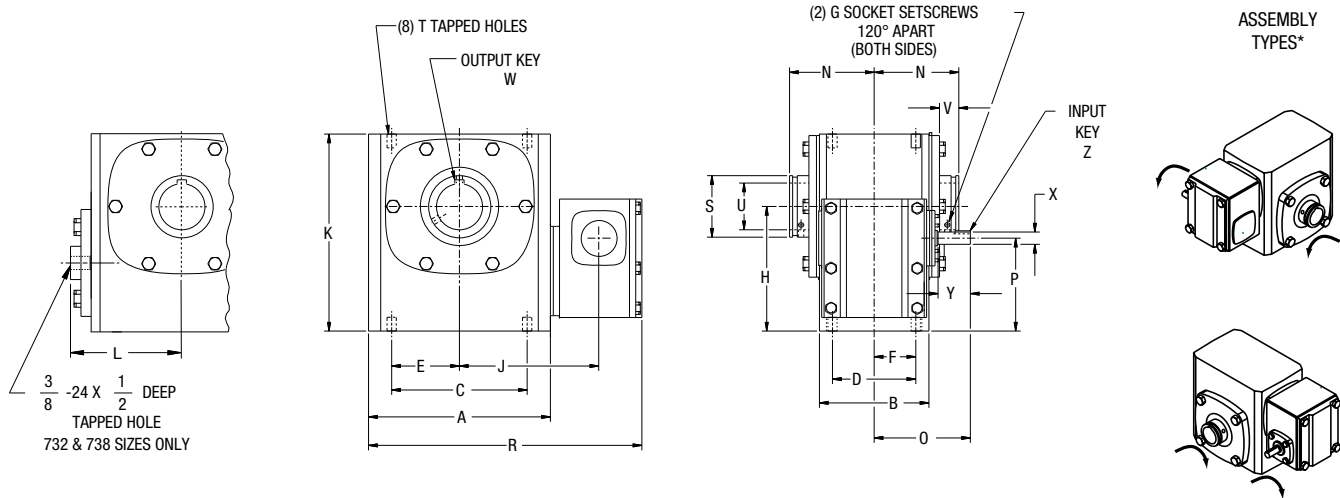
**Note:** For base dimensions see Single Reduction Flanged Reducer Dimension pages.

# 700 Series Double Reduction Non-Flanged Reducer Dimensions

## HWA700 Series

### Basic Models (No Base); Parallel Shafts; Bored to Size Hollow Output

FOR ORDERING INFORMATION, see Page 56.  
FOR RATING INFORMATION, See Pages 71, 77-81.



ALL DIMENSIONS IN INCHES

| SIZE | A     | B    | C    | D    | E    | F    | G       | H    | J    | K     | L    | N    | O    | P    |
|------|-------|------|------|------|------|------|---------|------|------|-------|------|------|------|------|
| 713  | 4.25  | 2.88 | 3.25 | 2.00 | 1.63 | 1.00 | #10-32  | 2.94 | 3.75 | 4.66  | —    | 2.50 | 2.88 | 2.63 |
| 718  | 5.50  | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | #10-32  | 3.69 | 4.44 | 5.75  | —    | 3.03 | 2.88 | 2.94 |
| 721  | 6.00  | 3.81 | 5.00 | 2.88 | 2.50 | 1.44 | 1/4-28  | 4.09 | 4.94 | 6.38  | —    | 3.22 | 3.91 | 3.38 |
| 726  | 7.38  | 4.44 | 6.38 | 3.38 | 3.19 | 1.69 | 5/16-24 | 5.06 | 5.66 | 8.00  | —    | 3.44 | 3.91 | 3.78 |
| 730  | 8.12  | 5.25 | 7.00 | 4.00 | 3.50 | 2.00 | 5/16-24 | 5.63 | 6.12 | 8.88  | —    | 4.19 | 4.84 | 4.38 |
| 732  | 9.00  | 5.88 | 7.50 | 4.00 | 3.75 | 2.00 | 5/16-24 | 5.88 | 6.48 | 9.38  | 4.94 | 4.31 | 4.88 | 4.38 |
| 738  | 10.00 | 6.38 | 8.50 | 4.75 | 4.25 | 2.38 | 5/16-24 | 6.56 | 7.27 | 10.44 | 5.50 | 4.81 | 5.13 | 4.88 |

| Size | R     | S    | T        |       | Low Speed Shaft           |      |                 | High Speed Shaft |                     |      |       | Approx. Weight (Lbs.) |        |
|------|-------|------|----------|-------|---------------------------|------|-----------------|------------------|---------------------|------|-------|-----------------------|--------|
|      |       |      |          |       | Max U<br>+.0015<br>-.0000 | V    | W-KEY           |                  | X<br>+.000<br>-.001 | Y    | Z-KEY |                       |        |
|      |       |      | Tap Size | Depth |                           |      | Sq              | Length           |                     |      | Sq    |                       | Length |
| 713  | 7.41  | .88  | 5/16-18  | .50   | .625                      | .68  |                 |                  | .3745               | .81  | 3/32  | 3/8                   | 17     |
| 718  | 8.72  | 1.38 | 5/16-18  | .50   | 1.000                     | .84  |                 |                  | .3745               | .81  | 3/32  | 3/8                   | 28     |
| 721  | 9.69  | 1.94 | 3/8-16   | .56   | 1.4375                    | .87  | See Page        |                  | .4995               | 1.31 | 1/8   | 5/8                   | 37     |
| 726  | 11.09 | 2.50 | 3/8-16   | .56   | 1.9375                    | .78  | 128 For         |                  | .4995               | 1.31 | 1/8   | 5/8                   | 55     |
| 730  | 12.45 | 2.88 | 7/16-14  | .88   | 2.1875                    | 1.10 | Key Information |                  | .6245               | 1.56 | 3/16  | 13/16                 | 76     |
| 732  | 13.69 | 2.88 | 7/16-14  | .66   | 2.1875                    | .93  |                 |                  | .6245               | 1.56 | 3/16  | 13/16                 | 96     |
| 738  | 15.16 | 3.25 | 1/2-13   | .75   | 2.4375                    | 1.11 |                 |                  | .6245               | 1.56 | 3/16  | 13/16                 | 166    |

\* See Assemblies and Mounting Positions, Page 74.  
Input may be rotated clockwise or counterclockwise. Arrows indicate relative rotation.  
See Page 128 for available bore sizes.

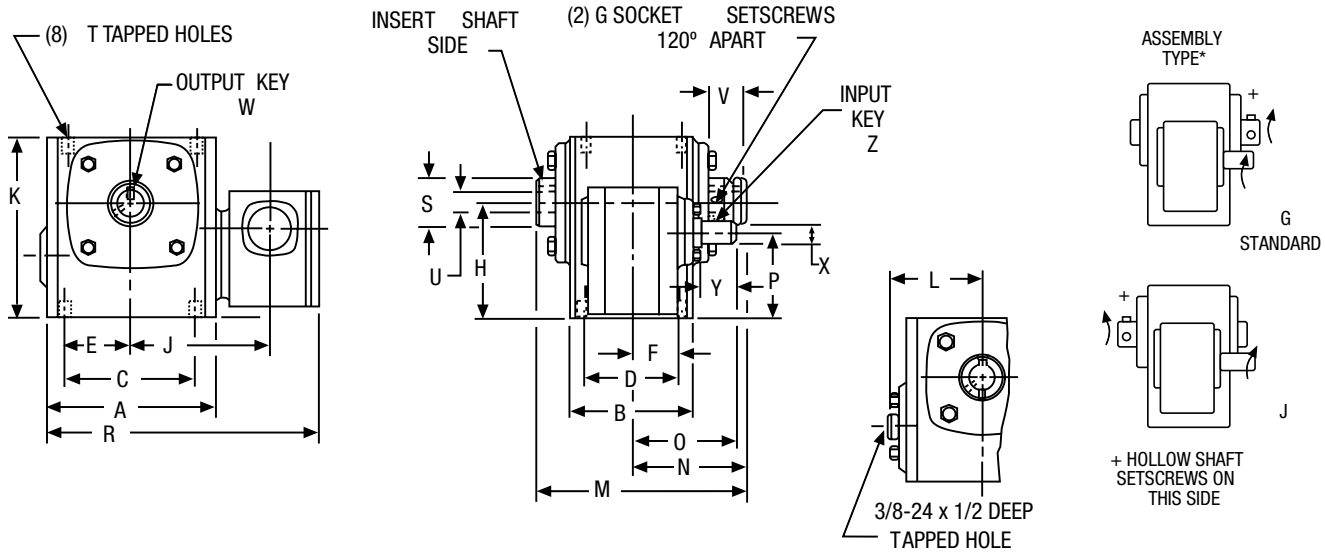


# 700 Series Double Reduction Non-Flanged Reducer Dimensions

## SWA700 Series

### Basic Models (No Base); Parallel Shafts; Hollow Output

FOR ORDERING INFORMATION, see Page 56.  
FOR ADDITIONAL SIZES, See the H Series Page 88-89.  
FOR RATING INFORMATION, See Pages 71, 77-81.



ALL DIMENSIONS IN INCHES

| Size | A    | B    | C    | D    | E    | F    | G       | H    | J    | K    | M    | N    | O    | P    |
|------|------|------|------|------|------|------|---------|------|------|------|------|------|------|------|
| 718  | 5.50 | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | #10-32  | 3.69 | 4.44 | 5.75 | 5.69 | 3.09 | 2.88 | 2.94 |
| 721  | 6.00 | 3.81 | 5.00 | 2.88 | 2.50 | 1.44 | 1/4-28  | 4.09 | 4.94 | 6.38 | 5.88 | 3.22 | 3.91 | 3.38 |
| 726  | 7.38 | 4.44 | 6.38 | 3.38 | 3.19 | 1.69 | 1/4-28  | 5.06 | 5.66 | 8.00 | 6.47 | 3.50 | 3.91 | 3.78 |
| 732  | 9.00 | 5.88 | 7.50 | 4.00 | 3.75 | 2.00 | 5/16-24 | 5.88 | 6.48 | 9.38 | 8.06 | 4.38 | 4.88 | 4.38 |

| Size | R     | S    | T        |       | Low Speed Shaft      |      |                 |        | High Speed Shaft    |      |       |        | Approx. Weight (Lbs.) |
|------|-------|------|----------|-------|----------------------|------|-----------------|--------|---------------------|------|-------|--------|-----------------------|
|      |       |      |          |       | U<br>+.0015<br>-.000 | V    | W-KEY           |        | X<br>+.000<br>-.001 | Y    | Z-KEY |        |                       |
|      |       |      | Tap Size | Depth |                      |      | Sq              | Length |                     |      | Sq    | Length |                       |
| 718  | 8.72  | 1.38 | 5/16-18  | .50   | 1.000                | .78  | See Page        |        | .3745               | .81  | 3/32  | 3/8    | 27                    |
| 721  | 9.69  | 1.50 | 3/8-16   | .56   | 1.125                | .88  | 128 For         |        | .4995               | 1.31 | 1/8   | 5/8    | 35                    |
| 726  | 11.09 | 2.16 | 3/8-16   | .56   | 1.4375               | .84  | Key Information |        | .4995               | 1.31 | 1/8   | 5/8    | 52                    |
| 732  | 13.69 | 2.56 | 7/16-14  | .66   | 1.9375               | 1.00 |                 |        | .6245               | 1.56 | 3/16  | 13/16  | 91                    |

\* See Assemblies and Mounting Positions, Page 74. Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounted surfaces, viewed from end of input shaft.

Input may be rotated clockwise or counterclockwise. Arrows indicate relative rotation.

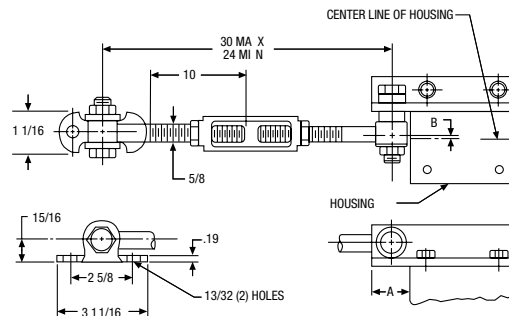
**Note:** For base dimensions see Single Reduction Flanged Reducer Dimension pages.

### Reaction Rod Kits

ALL DIMENSIONS IN INCHES

| SIZE | A    | B   | Catalog Number | Kit No. |
|------|------|-----|----------------|---------|
| 718  | 1.09 | .09 | X718-76K       | 69692   |
| 721  | 1.25 | .03 | X721-76K       | 69693   |
| 726  | 1.25 | .22 | X726-76K       | 69694   |
| 732  | 1.50 | .53 | X732-76K       | 69695   |

All hardware shown is included in the kits.



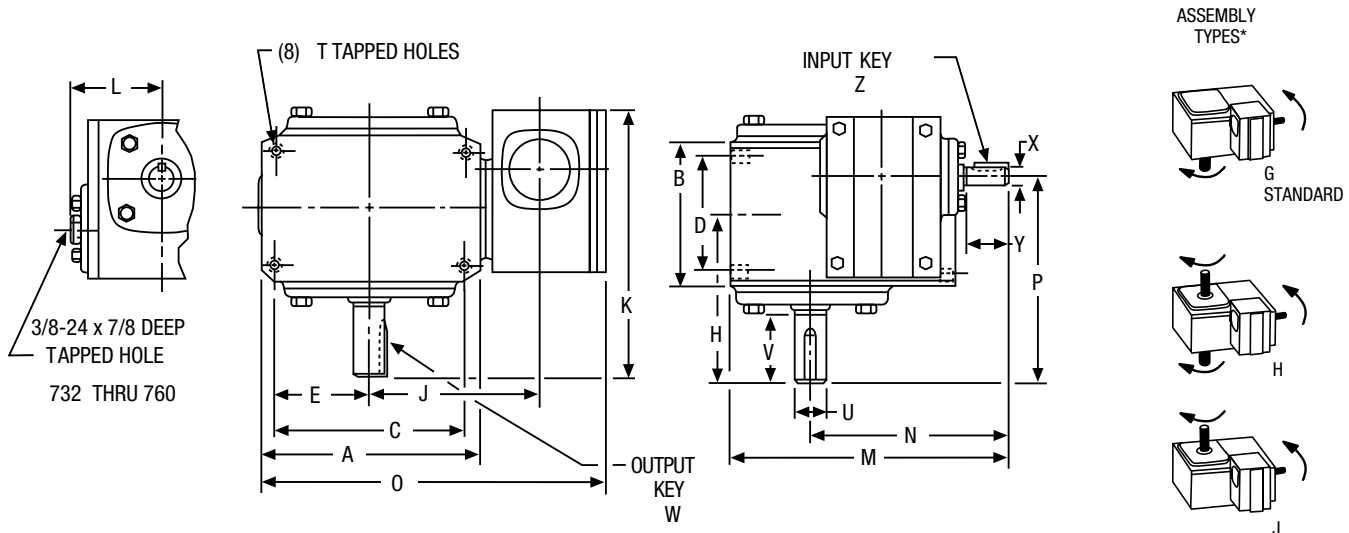


# 700 Series Double Reduction Non-Flanged Reducer Dimensions

## WC700 Series

### Basic Models (No Base); Right Angle Shafts

FOR ORDERING INFORMATION, see Page 56.  
FOR RATING INFORMATION, See Pages 71, 77-81.



ALL DIMENSIONS IN INCHES

| SIZE | A     | B    | C     | D    | E    | H     | J    | K     | L    | M     | N     | O     | P     |
|------|-------|------|-------|------|------|-------|------|-------|------|-------|-------|-------|-------|
| 713  | 4.25  | 2.88 | 3.25  | 2.00 | 1.63 | 4.00  | 3.75 | 6.19  | —    | 5.94  | 4.22  | 7.41  | 5.00  |
| 718  | 5.50  | 3.69 | 4.19  | 2.75 | 2.09 | 4.31  | 4.44 | 6.50  | —    | 6.69  | 4.63  | 8.72  | 5.31  |
| 721  | 6.00  | 3.81 | 5.00  | 2.88 | 2.50 | 4.69  | 4.94 | 7.63  | —    | 8.25  | 5.97  | 9.69  | 6.03  |
| 726  | 7.38  | 4.44 | 6.38  | 3.38 | 3.19 | 5.63  | 5.66 | 8.56  | —    | 9.47  | 6.53  | 11.09 | 6.97  |
| 730  | 8.12  | 5.25 | 7.00  | 4.00 | 3.50 | 6.75  | 6.12 | 10.44 | —    | 11.09 | 7.84  | 12.45 | 8.50  |
| 732  | 9.00  | 5.88 | 7.50  | 4.00 | 3.75 | 7.06  | 6.48 | 10.75 | 4.94 | 11.63 | 8.13  | 13.69 | 8.81  |
| 738  | 10.00 | 6.38 | 8.50  | 4.75 | 4.25 | 7.75  | 7.27 | 11.84 | 5.50 | 12.75 | 8.88  | 15.16 | 9.81  |
| 752  | 13.13 | 7.38 | 11.00 | 5.81 | 5.50 | 9.06  | 9.28 | 14.00 | 7.19 | 16.81 | 11.50 | 19.34 | 11.69 |
| 760  | 14.50 | 8.13 | 12.75 | 6.38 | 6.38 | 10.00 | 9.56 | 15.88 | 7.94 | 19.94 | 13.44 | 21.13 | 13.25 |

| Size | T        |       | Low Speed Shaft     |      |       |         | High Speed Shaft    |      |       |        | Approx. Weight (LBS.) | Vertical Base Kit No. † |       |
|------|----------|-------|---------------------|------|-------|---------|---------------------|------|-------|--------|-----------------------|-------------------------|-------|
|      | Tap Size | Depth | U<br>+.000<br>-.001 | V    | W-KEY |         | X<br>+.000<br>-.001 | Y    | Z-KEY |        |                       | High                    | Low   |
|      |          |       |                     |      | Sq    | Length  |                     |      | Sq    | Length |                       |                         |       |
| 713  | 5/16-18  | .50   | .625                | 2.00 | 3/16  | 1       | .3745               | .81  | 3/32  | 3/8    | 15                    | 56578                   | 56579 |
| 718  | 5/16-18  | .50   | .875                | 1.78 | 3/16  | 1       | .3745               | .81  | 3/32  | 3/8    | 28                    | 56582                   | 56583 |
| 721  | 3/8-16   | .56   | 1.000               | 2.09 | 1/4   | 1-1/4   | .4995               | 1.31 | 1/8   | 5/8    | 37                    | 56588                   | 56589 |
| 726  | 3/8-16   | .56   | 1.125               | 2.63 | 1/4   | 1-15/16 | .4995               | 1.31 | 1/8   | 5/8    | 55                    | 56596                   | 56597 |
| 730  | 7/16-14  | .88   | 1.250               | 3.25 | 1/4   | 2-1/4   | .6245               | 1.56 | 3/16  | 13/16  | 73                    | 65545                   | 65546 |
| 732  | 7/16-14  | .66   | 1.375               | 3.25 | 5/16  | 2-7/16  | .6245               | 1.56 | 3/16  | 13/16  | 93                    | 56600                   | 56601 |
| 738  | 1/2-13   | .75   | 1.625               | 3.50 | 3/8   | 2-1/4   | .6245               | 1.56 | 3/16  | 13/16  | 132                   | 56604                   | 56605 |
| 752  | 5/8-11   | 1.00  | 2.000               | 4.16 | 1/2   | 2-15/16 | .7495               | 2.38 | 3/16  | 1      | 235                   | 56608                   | 56609 |
| 760  | 5/8-11   | 1.00  | 2.250               | 4.56 | 1/2   | 3-3/8   | .8745               | 2.31 | 3/16  | 1      | 298                   | 56611                   | 56612 |

\* See Assemblies and Mounting Positions, Page 75.

† For Base Kits, see Page 129.



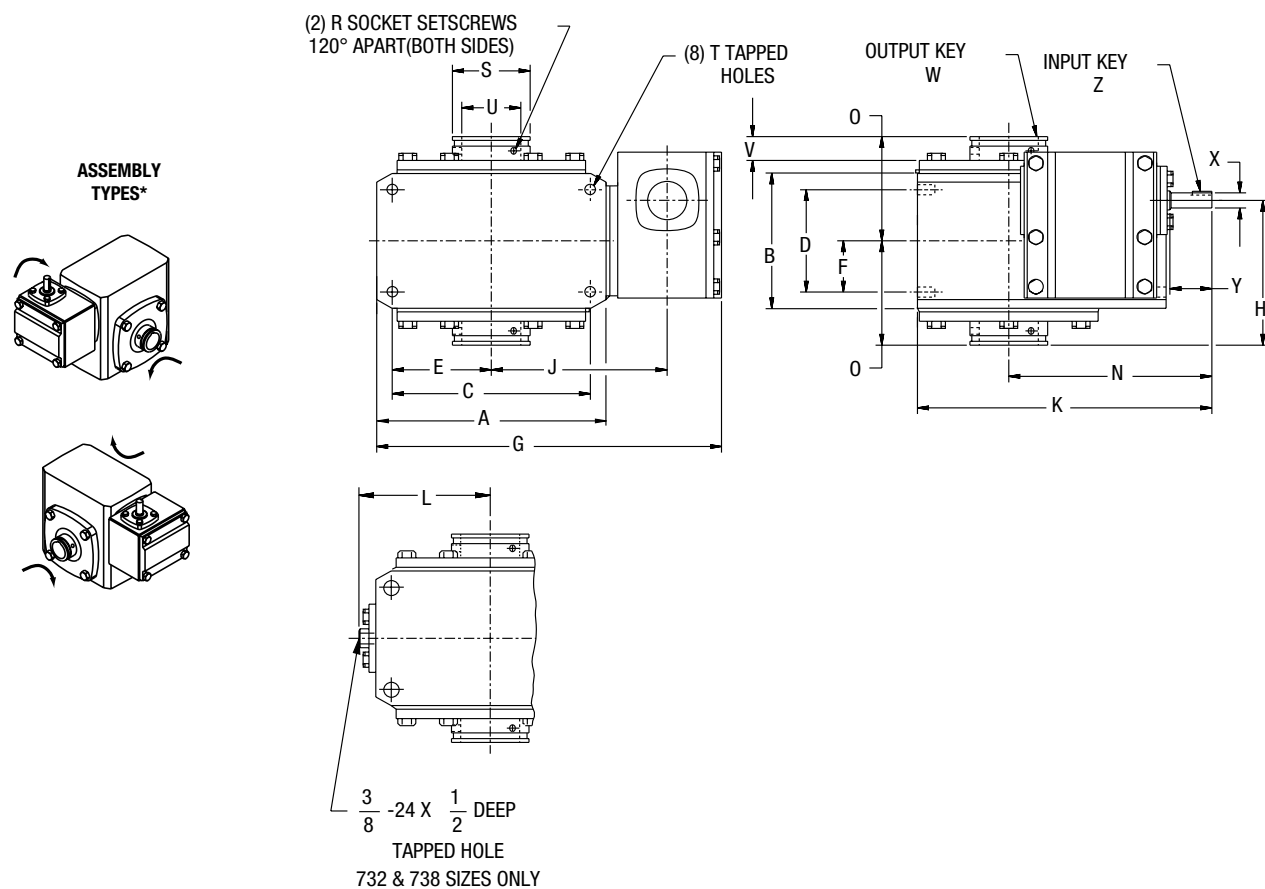
# 700 Series Double Reduction Non-Flanged Reducer Dimensions

## HWC700 Series

### Basic Models (No Base); Right Angle Shafts; Bored to Size Hollow Output

FOR ORDERING INFORMATION, see Page 56.

FOR RATING INFORMATION, See Pages 71, 77-81.



ALL DIMENSIONS IN INCHES

| Size | A     | B    | C    | D    | E    | F    | G     | H    | J    | K     | L    | N    | O    | R       |
|------|-------|------|------|------|------|------|-------|------|------|-------|------|------|------|---------|
| 713  | 4.25  | 2.88 | 3.25 | 2.00 | 1.63 | 1.00 | 7.41  | 3.50 | 3.75 | 5.94  | —    | 4.22 | 2.50 | #10-32  |
| 718  | 5.50  | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | 8.72  | 4.03 | 4.44 | 6.69  | —    | 4.63 | 3.03 | #10-32  |
| 721  | 6.00  | 3.81 | 5.00 | 2.88 | 2.50 | 1.44 | 9.69  | 4.55 | 4.94 | 8.25  | —    | 5.97 | 3.22 | 1/4-28  |
| 726  | 7.38  | 4.44 | 6.38 | 3.38 | 3.19 | 1.69 | 11.09 | 4.77 | 5.66 | 9.47  | —    | 6.53 | 3.44 | 5/16-24 |
| 730  | 8.12  | 5.25 | 7.00 | 4.00 | 3.50 | 2.00 | 12.45 | 5.94 | 6.12 | 11.09 | —    | 7.84 | 4.19 | 5/16-24 |
| 732  | 9.00  | 5.88 | 7.50 | 4.00 | 3.75 | 2.00 | 13.69 | 6.06 | 6.48 | 11.63 | 4.94 | 8.13 | 4.31 | 5/16-24 |
| 738  | 10.00 | 6.38 | 8.50 | 4.75 | 4.25 | 2.38 | 15.16 | 6.87 | 7.27 | 12.75 | 5.50 | 8.88 | 4.81 | 5/16-24 |

| Size | S    | T        |       | Low Speed Shaft          |      |                 |        | High Speed Shaft    |      |       |        | Approx. Weight (Lbs.) |
|------|------|----------|-------|--------------------------|------|-----------------|--------|---------------------|------|-------|--------|-----------------------|
|      |      |          |       | Max U<br>+.0015<br>-.000 | V    | W-KEY           |        | X<br>+.000<br>-.001 | Y    | Z-KEY |        |                       |
|      |      | Tap Size | Depth |                          |      | Sq              | Length |                     |      | Sq    | Length |                       |
| 718  | .88  | 5/16-18  | .50   | .625                     | .68  |                 |        | .3745               | .81  | 3/32  | 3/8    | 17                    |
| 721  | 1.38 | 5/16-18  | .50   | 1.000                    | .74  |                 |        | .3745               | .81  | 3/32  | 3/8    | 28                    |
| 726  | 1.94 | 3/8-16   | .56   | 1.4375                   | .87  | See Page        |        | .4995               | 1.31 | 1/8   | 5/8    | 37                    |
| 732  | 2.50 | 3/8-16   | .56   | 1.9375                   | .78  | 128 For         |        | .4995               | 1.31 | 1/8   | 5/8    | 55                    |
| 730  | 2.88 | 7/16-14  | .88   | 2.1875                   | 1.10 | Key Information |        | .6245               | 1.56 | 3/16  | 13/16  | 76                    |
| 732  | 2.88 | 7/16-14  | .66   | 2.1875                   | .93  |                 |        | .6245               | 1.56 | 3/16  | 13/16  | 96                    |
| 738  | 3.25 | 1/2-13   | .75   | 2.4375                   | 1.11 |                 |        | .6245               | 1.56 | 3/16  | 13/16  | 166                   |

\* See Assemblies and Mounting Positions, Page 75.

Input may be rotated clockwise or counterclockwise. Arrows indicate relative rotation.

See Page 128 for available bore sizes.

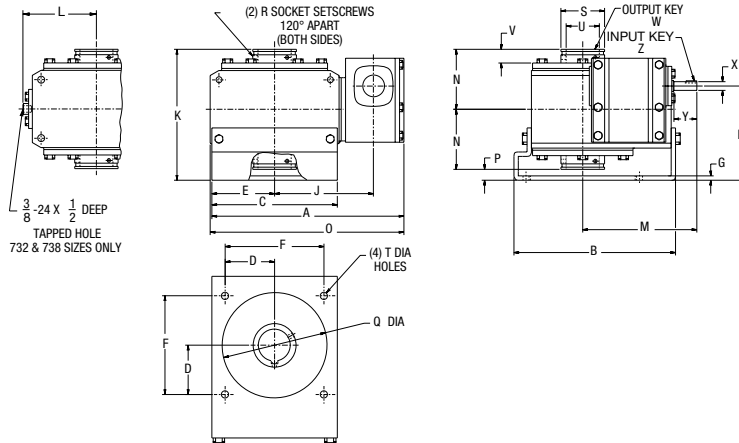
# 700 Series Double Reduction Non-Flanged Reducer Dimensions

## HWC700 Series

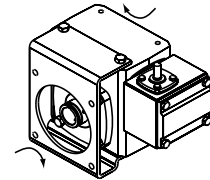
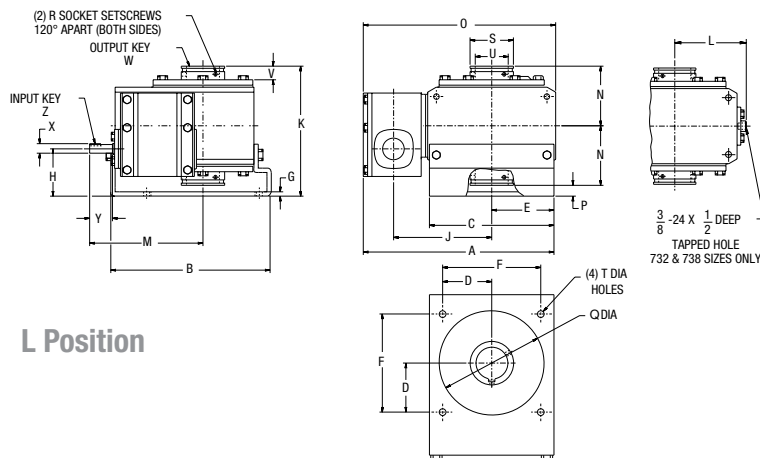
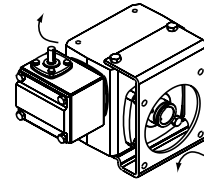
### R/L Position Mounting Bracket; Right Angle Shafts; Bored to Size Hollow Output

#### R Position

FOR ORDERING INFORMATION, see Page 56.  
FOR RATING INFORMATION, See Pages 71, 77-81.



#### ASSEMBLY TYPES\*



ALL DIMENSIONS IN INCHES

| Size | A     | B     | C    | D    | E    | F    | G   | H       |         | J    | K     | L    | M    | N    | O     | P   |
|------|-------|-------|------|------|------|------|-----|---------|---------|------|-------|------|------|------|-------|-----|
|      |       |       |      |      |      |      |     | R Model | L Model |      |       |      |      |      |       |     |
| 713  | 7.40  | 5.55  | 4.24 | 1.77 | 2.12 | 3.54 | .19 | 4.00    | 2.00    | 3.75 | 5.50  | —    | 4.22 | 2.50 | 7.41  | .50 |
| 718  | 8.38  | 6.66  | 4.82 | 2.08 | 2.41 | 4.16 | .19 | 4.50    | 2.50    | 4.44 | 6.53  | —    | 4.63 | 3.03 | 8.72  | .47 |
| 721  | 9.57  | 7.47  | 5.76 | 2.30 | 2.88 | 4.60 | .19 | 5.08    | 2.42    | 4.94 | 6.97  | —    | 5.97 | 3.22 | 9.69  | .53 |
| 726  | 11.00 | 9.25  | 7.18 | 2.83 | 3.59 | 5.66 | .25 | 5.39    | 2.73    | 5.66 | 7.50  | —    | 6.53 | 3.44 | 11.09 | .62 |
| 730  | 12.39 | 10.38 | 8.00 | 3.18 | 4.00 | 6.38 | .25 | 6.25    | 2.75    | 6.12 | 8.69  | —    | 7.84 | 4.19 | 12.45 | .31 |
| 732  | 13.44 | 10.91 | 8.50 | 3.54 | 4.25 | 7.08 | .25 | 7.00    | 3.50    | 6.48 | 9.56  | 4.94 | 8.13 | 4.31 | 13.69 | .94 |
| 738  | 14.91 | 11.84 | 9.50 | 4.06 | 4.75 | 8.12 | .25 | 7.53    | 3.41    | 7.27 | 10.28 | 5.50 | 8.88 | 4.81 | 15.16 | .66 |

| Size | Q    | R       | S    | T<br>Dia. | Low Speed Shaft           |      |                 |        | High Speed Shaft    |      |       |        | Approx.<br>Weight<br>(Lbs.) |
|------|------|---------|------|-----------|---------------------------|------|-----------------|--------|---------------------|------|-------|--------|-----------------------------|
|      |      |         |      |           | Max U<br>+.0015<br>-.0000 | V    | W-KEY           |        | X<br>+.000<br>-.001 | Y    | Z-KEY |        |                             |
|      |      |         |      |           |                           |      | Sq              | Length |                     |      | Sq    | Length |                             |
| 713  | 3.62 | #10-32  | .88  | 11/32     | .625                      | .68  |                 |        | .3745               | .81  | 3/32  | 3/8    | 17                          |
| 718  | 4.06 | #10-32  | 1.38 | 11/32     | 1.000                     | .74  |                 |        | .3745               | .81  | 3/32  | 3/8    | 34                          |
| 721  | 4.50 | 1/4-28  | 1.94 | 13/32     | 1.4375                    | .87  | See Page        |        | .4995               | 1.31 | 1/8   | 5/8    | 42                          |
| 726  | 6.00 | 5/16-24 | 2.50 | 13/32     | 1.9375                    | .78  | 128 For         |        | .4995               | 1.31 | 1/8   | 5/8    | 66                          |
| 730  | 7.00 | 5/16-24 | 2.88 | 13/32     | 2.1875                    | 1.10 | Key Information |        | .6245               | 1.56 | 3/16  | 13/16  | 86                          |
| 732  | 7.00 | 5/16-24 | 2.88 | 9/16      | 2.1875                    | .93  |                 |        | .6245               | 1.56 | 3/16  | 13/16  | 126                         |
| 738  | 8.00 | 5/16-24 | 3.25 | 9/16      | 2.4375                    | 1.11 |                 |        | .6245               | 1.56 | 3/16  | 13/16  | 148                         |

\* See Assemblies and Mounting Positions, Page 75.

Input may be rotated clockwise or counterclockwise. Arrows indicate relative rotation. See Page 128 for available bore sizes.

# 700 Series Double Reduction Non-Flanged Reducer Dimensions

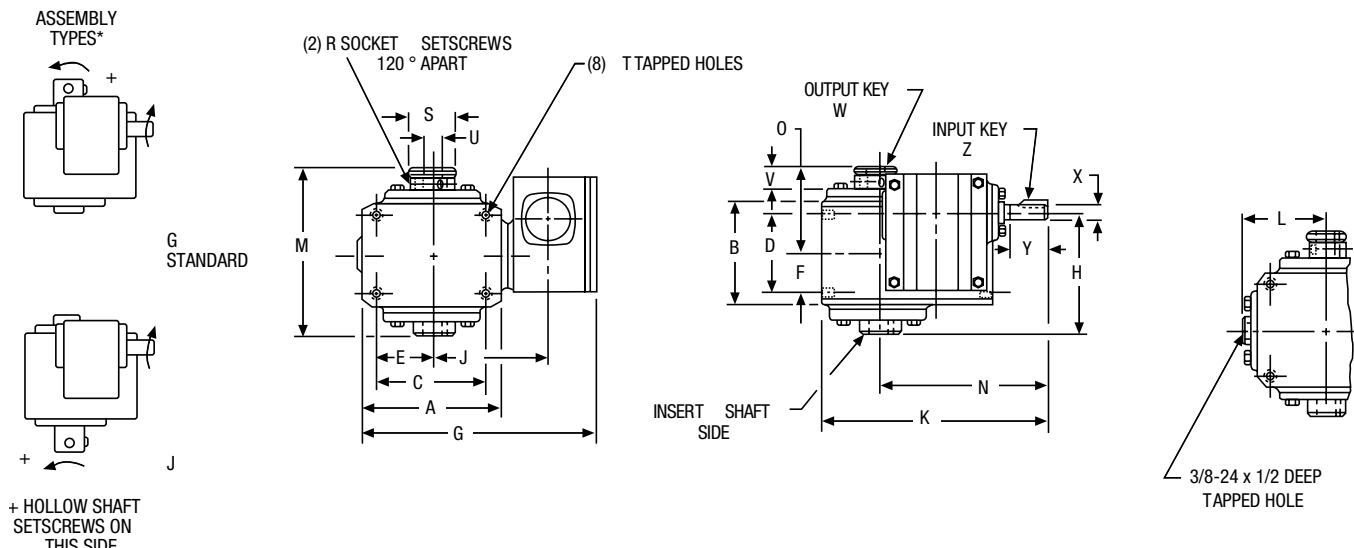
## SWC700 Series

### Basic Models (No Base); Right Angle Shafts; Hollow Output

FOR ORDERING INFORMATION, see Page 56.

FOR ADDITIONAL SIZES, See the H Series Page 88-89.

FOR RATING INFORMATION, See Pages 71, 77-81.



ALL DIMENSIONS IN INCHES

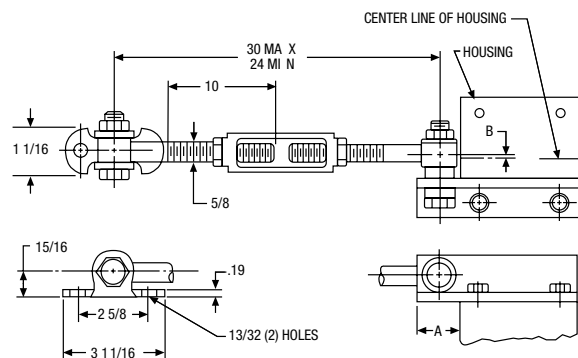
| Size | A    | B    | C    | D    | E    | F    | G     | H    | J    | K     | M    | N    | O    | R       |
|------|------|------|------|------|------|------|-------|------|------|-------|------|------|------|---------|
| 718  | 5.50 | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | 8.72  | 3.59 | 4.44 | 6.69  | 5.69 | 4.63 | 3.09 | #10-32  |
| 721  | 6.00 | 3.81 | 5.00 | 2.88 | 2.50 | 1.44 | 9.69  | 4.00 | 4.94 | 8.25  | 5.88 | 5.97 | 3.22 | 1/4-28  |
| 726  | 7.38 | 4.44 | 6.38 | 3.38 | 3.19 | 1.69 | 11.09 | 4.31 | 5.66 | 9.47  | 6.47 | 6.53 | 3.50 | 1/4-28  |
| 732  | 9.00 | 5.88 | 7.50 | 4.00 | 3.75 | 2.00 | 13.69 | 5.44 | 6.48 | 11.63 | 8.06 | 8.13 | 4.38 | 5/16-24 |

| Size | S    | T       |        | Low Speed Shaft      |      |                 |        | High Speed Shaft    |      |       |       | Approx. Weight (Lbs.) |
|------|------|---------|--------|----------------------|------|-----------------|--------|---------------------|------|-------|-------|-----------------------|
|      |      |         |        | U<br>+.0015<br>-.000 | V    | W-KEY           |        | X<br>+.000<br>-.001 | Y    | Z-KEY |       |                       |
|      |      | Sq      | Length |                      |      | Sq              | Length |                     |      |       |       |                       |
| 718  | 1.38 | 5/16-18 | .50    | 1.000                | .78  | See Page        |        | .3745               | .81  | 3/32  | 3/8   | 27                    |
| 721  | 1.50 | 3/8-16  | .56    | 1.125                | .88  | 128 For         |        | .4995               | 1.31 | 1/8   | 5/8   | 35                    |
| 726  | 2.16 | 3/8-16  | .56    | 1.4375               | .84  | Key Information |        | .4995               | 1.31 | 1/8   | 5/8   | 52                    |
| 732  | 2.56 | 7/16-14 | .66    | 1.9375               | 1.00 |                 |        | .6245               | 1.56 | 3/16  | 13/16 | 91                    |

\* See Assemblies and Mounting Positions, Page 75. Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounted surfaces, viewed from end of input shaft. Input may be rotated clockwise or counterclockwise. Arrows indicate relative rotation.

## Reaction Rod Kits

ALL DIMENSIONS IN INCHES



| SIZE | A    | B   | Catalog Number | Kit No. |
|------|------|-----|----------------|---------|
| 718  | 1.09 | .09 | X718-76K       | 69692   |
| 721  | 1.25 | .03 | X721-76K       | 69693   |
| 726  | 1.25 | .22 | X726-76K       | 69694   |
| 732  | 1.50 | .53 | X732-76K       | 69695   |

All hardware shown is included in the kits.

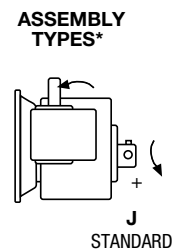
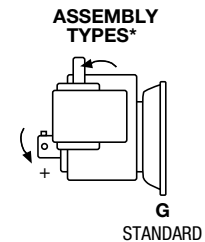
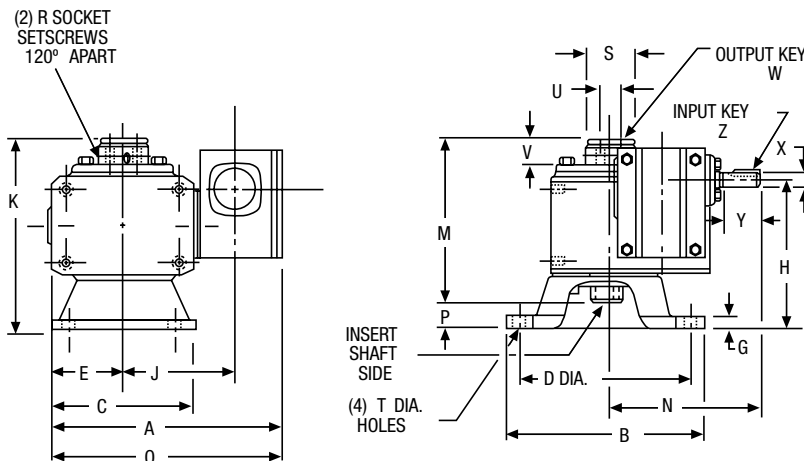
# 700 Series Double Reduction Non-Flanged Reducer Dimensions

## SWC700 Series

### V/W Position Mounting Flange; Right Angle Shafts; Hollow Output

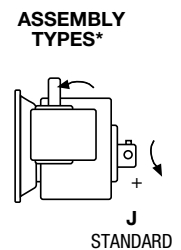
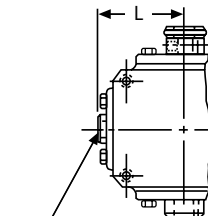
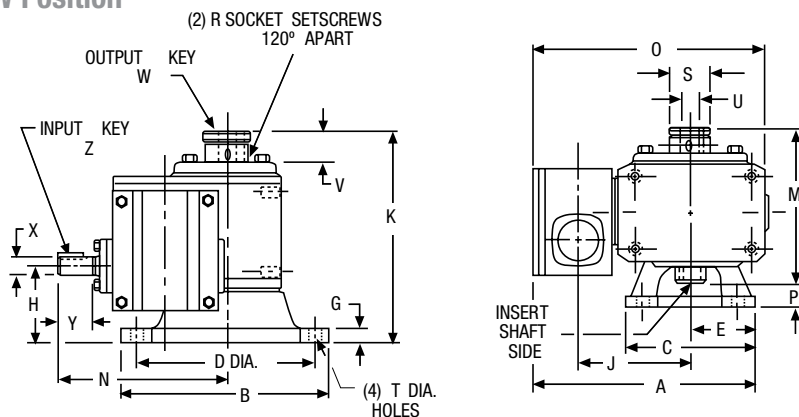
FOR ORDERING INFORMATION, see Page 56.  
FOR ADDITIONAL SIZES, See the H Series Page 88-89.  
FOR RATING INFORMATION, See Pages 71, 77-81.

#### V Position



+ HOLLO W SHAFT  
SETSCREWS ON  
THIS SIDE.

#### W Position



+ HOLLO W SHAFT  
SETSCREWS ON  
THIS SIDE.

ALL DIMENSIONS IN INCHES

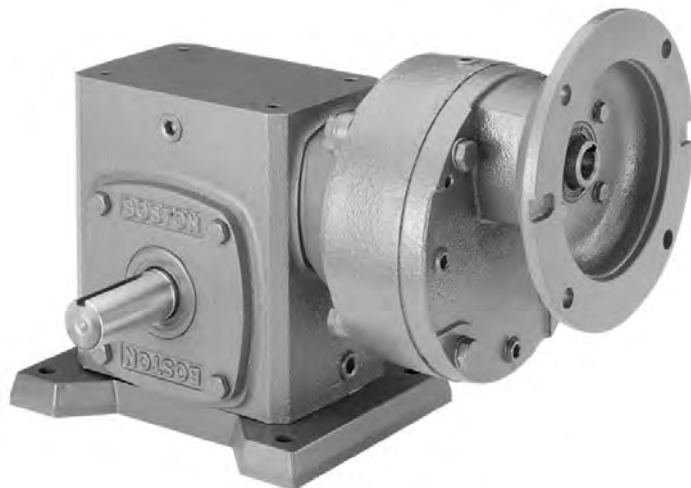
| SIZE | A     | B     | C    | D     | E    | G   | H       |         | K    | L    | M    | N    | O     | P    |
|------|-------|-------|------|-------|------|-----|---------|---------|------|------|------|------|-------|------|
|      |       |       |      |       |      |     | V Model | W Model |      |      |      |      |       |      |
| 718  | 8.41  | 6.75  | 4.88 | 5.88  | 2.44 | .38 | 4.50    | 3.50    | 4.44 | 6.59 | 5.69 | 4.63 | 8.72  | .91  |
| 721  | 9.56  | 7.38  | 5.75 | 6.50  | 2.88 | .38 | 5.09    | 3.75    | 4.94 | 6.97 | 5.88 | 5.97 | 9.69  | 1.09 |
| 726  | 11.28 | 8.88  | 7.75 | 8.00  | 3.88 | .38 | 5.41    | 4.08    | 5.66 | 7.56 | 6.47 | 6.53 | 11.28 | 1.09 |
| 732  | 13.25 | 11.00 | 9.00 | 10.00 | 4.50 | .50 | 7.00    | 5.25    | 6.48 | 9.63 | 8.06 | 8.13 | 13.69 | 1.56 |

| Size | R       | S    | T Dia. | Low Speed Shaft      |      |                 |        | High Speed Shaft    |      |       |        | Approx. Weight (Lbs.) |
|------|---------|------|--------|----------------------|------|-----------------|--------|---------------------|------|-------|--------|-----------------------|
|      |         |      |        | U<br>+.0015<br>-.000 | V    | W-KEY           |        | X<br>+.000<br>-.001 | Y    | Z-KEY |        |                       |
|      |         |      |        |                      |      | Sq              | Length |                     |      | Sq    | Length |                       |
| 718  | #10-32  | 1.38 | 11/32  | 1.000                | .78  | See Page        |        | .3745               | .81  | 3/32  | 3/8    | 32                    |
| 721  | 1/4-28  | 1.50 | 13/32  | 1.125                | .88  | 128 For         |        | .4995               | 1.31 | 1/8   | 5/8    | 40                    |
| 726  | 1/4-28  | 2.16 | 13/32  | 1.4375               | .84  | Key Information |        | .4995               | 1.31 | 1/8   | 5/8    | 63                    |
| 732  | 5/16-24 | 2.56 | 9/16   | 1.9375               | 1.00 |                 |        | .6245               | 1.56 | 3/16  | 13/16  | 120                   |

\* See Assemblies and Mounting Positions, Page 75. Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounted surfaces, viewed from end of input shaft. Input may be rotated clockwise or counterclockwise. Arrows indicate relative rotation.

B





## Section Contents

|                                                |                |
|------------------------------------------------|----------------|
| <b>Product Reference Guide</b> .....           | <b>104</b>     |
| <b>Features</b> .....                          | <b>105</b>     |
| <b>Numbering System / How to Order</b> .....   | <b>106</b>     |
| <b>Assemblies and Mounting Positions</b> ..... | <b>107-108</b> |
| <b>Quick Selection Chart</b> .....             | <b>109</b>     |
| <b>Output RPM Selection Tables</b> .....       | <b>110-118</b> |
| <b>Dimensions</b> .....                        | <b>119-126</b> |

700 Series Single Reduction  
Flanged Reducers with HMF Series

Ordering Information – Page 106  
Selection/Rating Information – Pages 109-118  
Mountings – Pages 107-108



**F700/QC700 BASIC W/HMF**  
Dimension Page 119



**F700/QC700 B W/HMF**  
Dimension Page 120



**F700/QC700 A W/HMF**  
Dimension Page 121



**F700/QC700 C/D W/HMF**  
Dimension Page 122



**F700 /QC700 E/F W/HMF**  
Dimension Page 122



**F700/QC700 X W/HMF**  
Dimension Page 123



**HF700/HQC700 W/HMF**  
Dimension Page 124

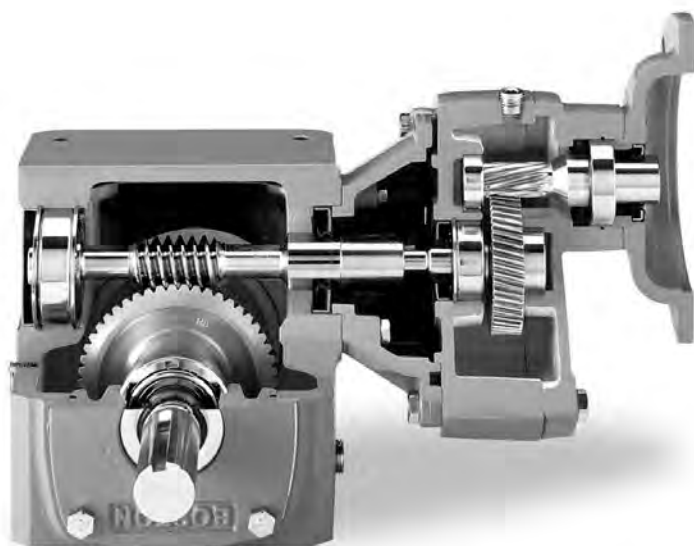


**HF700/HQC700 R/L W/HMF**  
Dimension Page 125

C



# Helical Multiplier Reducer Series Features



## Combination 700 and HM Series Features

- Rugged housing of fine-grained, gear-quality cast iron provides maximum strength and durability. Greater rigidity and one-piece construction ensure precise alignment of the worm and gear. This housing construction also provides superior resistance to caustic washdown solutions, plus high heat dissipation and reduced noise level. Pipe plugs allow easy fill, level and drain in any mounting position.
- Housings are straddle-milled top and bottom for precise alignment of horizontal and vertical bases.
- Multi-position mounting flexibility - threaded bolt holes let you install the HM Series speed reducers in almost any position.
- Internal baffle assures positive leak-free venting.
- Large oil reservoir provides highly efficient heat dissipation and lubrication for longer operating life.
- High pressure angle on worm provides greater operating efficiency.
- Integral input worm and shaft design made from high-strength case-hardened alloy steel. Reducer sizes 710 through 730 have pre-lubricant ball bearings; 732 through 760 have tapered roller bearings. Double lip oil seals are standard.
- Super-finished oil seal diameters on both input and output shafts provide extended seal life.
- High strength steel output shaft assures capacity for high torque and overhung loads
- High-strength bronze worm gear is straddle mounted between heavy-duty tapered roller bearings to increase thrust and overhung load capacities, sizes 713-760.

C

# Numbering System / How to Order

When ordering reducers please include code letters for Style, Size, Base (if required), Ratio, Lubrication (if required), NEMA Mounting (if flanged reducer), Shaft Assembly and Motor (if required).

Example:

Application requirements: 125:1 reduction, 1 HP NEMA 140TC 1750 RPM, Service Class I, horizontal base, Klubersynth UH1 6-460 lubrication, with standard assembly.

|     |   |   |   |    |    |   |
|-----|---|---|---|----|----|---|
| HMF | 2 | 5 | K | B7 | B7 | A |
|-----|---|---|---|----|----|---|

Assembled to an:

|   |     |   |    |   |    |   |
|---|-----|---|----|---|----|---|
| F | 732 | B | 25 | K | B7 | G |
|---|-----|---|----|---|----|---|

Each gearbox can be shipped separately or assembled.

|                                             |          |                            |          |                                                   |          |                                                    |          |                                                                                     |          |                                                                                      |          |                                                  |
|---------------------------------------------|----------|----------------------------|----------|---------------------------------------------------|----------|----------------------------------------------------|----------|-------------------------------------------------------------------------------------|----------|--------------------------------------------------------------------------------------|----------|--------------------------------------------------|
| <b>HMF</b>                                  | <b>-</b> | <b>2</b>                   | <b>-</b> | <b>1.5</b>                                        | <b>-</b> | <b>K</b>                                           | <b>-</b> | <b>B5</b>                                                                           | <b>-</b> | <b>B7</b>                                                                            | <b>-</b> | <b>B</b>                                         |
| <b>Type</b><br>HMF-Quill<br>Flange<br>Input |          | <b>Size</b><br>1<br>2<br>3 |          | <b>Ratio</b><br>1.5:1<br>2:1<br>3:1<br>4:1<br>5:1 |          | <b>Lubrication</b><br>K – Klubersynth<br>UH1 6-460 |          | <b>Input Flange<br/>Size</b><br>B5 – 56C<br>B7 – 140TC<br>B9 – 180TC<br>B11 – 210TC |          | <b>Output Flange<br/>Size</b><br>B5 – 56C<br>B7 – 140TC<br>B9 – 180TC<br>B11 – 210TC |          | <b>Mounting<br/>Position</b><br>A<br>B<br>C<br>D |

## 700 Series Right Angle Helical-Worm Gearbox - Double Reduction

|                                                                                                                                                                                                                                                                                                                                                      |               |                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                               |           |                                                                                                                                    |            |                                                                                                                                                                                                 |          |                                                                                        |          |                                                         |           |                                                                                                                                                                                |          |                                                                                                                                  |    |            |      |             |    |            |       |           |     |             |       |             |     |       |       |            |                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                           |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------------------------------------------------------|----------|---------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------|----|------------|------|-------------|----|------------|-------|-----------|-----|-------------|-------|-------------|-----|-------|-------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>SBKC</b>                                                                                                                                                                                                                                                                                                                                          | <b>H</b>      | <b>QC</b>                                                                                                                                                                                         | <b>HMA</b>  | <b>7</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>38</b>                                                                                                                                                                                                     | <b>B</b>  | <b>-</b>                                                                                                                           | <b>300</b> | <b>K</b>                                                                                                                                                                                        | <b>E</b> | <b>Z</b>                                                                               | <b>T</b> | <b>B5</b>                                               | <b>HS</b> | <b>1</b>                                                                                                                                                                       | <b>-</b> | <b>P24</b>                                                                                                                       |    |            |      |             |    |            |       |           |     |             |       |             |     |       |       |            |                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                           |  |
| <b>Input Shaft Style</b><br>Blank—Solid Projecting Input Shaft<br>F— Quill Style Motor Flange<br>RF— Coupling Style Motor Flange<br>QC— <i>Quick Connect</i> Motor Flange (close coupled)                                                                                                                                                            |               | <b>Output Shaft Style</b><br>Blank—Solid Output Shaft<br>H— <i>BostMount</i> Hollow Output (setscrews both sides, bore size selectable)<br>S— Hollow Output (setscrews one side, bore size fixed) |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Reduction Type</b><br>HMA— Helical Multiplier 12 O'clock<br>HMB— Helical Multiplier 6 O'clock<br>HMC— Helical Multiplier 3 O'clock<br>HMD— Helical Multiplier 9 O'clock<br>WP— Planetary Torque Multiplier |           | <b>Center Distance (inches)</b><br>13—1.33<br>18—1.75<br>21—2.06<br>26—2.62<br>30—3.00<br>32—3.25<br>38—3.75<br>52—5.13<br>60—6.00 |            | <b>Exact Gear Ratio</b><br>Ratio to 1<br>10 60<br>15 75<br>20 80<br>22.5 100<br>25 125<br>30 150<br>37.5 200<br>40 250<br>45 300<br>50<br>Check Catalog—<br>Or consult factory for availability |          | <b>Vent</b><br>Blank—Standard Vent<br>P— Pressure Vent (5 psi)<br>Z— Posivent (sealed) |          | <b>Endcap</b><br>(732-760 only)<br>E— Endcap (standard) |           | <b>Oil Seal</b><br>Blank— Standard Seal<br>T— Two Standard Input Seals<br>C— High pressure washdown output seals and double input seals (stainless products only) <b>IP69K</b> |          | <b>BostMount Output Bore Code</b><br>Refer to page 128 for complete offering<br>See catalog for availability by center distance. |    |            |      |             |    |            |       |           |     |             |       |             |     |       |       |            |                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                           |  |
| <b>Base/Mounting Attachment*</b><br>Blank— No base kit required<br>A & B— Horizontal bases<br>C & E— Vertical High bases<br>D & F— Vertical Low bases<br>R/L— <i>BostMount</i> Output Bracket<br>X— Input Vertical Up<br>Y— Input Vertical Down<br>V/W— Hollow O/P with base<br>M/N— Hollow O/P with CFA<br>*See catalog for mounting configurations |               | <b>Lubrication</b><br>Blank—No lubrication<br>K— Klubersynth UH1 6-460<br>S— Mobil SHC 634<br>X— Mobil 600W                                                                                       |             | <b>NEMA Motor Mounting</b> <table><tr><td>BORE CODE</td><td>NEMA MOUNTING</td><td>INPUT BORE</td><td>KEYWAY</td></tr><tr><td>B4</td><td>42CZ</td><td>.500"</td><td>1/8 x 1/16</td></tr><tr><td>B5</td><td>56C</td><td>.625</td><td>3/16 x 3/32</td></tr><tr><td>B7</td><td>140TC/180C</td><td>.875</td><td>3/16 x 3/32</td></tr><tr><td>B9</td><td>180TC/210C</td><td>1.125</td><td>1/4 x 1/8</td></tr><tr><td>B11</td><td>210TC/250UC</td><td>1.375</td><td>5/16 x 5/32</td></tr><tr><td>B13</td><td>250TC</td><td>1.625</td><td>3/8 x 3/16</td></tr></table><br>Blank Solid Input Shaft (No Flange) |                                                                                                                                                                                                               | BORE CODE | NEMA MOUNTING                                                                                                                      | INPUT BORE | KEYWAY                                                                                                                                                                                          | B4       | 42CZ                                                                                   | .500"    | 1/8 x 1/16                                              | B5        | 56C                                                                                                                                                                            | .625     | 3/16 x 3/32                                                                                                                      | B7 | 140TC/180C | .875 | 3/16 x 3/32 | B9 | 180TC/210C | 1.125 | 1/4 x 1/8 | B11 | 210TC/250UC | 1.375 | 5/16 x 5/32 | B13 | 250TC | 1.625 | 3/8 x 3/16 | <b>Mounting Positions</b><br>Blank—No Lubrication Supplied<br>For Factory Prelubrication Indicate Mounting Position<br>1— Standard Mounting (Worm over)<br>2-6—Refer to Mounting Positions in Catalog |  | <b>Output Shaft Assembly</b><br>G Output Projection Opposite Input<br>H Double Output Projection<br>J Output Projection Same Side as Input<br>GS Stainless Output Projection Opposite Input<br>HS Stainless Double Output Projection<br>JS Stainless Output Projection Same Side as Input |  |
| BORE CODE                                                                                                                                                                                                                                                                                                                                            | NEMA MOUNTING | INPUT BORE                                                                                                                                                                                        | KEYWAY      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                               |           |                                                                                                                                    |            |                                                                                                                                                                                                 |          |                                                                                        |          |                                                         |           |                                                                                                                                                                                |          |                                                                                                                                  |    |            |      |             |    |            |       |           |     |             |       |             |     |       |       |            |                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                           |  |
| B4                                                                                                                                                                                                                                                                                                                                                   | 42CZ          | .500"                                                                                                                                                                                             | 1/8 x 1/16  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                               |           |                                                                                                                                    |            |                                                                                                                                                                                                 |          |                                                                                        |          |                                                         |           |                                                                                                                                                                                |          |                                                                                                                                  |    |            |      |             |    |            |       |           |     |             |       |             |     |       |       |            |                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                           |  |
| B5                                                                                                                                                                                                                                                                                                                                                   | 56C           | .625                                                                                                                                                                                              | 3/16 x 3/32 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                               |           |                                                                                                                                    |            |                                                                                                                                                                                                 |          |                                                                                        |          |                                                         |           |                                                                                                                                                                                |          |                                                                                                                                  |    |            |      |             |    |            |       |           |     |             |       |             |     |       |       |            |                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                           |  |
| B7                                                                                                                                                                                                                                                                                                                                                   | 140TC/180C    | .875                                                                                                                                                                                              | 3/16 x 3/32 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                               |           |                                                                                                                                    |            |                                                                                                                                                                                                 |          |                                                                                        |          |                                                         |           |                                                                                                                                                                                |          |                                                                                                                                  |    |            |      |             |    |            |       |           |     |             |       |             |     |       |       |            |                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                           |  |
| B9                                                                                                                                                                                                                                                                                                                                                   | 180TC/210C    | 1.125                                                                                                                                                                                             | 1/4 x 1/8   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                               |           |                                                                                                                                    |            |                                                                                                                                                                                                 |          |                                                                                        |          |                                                         |           |                                                                                                                                                                                |          |                                                                                                                                  |    |            |      |             |    |            |       |           |     |             |       |             |     |       |       |            |                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                           |  |
| B11                                                                                                                                                                                                                                                                                                                                                  | 210TC/250UC   | 1.375                                                                                                                                                                                             | 5/16 x 5/32 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                               |           |                                                                                                                                    |            |                                                                                                                                                                                                 |          |                                                                                        |          |                                                         |           |                                                                                                                                                                                |          |                                                                                                                                  |    |            |      |             |    |            |       |           |     |             |       |             |     |       |       |            |                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                           |  |
| B13                                                                                                                                                                                                                                                                                                                                                  | 250TC         | 1.625                                                                                                                                                                                             | 3/8 x 3/16  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                               |           |                                                                                                                                    |            |                                                                                                                                                                                                 |          |                                                                                        |          |                                                         |           |                                                                                                                                                                                |          |                                                                                                                                  |    |            |      |             |    |            |       |           |     |             |       |             |     |       |       |            |                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                           |  |

Assemblies

Standard assemblies define output shaft (slow speed) projection with respect to input shaft (high speed) and mounting surfaces.

Type “A” and “B” are horizontal bases.

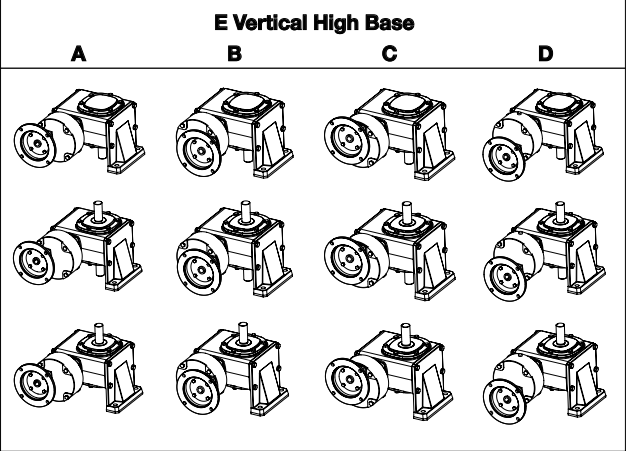
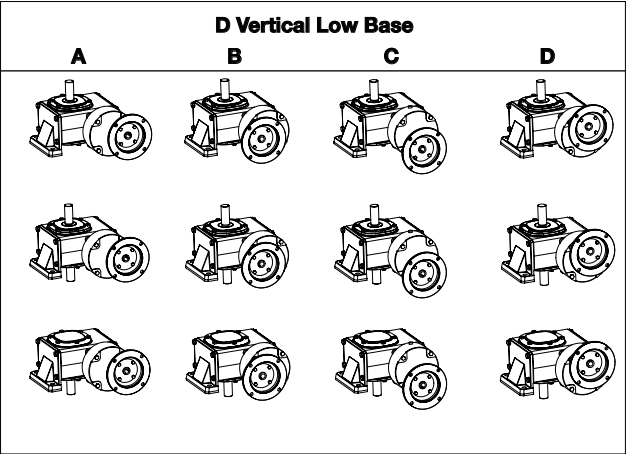
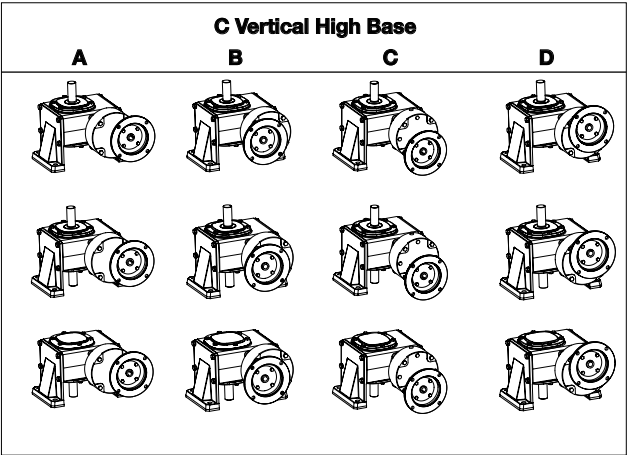
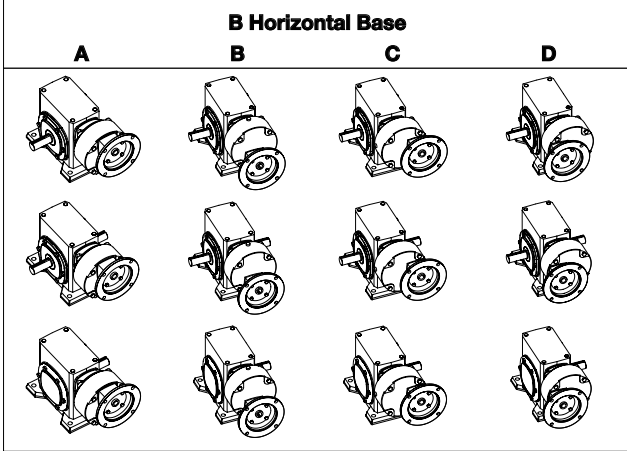
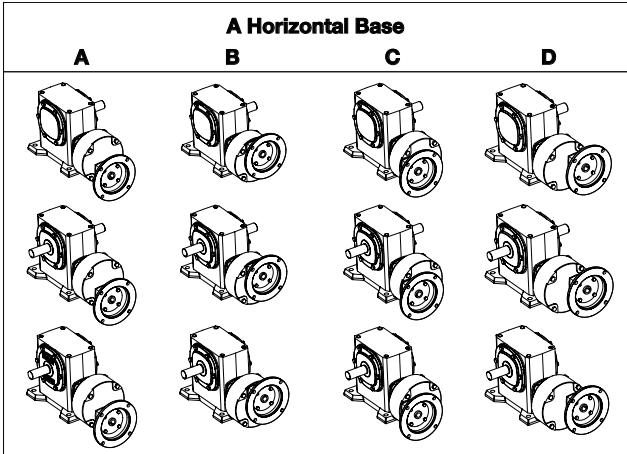
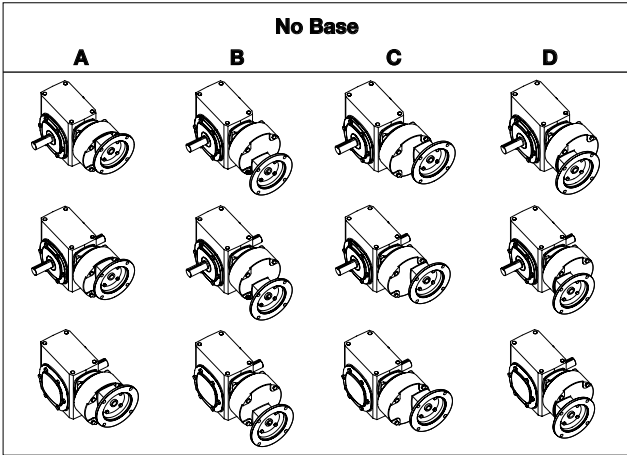
Types “C” and “E” are vertical high bases and types “D” and “F” are vertical low bases.

Type “X” is input vertical up.

Basic models and separate base kits are supplied unless otherwise specified. Assembly “H” available at a slight additional charge.

Input may rotate clockwise or counter clockwise.

FOR OTHER CONFIGURATIONS NOT SHOWN, CONTACT FACTORY.



# Mounting Data

## Assemblies

Standard assemblies define output shaft (slow speed) projection with respect to input shaft (high speed) and mounting surfaces.

Type “A” and “B” are horizontal bases.

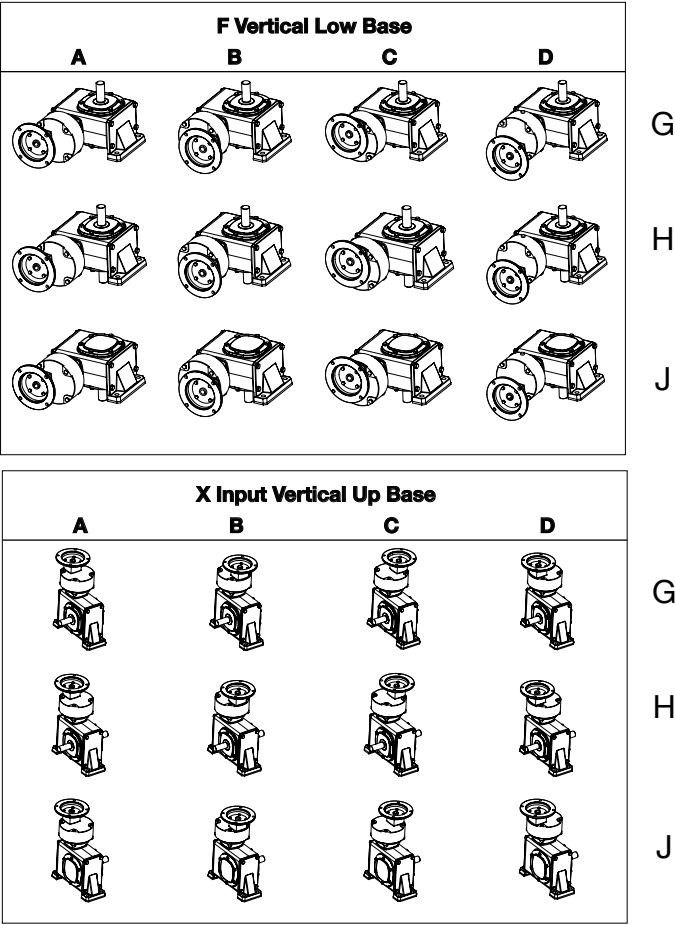
Types “C” and “E” are vertical high bases and types “D” and “F” are vertical low bases.

Type “X” is input vertical up.

Basic models and separate base kits are supplied unless otherwise specified. Assembly “H” available at a slight additional charge.

Input may rotate clockwise or counter clockwise.

**FOR OTHER CONFIGURATIONS NOT SHOWN, CONTACT FACTORY.**



## Quick Reference Model Selection Chart

**CLASS I SERVICE**  
 Single Reduction (1.0 Service Factor)

| Reducer Ratio | Output RPM | Input Horsepower @ 1750 rpm |     |     |     |     |     |       |     |     |     |       |     |    |    |
|---------------|------------|-----------------------------|-----|-----|-----|-----|-----|-------|-----|-----|-----|-------|-----|----|----|
|               |            | 1/6                         | 1/4 | 1/3 | 1/2 | 3/4 | 1   | 1-1/2 | 2   | 3   | 5   | 7-1/2 | 10  | 15 | 20 |
| 10            | 175        |                             | 713 | 713 | 713 | 715 | 715 | 721   | 721 | 726 | 730 | —     | —   | —  | —  |
| 15            | 116.7      |                             | 713 | 713 | 715 | 715 | 721 | 721   | 724 | 730 | —   | —     | —   | —  | —  |
| 20            | 87.5       | 713                         | 713 | 713 | 715 | 718 | 721 | 724   | 726 | 730 | 738 | 752   | 752 | —  | —  |
| 22.5          | 77.8       | 713                         | 713 | 713 | 715 | 721 | 721 | 724   | 726 | 730 | 738 | 752   | 752 | —  | —  |
| 25            | 70         | 713                         | 713 | 715 | 715 | 721 | 721 | 726   | 730 | —   | —   | —     | —   | —  | —  |
| 30            | 58.3       | 713                         | 713 | 715 | 718 | 721 | 721 | 726   | 730 | 732 | 752 | 752   | 760 | —  | —  |
| 37.5          | 46.7       | 713                         | 713 | 715 | 718 | 721 | 724 | 730   | 732 | —   | —   | —     | —   | —  | —  |
| 40            | 43.8       | 713                         | 713 | 715 | 721 | 721 | 724 | 730   | 730 | 738 | 752 | 752   | 760 | —  | —  |
| 45            | 38.9       | 713                         | 713 | 715 | 721 | 724 | 726 | 730   | 730 | 738 | 752 | 760   | 760 | —  | —  |
| 50            | 35         | 713                         | 715 | 718 | 721 | 724 | 726 | 730   | 730 | 738 | 752 | 760   | 760 | —  | —  |
| 60            | 29.2       | 713                         | 715 | 718 | 721 | 724 | 726 | 730   | 738 | 752 | 752 | 760   | —   | —  | —  |
| 75            | 23.3       | 715                         | 718 | 721 | 724 | 726 | 730 | 730   | 738 | 752 | 752 | —     | —   | —  | —  |
| 80            | 21.9       | 715                         | 718 | 721 | 724 | 726 | 730 | 732   | 738 | 752 | 760 | —     | —   | —  | —  |
| 100           | 17.5       | 715                         | 718 | 721 | 724 | 730 | 730 | 738   | 738 | 752 | 760 | —     | —   | —  | —  |
| 125           | 14         | 718                         | 721 | 724 | 726 | 730 | 732 | —     | —   | —   | —   | —     | —   | —  | —  |
| 150           | 11.7       | 718                         | 721 | 724 | 726 | 730 | 732 | 738   | —   | —   | —   | —     | —   | —  | —  |
| 200           | 8.8        | 718                         | 721 | 724 | 730 | 732 | 738 | —     | —   | 760 | —   | —     | —   | —  | —  |
| 250           | 7          | 721                         | 724 | 726 | 730 | 738 | —   | —     | —   | —   | —   | —     | —   | —  | —  |
| 300           | 5.8        | 721                         | 726 | 730 | 732 | 738 | —   | —     | —   | —   | —   | —     | —   | —  | —  |

**CLASS II SERVICE**  
 Single Reduction (1.25 Service Factor)

| Reducer Ratio | Output RPM | Input Horsepower @ 1750 rpm |     |     |     |     |     |       |     |     |     |       |     |    |    |
|---------------|------------|-----------------------------|-----|-----|-----|-----|-----|-------|-----|-----|-----|-------|-----|----|----|
|               |            | 1/6                         | 1/4 | 1/3 | 1/2 | 3/4 | 1   | 1-1/2 | 2   | 3   | 5   | 7-1/2 | 10  | 15 | 20 |
| 10            | 175        |                             | 713 | 713 | 713 | 715 | 721 | 724   | 726 | 730 | —   | —     | —   | —  | —  |
| 15            | 116.7      |                             | 713 | 713 | 715 | 721 | 721 | 724   | 726 | 730 | —   | —     | —   | —  | —  |
| 20            | 87.5       | 713                         | 713 | 715 | 718 | 721 | 724 | 726   | 732 | 732 | 752 | 752   | 752 | —  | —  |
| 22.5          | 77.8       | 713                         | 713 | 715 | 718 | 721 | 724 | 726   | 730 | 732 | 752 | 752   | —   | —  | —  |
| 25            | 70         | 713                         | 715 | 715 | 721 | 721 | 724 | 726   | 730 | —   | —   | —     | —   | —  | —  |
| 30            | 58.3       | 713                         | 715 | 715 | 721 | 721 | 724 | 730   | 730 | 738 | 752 | 752   | 760 | —  | —  |
| 37.5          | 46.7       | 713                         | 715 | 718 | 721 | 724 | 726 | 730   | 732 | —   | —   | —     | —   | —  | —  |
| 40            | 43.8       | 713                         | 715 | 718 | 721 | 724 | 726 | 730   | 732 | 752 | 752 | 760   | 760 | —  | —  |
| 45            | 38.9       | 713                         | 715 | 718 | 721 | 724 | 726 | 730   | 738 | 752 | 752 | 760   | —   | —  | —  |
| 50            | 35         | 713                         | 718 | 721 | 724 | 726 | 730 | 730   | 738 | 752 | 752 | 760   | —   | —  | —  |
| 60            | 29.2       | 715                         | 718 | 721 | 724 | 726 | 730 | 732   | 738 | 752 | —   | 760   | —   | —  | —  |
| 75            | 23.3       | 715                         | 721 | 721 | 724 | 730 | 730 | 738   | 752 | 752 | —   | 760   | —   | —  | —  |
| 80            | 21.9       | 715                         | 721 | 721 | 724 | 730 | 730 | 738   | 752 | 752 | —   | —     | —   | —  | —  |
| 100           | 17.5       | 718                         | 721 | 724 | 726 | 730 | 732 | 738   | —   | 752 | —   | —     | —   | —  | —  |
| 125           | 14         | 721                         | 724 | 726 | 730 | 732 | —   | —     | —   | —   | —   | —     | —   | —  | —  |
| 150           | 11.7       | 721                         | 724 | 726 | 730 | 732 | 738 | 738   | —   | 752 | —   | —     | —   | —  | —  |
| 200           | 8.8        | 721                         | 724 | 726 | 730 | 738 | —   | —     | —   | —   | —   | —     | —   | —  | —  |
| 250           | 7          | 724                         | 726 | 730 | 732 | —   | —   | —     | —   | —   | —   | —     | —   | —  | —  |
| 300           | 5.8        | 724                         | 726 | 732 | 738 | —   | —   | —     | —   | —   | —   | —     | —   | —  | —  |

**Note:** This chart is meant only as a guide. For actual ratings, see Pages 110-118.

# Double Reduction Output RPM & Capacity Selection Tables

## @ 1750 RPM Input

| Output<br>RPM                  | Ratio      | Flanged Reducers (Gearmotor) |       |        |                                 |            |                   |                              |                  | Motors*          |                                 |
|--------------------------------|------------|------------------------------|-------|--------|---------------------------------|------------|-------------------|------------------------------|------------------|------------------|---------------------------------|
|                                |            | Gear Capacity                |       |        | Available Models                |            | Ratings           |                              |                  |                  | Catalog Nos.                    |
|                                |            | Output<br>Torque<br>(lb.in.) | HP    |        | F, QC, HF, SF, HQC, RF          |            | MTR HP            | Output<br>Torque<br>(lb.in.) | Service<br>Class | MTR<br>Bore Code | 230/460 VAC<br>3 Phase<br>60 Hz |
|                                |            |                              | Input | Output | Gearbox Size K                  |            |                   |                              |                  |                  |                                 |
| 175                            | 10<br>2x5  | 203                          | 0.67  | 0.56   | HMF1-2K-B5-B5 with F713-5-(B5)  |            | 1/2<br>1/3<br>1/4 | 152<br>101<br>76             | I<br>II<br>III   | B5<br>B5<br>B5   | FUTF<br>EUTF<br>DUTF            |
|                                |            | 315                          | 1     | 0.87   | HMF1-2K-B5-B5 with F715-5-(B5)  |            | 1<br>3/4<br>1/2   | 315<br>236<br>158            | I<br>II<br>III   | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF        |
|                                |            | 380                          | 1.21  | 1.06   | HMF1-2K-B5-B5 with F718-5-(B5)  |            | 1<br>3/4<br>1/2   | 315<br>236<br>158            | I<br>II<br>III   | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF        |
|                                |            | 622                          | 1.94  | 1.73   | HMF2-2K-B7-B7 with F721-5-(B7)  |            | 2<br>1 1/2        | 621<br>466                   | I<br>II          | B7<br>B7         | KUTF<br>JUTF                    |
|                                |            |                              |       |        | HMF2-2K-B5-B5 with F721-5-(B5)  |            | 1                 | 311                          | III              | B5               | HUTF-5/8                        |
|                                |            | 850                          | 2.72  | 2.36   | HMF2-2K-B7-B7 with F724-5-(B7)  |            | 2<br>1 1/2        | 624<br>468                   | II<br>II         | B7<br>B7         | KUTF<br>JUTF                    |
|                                |            |                              |       |        | HMF2-2K-B5-B5 with F724-5-(B5)  |            | 1                 | 312                          | III              | B5               | HUTF-5/8                        |
|                                |            | 1140                         | 3.91  | 3.17   | HMF3-2K-B9-B9 with F726-5-(B9)  |            | 3                 | 943                          | I                | B9               | LUTF                            |
|                                |            |                              |       |        | HMF2-2K-B7-B7 with F726-5-(B7)  |            | 2<br>1 1/2        | 629<br>471                   | II<br>III        | B7<br>B7         | KUTF<br>JUTF                    |
|                                |            | 1944                         | 5.98  | 5.4    | HMF3-2K-B9-B9 with F730-5-(B9)  |            | 5                 | 1624                         | I                | B9               | MUTF                            |
| HMF2-2K-B7-B7 with F730-5-(B7) |            |                              |       |        | 3<br>2                          | 974<br>650 | II<br>III         | B7<br>B7                     | LUTF<br>KUTF     |                  |                                 |
| 116.7                          | 15<br>3x5  | 211                          | 0.462 | 0.391  | HMF1-3K-B5-B5 with F713-5-(B5)  |            | 1/3<br>1/4        | 152<br>114                   | II<br>III        | B5<br>B5         | EUTF<br>DUTF                    |
|                                |            | 337                          | 0.752 | 0.624  | HMF1-3K-B5-B5 with F715-5-(B5)  |            | 3/4<br>1/2<br>1/3 | 334<br>223<br>148            | I<br>II<br>III   | B5<br>B5<br>B5   | GUTF<br>FUTF<br>EUTF            |
|                                |            | 411                          | 0.902 | 0.761  | HMF1-3K-B5-B5 with F718-5-(B5)  |            | 3/4<br>1/2<br>1/3 | 342<br>228<br>152            | I<br>II<br>III   | B5<br>B5<br>B5   | GUTF<br>FUTF<br>EUTF            |
|                                |            | 697                          | 1.510 | 1.291  | HMF2-3K-B7-B7 with F721-5-(B7)  |            | 1 1/2             | 691                          | I                | B7               | JUTF                            |
|                                |            |                              |       |        | HMF2-3K-B5-B5 with F721-5-(B5)  |            | 1<br>3/4          | 461<br>346                   | II<br>III        | B5<br>B5         | HUTF-5/8<br>GUTF                |
|                                |            | 962                          | 2.06  | 1.798  | HMF2-3K-B7-B7 with F724-5-(B7)  |            | 2<br>1 1/2        | 934<br>700                   | I<br>II          | B7<br>B7         | KUTF<br>JUTF                    |
|                                |            |                              |       |        | HMF2-3K-B5-B5 with F724-5-(B5)  |            | 1                 | 467                          | III              | B5               | HUTF-5/8                        |
|                                |            | 1313                         | 2.815 | 2.431  | HMF2-3K-B7-B7 with F726-5-(B7)  |            | 2<br>1 1/2        | 932<br>700                   | II<br>III        | B7<br>B7         | KUTF<br>JUTF                    |
|                                |            | 2326                         | 4.93  | 4.31   | HMF3-3K-B9-B9 with F730-5-(B9)  |            | 3                 | 1414                         | II               | B9               | LUTF                            |
|                                |            |                              |       |        | HMF2-3K-B7-B7 with F730-5-(B7)  |            | 2                 | 943                          | III              | B7               | KUTF                            |
| 87.5                           | 20<br>2x10 | 257                          | 0.426 | 0.357  | HMF1-2K-B5-B5 with F713-10-(B5) |            | 1/3<br>1/4<br>1/6 | 200<br>151<br>100            | I<br>II<br>III   | B5<br>B5<br>B5   | EUTF<br>DUTF<br>CUTF            |
|                                |            | 370                          | 0.604 | 0.514  | HMF1-2K-B5-B5 with F715-10-(B5) |            | 1/2<br>1/3<br>1/4 | 306<br>204<br>153            | I<br>II<br>III   | B5<br>B5<br>B5   | FUTF<br>EUTF<br>DUTF            |
|                                |            | 510                          | 0.829 | 0.708  | HMF1-2K-B5-B5 with F718-10-(B5) |            | 3/4<br>1/2<br>1/3 | 461<br>307<br>205            | I<br>II<br>III   | B5<br>B5<br>B5   | GUTF<br>FUTF<br>EUTF            |
|                                |            | 777                          | 1.26  | 1.08   | HMF2-2K-B5-B5 with F721-10-(B7) |            | 1<br>3/4<br>1/2   | 615<br>461<br>307            | I<br>II<br>III   | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF        |

\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see our Electrical Products Catalog.

# Double Reduction Output RPM & Capacity Selection Tables

@ 1750 RPM Input

| Output<br>RPM | Ratio          | Flanged Reducers (Gearmotor) |       |        |                                       |  |                   |                              |                  | Motors*          |                                 |
|---------------|----------------|------------------------------|-------|--------|---------------------------------------|--|-------------------|------------------------------|------------------|------------------|---------------------------------|
|               |                | Gear Capacity                |       |        | Available Models                      |  | Ratings           |                              |                  |                  | Catalog Nos.                    |
|               |                | Output<br>Torque<br>(lb.in.) | HP    |        | F, QC, HF, SF, HQC, RF                |  | MTR HP            | Output<br>Torque<br>(lb.in.) | Service<br>Class | MTR<br>Bore Code | 230/460 VAC<br>3 Phase<br>60 Hz |
|               |                |                              | Input | Output | Gearbox Size K                        |  |                   |                              |                  |                  |                                 |
| 87.5          | 20<br>2X10     | 1130                         | 1.81  | 1.57   | HMF2-2K-B7-B7 with F724-10-(B7)       |  | 1 1/2             | 938                          | I                | B7               | JUTF                            |
|               |                |                              |       |        | HMF2-2K-B5-B5 withF724-10-(B5)        |  | 1<br>3/4          | 625<br>469                   | II<br>III        | B5<br>B5         | HUTF-5/8<br>GUTF                |
|               |                | 1515                         | 2.44  | 2.103  | HMF2-2K-B7-B7 with F726-10-(B7)       |  | 2<br>1 1/2        | 1242<br>931                  | I<br>II          | B7<br>B7         | KUTF<br>JUTF                    |
|               |                |                              |       |        | HMF2-2K-B5-B5 with F726-10-(B5)       |  | 1                 | 621                          | III              | B5               | HUTF-5/8<br>K                   |
|               |                | 2370                         | 3.75  | 3.29   | HMF3-2K-B9-B9 with F730-10-(B9)       |  | 3                 | 1881                         | II               | B9               | LUTF                            |
|               |                |                              |       |        | HMF2-2K-B7-B7 with F730-10-(B7)       |  | 2                 | 1254                         | III              | B7               | KUTF                            |
|               |                | 2660                         | 4.23  | 3.69   | HMF3-2K-B9-B9 with F732-10-(B9)       |  | 3                 | 1886                         | II               | B9               | LUTF                            |
|               |                | 3700                         | 5.92  | 5.14   | HMF3-2K-B9-B9 with F738-10-(B9)       |  | 5<br>3            | 3125<br>1875                 | I<br>II          | B9<br>B9         | MUTF<br>LUTF                    |
|               |                | 8037                         | 12.78 | 11.16  | HMF3-2K-B11-B11 with RF752-10-(B11)   |  | 10<br>7 1/2       | 6286<br>4714                 | II<br>III        | B11<br>B11       | PUTF<br>NUTF                    |
| 77.8          | 22.5<br>1.5X15 | 262                          | 0.381 | 0.32   | HMF1-1.5K-B5-B5 with F713-15-(B5)     |  | 1/3<br>1/4<br>1/6 | 226<br>170<br>113            | I<br>II<br>III   | B5<br>B5<br>B5   | EUTF<br>DUTF<br>CUTF            |
|               |                | 376                          | 0.546 | 0.46   | HMF1-1.5K-B5-B5 with F715-15-(B5)     |  | 1/2<br>1/3<br>1/4 | 337<br>225<br>169            | I<br>II<br>III   | B5<br>B5<br>B5   | FUTF<br>EUTF<br>DUTF            |
|               |                | 472                          | 0.69  | 0.57   | HMF1-1.5K-B5-B5 with F718-15-(B5)     |  | 1/2<br>1/3        | 334<br>223                   | II<br>III        | B5<br>B5         | FUTF<br>EUTF                    |
|               |                | 752                          | 1.09  | 0.91   | HMF1-1.5K-B5-B5 with F721-15-(B5)     |  | 1<br>3/4<br>1/2   | 674<br>506<br>337            | I<br>II<br>III   | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF        |
|               |                | 1060                         | 1.56  | 1.29   | HMF2-1.5K-B7-B7 with F724-15-(B7)     |  | 1 1/2             | 1006                         | I                | B7               | JUTF                            |
|               |                |                              |       |        | HMF2-1.5K-B5-B5 with F724-15-(B5)     |  | 1<br>3/4          | 671<br>503                   | II<br>III        | B5<br>B5         | HUTF-5/8<br>GUTF                |
|               |                | 1425                         | 2.07  | 1.73   | HMF2-1.5K-B7-B7 with F726-15-(B7)     |  | 2<br>1 1/2        | 1353<br>1014                 | I<br>II          | B7<br>B7         | KUTF<br>JUTF                    |
|               |                |                              |       |        | HMF2-1.5K-B5-B5 with F726-15-(B5)     |  | 1                 | 677                          | III              | B5               | HUTF-5/8                        |
|               |                | 2425                         | 3.51  | 2.95   | HMF3-1.5K-B9-B9 with F730-15-(B9)     |  | 3                 | 2039                         | I                | B9               | LUTF                            |
|               |                |                              |       |        | HMF2-1.5K-B7-B7 with F730-15-(B7)     |  | 2<br>1 1/2        | 1359<br>1019                 | II<br>III        | B7<br>B7         | KUTF<br>JUTF                    |
|               |                | 2600                         | 3.74  | 3.16   | HMF3-1.5K-B9-B9 with F732-15-(B9)     |  | 3                 | 2053                         | II               | B9               | LUTF                            |
|               |                | 3600                         | 5.14  | 4.38   | HMF3-1.5K-B9-B9 with F738-15-(B9)     |  | 5<br>3            | 3449<br>2070                 | I<br>II          | B9<br>B9         | MUTF<br>LUTF                    |
|               |                | 7700                         | 10.82 | 9.37   | HMF3-1.5K-B11-B11 with RF752-15-(B11) |  | 10<br>7 1/2       | 7008<br>5256                 | I<br>II          | B11<br>B11       | PUTF<br>NUTF                    |
|               |                |                              |       |        | HMF3-1.5K-B9-B9 with RF752-15-(B9)    |  | 5                 | 3504                         | III              | B9               | MUTF                            |
|               |                | 10800                        | 15.18 | 13.14  | HMF3-1.5K-B11-B11 with RF760-15-(B11) |  | 10<br>7 1/2       | 7008<br>5256                 | II<br>III        | B11<br>B11       | PUTF<br>NUTF                    |

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# Double Reduction Output RPM & Capacity Selection Tables

## @ 1750 RPM Input

| Output RPM | Ratio      | Flanged Reducers (Gearmotor) |       |        |                                     |                        |                          |                       |                      | Motors*                          |
|------------|------------|------------------------------|-------|--------|-------------------------------------|------------------------|--------------------------|-----------------------|----------------------|----------------------------------|
|            |            | Gear Capacity                |       |        | Available Models                    |                        | Ratings                  |                       |                      | Catalog Nos.                     |
|            |            | Output Torque (lb.in.)       | HP    |        | F, QC, HF, SF, HQC, RF              | MTR HP                 | Output Torque (lb.in.)   | Service Class         | MTR Bore Code        | 230/460 VAC 3 Phase 60 Hz        |
|            |            |                              | Input | Output | Gearbox Size K                      |                        |                          |                       |                      |                                  |
| 70         | 25<br>5x5  | 225                          | 0.307 | 0.25   | HMF1-5K-B5-B5 with F713-5-(B5)      | 1/4<br>1/6             | 183<br>122               | I<br>II               | B5<br>B5             | DUTF<br>CUTF                     |
|            |            | 353                          | 0.486 | 0.392  | HMF1-5K-B5-B5 with F715-5-(B5)      | 1/2<br>1/3<br>1/4      | 353<br>242<br>181        | I<br>II<br>III        | B5<br>B5<br>B5       | FUTF<br>EUTF<br>DUTF             |
|            |            | 435                          | 0.6   | 0.483  | HMF1-5K-B5-B5 with F718-5-(B5)      | 1/2<br>1/3<br>1/4      | 362<br>242<br>181        | I<br>II<br>III        | B5<br>B5<br>B5       | FUTF<br>EUTF<br>DUTF             |
|            |            | 756                          | 1.00  | 0.84   | HMF1-5K-B5-B5 with F721-5-(B5)      | 1<br>3/4<br>1/2        | 758<br>568<br>379        | I<br>II<br>III        | B5<br>B5<br>B5       | HUTF-5/8<br>GUTF<br>FUTF         |
|            |            | 1081                         | 1.394 | 1.201  | HMF1-5K-B5-B5 with F724-5-(B5)      | 1<br>3/4<br>1/2        | 775<br>581<br>388        | II<br>II<br>III       | B5<br>B5<br>B5       | HUTF-5/8<br>GUTF<br>FUTF         |
|            |            | 1451                         | 1.89  | 1.612  | HMF2-5K-B7-B7 with F726-5-(B7)      | 1-1/2                  | 1163                     | II                    | B7                   | JUTF                             |
|            |            | 1451                         | 1.89  | 1.612  | HMF2-5K-B5-B5 with F726-5-(B5)      | 1<br>3/4               | 775<br>581               | II<br>III             | B5<br>B5             | HUTF-5/8<br>GUTF                 |
|            |            | 2590                         | 3.41  | 2.877  | HMF2-5K-B7-B7 with F730-5-(B7)      | 1-1/2<br>2             | 1519<br>1139             | II<br>III             | B7<br>B7             | JUTF<br>KUTF                     |
| 58.3       | 30<br>2x15 | 277                          | 0.31  | 0.256  | HMF1-2K-B5-B5 with F713-15-(B5)     | 1/4<br>1/6             | 223<br>148               | I<br>II               | B5<br>B5             | DUTF<br>CUTF                     |
|            |            | 400                          | 0.45  | 0.37   | HMF1-2K-B5-B5 with F715-15-(B5)     | 1/3<br>1/4<br>1/6      | 297<br>223<br>148        | II<br>II<br>III       | B5<br>B5<br>B5       | EUTF<br>DUTF<br>CUTF             |
|            |            | 510                          | 0.572 | 0.472  | HMF1-2K-B5-B5 with F718-15-(B5)     | 1/2<br>1/3<br>1/4      | 445<br>297<br>223        | I<br>II<br>III        | B5<br>B5<br>B5       | FUTF<br>EUTF<br>DUTF             |
|            | 30<br>3x10 | 842                          | 0.96  | 0.78   | HMF1-3K-B5-B5 with F721-10-(B5)     | 1<br>3/4<br>1/2<br>1/3 | 842<br>660<br>440<br>293 | I<br>II<br>III<br>III | B5<br>B5<br>B5<br>B5 | HUTF-5/8<br>GUTF<br>FUTF<br>EUTF |
|            |            | 1241                         | 1.345 | 1.148  | HMF2-3K-B5-B5 with F724-10-(B5)     | 1<br>3/4<br>1/2        | 930<br>698<br>465        | II<br>II<br>III       | B5<br>B5<br>B5       | HUTF<br>GUTF<br>FUTF             |
|            |            | 1665                         | 1.82  | 1.54   | HMF2-3K-B7-B7 with F726-10-(B7)     | 1-1/2                  | 1367                     | I                     | B7                   | JUTF                             |
|            |            | 1665                         | 1.82  | 1.54   | HMF2-3K-B5-B5 with F726-10-(B5)     | 1<br>3/4               | 911<br>684               | II<br>III             | B5<br>B5             | HUTF<br>GUTF                     |
|            |            | 2672                         | 2.93  | 2.472  | HMF2-3K-B7-B7 with F730-10-(B7)     | 2<br>1-1/2             | 1823<br>1367             | II<br>III             | B7<br>B7             | KUTF<br>JUTF                     |
|            |            | 2672                         | 2.93  | 2.472  | HMF2-3K-B5-B5 with F730-10-(B5)     | 1                      | 911                      | III                   | B5                   | HUTF-5/8                         |
|            |            | 2890                         | 3.132 | 2.673  | HMF3-3K-B9-B9 with F732-10-(B9)     | 3                      | 2766                     | I                     | B9                   | LUTF                             |
|            |            | 2890                         | 3.132 | 2.673  | HMF2-3K-B7-B7 with F732-10-(B7)     | 2<br>1-1/2             | 1844<br>1382             | II<br>III             | B7<br>B7             | KUTF<br>JUTF                     |
|            |            | 4044                         | 4.432 | 3.741  | HMF3-3K-B9-B9 with F738-10-(B9)     | 3<br>2                 | 2734<br>1823             | II<br>III             | B9<br>B9             | LUTF<br>KUTF                     |
|            | 30<br>2x15 | 8760                         | 9.35  | 8.103  | HMF3-2K-B11-B11 with RF752-15-(B11) | 7-1/2                  | 7016                     | II                    | B11                  | NUTF                             |
|            |            | 8760                         | 9.35  | 8.103  | HMF3-2K-B9-B9 with RF752-15-(B9)    | 5<br>3                 | 4677<br>1871             | II<br>III             | B9<br>B9             | MUTF<br>LUTF                     |
|            |            | 12220                        | 13.06 | 11.304 | HMF3-2K-B11-B11 with RF760-15-(B11) | 10<br>7-1/2            | 9345<br>7008             | II<br>II              | B11<br>B11           | PUTF<br>NUTF                     |
|            |            | 12220                        | 13.06 | 11.304 | HMF3-2K-B9-B9 with RF760-15-(B9)    | 5                      | 4672                     | III                   | B9                   | MUTF                             |

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# Double Reduction Output RPM & Capacity Selection Tables

@ 1750 RPM Input

| Output RPM | Ratio            | Flanged Reducers (Gearmotor) |       |                  |                                     |                   |                        |                 |                | Motors*                   |
|------------|------------------|------------------------------|-------|------------------|-------------------------------------|-------------------|------------------------|-----------------|----------------|---------------------------|
|            |                  | Gear Capacity                |       | Available Models |                                     |                   | Ratings                |                 |                | Catalog Nos.              |
|            |                  | Output Torque (lb.in.)       | HP    |                  | F, QC, HF, SF, HQC, RF              | MTR HP            | Output Torque (lb.in.) | Service Class   | MTR Bore Code  | 230/460 VAC 3 Phase 60 Hz |
|            |                  |                              | Input | Output           | Gearbox Size K                      |                   |                        |                 |                |                           |
| 46.7       | 37.5<br>1.5 x 25 | 491                          | 0.49  | 0.36             | HMF1-1.5K-B5-B5 with F718-25-(B5)   | 1/2<br>1/3<br>1/6 | 491<br>327<br>245      | I<br>II<br>III  | B5<br>B5<br>B5 | FUTF<br>EUTF<br>CUTF      |
|            |                  | 792                          | 0.75  | 0.58             | HMF1-1.5K-B5-B5 with F721-25-(B5)   | 3/4<br>1/2<br>1/3 | 792<br>528<br>352      | I<br>II<br>III  | B5<br>B5<br>B5 | GUTF<br>FUTF<br>EUTF      |
|            |                  | 1150                         | 1.06  | 0.84             | HMF1-1.5K-B5-B5 with F724-25-(B5)   | 1<br>3/4<br>1/2   | 1068<br>800<br>534     | I<br>II<br>III  | B5<br>B5<br>B5 | HUTF-5/8<br>GUTF<br>FUTF  |
|            |                  | 1525                         | 1.35  | 1.11             | HMF1-1.5K-B5-B5 with F726-25-(B5)   | 1<br>3/4          | 1109<br>832            | II<br>III       | B5<br>B5       | HUTF-5/8<br>GUTF          |
|            |                  | 2560                         | 2.37  | 1.86             | HMF2-1.5K-B7-B7 with F730-25-(B7)   | 2<br>1-1/2        | 2118<br>1589           | I<br>II         | B7<br>B7       | KUTF<br>JUTF              |
|            |                  |                              |       |                  | HMF2-1.5K-B5-B5 with F730-25-(B5)   | 1                 | 1059                   | III             | B5             | HUTF-5/8                  |
|            |                  | 3000                         | 2.73  | 2.19             | HMF2-1.5K-B7-B7 with F732-25-(B7)   | 2<br>1-1/2        | 2118<br>1589           | II<br>III       | B7<br>B7       | KUTF<br>JUTF              |
| 43.8       | 40<br>4x10       | 279                          | 0.25  | 0.194            | HMF1-4K-B5-B5 with F713-10-(B5)     | 1/4<br>1/6        | 279<br>186             | I<br>II         | B5<br>B5       | DUTF<br>CUTF              |
|            |                  | 404                          | 0.36  | 0.28             | HMF1-4K-B5-B5 with F715-10-(B5)     | 1/3<br>1/4<br>1/6 | 372<br>279<br>186      | I<br>II<br>III  | B5<br>B5<br>B5 | EUTF<br>DUTF<br>CUTF      |
|            |                  | 566                          | 0.468 | 0.393            | HMF1-4K-B5-B5 with F718-10-(B5)     | 1/3<br>1/4        | 391<br>293             | II<br>III       | B5<br>B5       | EUTF<br>DUTF              |
|            |                  | 880                          | 0.79  | 0.61             | HMF1-4K-B5-B5 with F721-10-(B5)     | 3/4<br>1/2<br>1/3 | 878<br>587<br>391      | I<br>II<br>III  | B5<br>B5<br>B5 | GUTF<br>FUTF<br>EUTF      |
|            |                  | 1298                         | 1.08  | 0.901            | HMF1-4K-B5-B5 with F724-10-(B5)     | 1<br>3/4<br>1/2   | 1201<br>900<br>600     | I<br>II<br>III  | B5<br>B5<br>B5 | HUTF-5/8<br>GUTF<br>FUTF  |
|            |                  | 1754                         | 1.46  | 1.218            | HMF2-4K-B5-B5 with F726-10-(B5)     | 1<br>3/4          | 1201<br>900            | II<br>III       | B5<br>B5       | HUTF-5/8<br>GUTF          |
|            |                  | 2842                         | 2.36  | 1.973            | HMF2-4K-B7-B7 with F730-10-(B7)     | 2<br>1-1/2        | 2402<br>1802           | I<br>II         | B7<br>B7       | KUTF<br>JUTF              |
|            |                  |                              |       |                  | HMF2-4K-B5-B5 with F730-10-(B5)     | 1                 | 1201                   | III             | B5             | HUTF-5/8                  |
|            |                  | 3014                         | 2.51  | 2.092            | HMF2-4K-B7-B7 with F732-10-(B7)     | 2<br>1-1/2        | 2402<br>1802           | II<br>II        | B7<br>B7       | KUTF<br>JUTF              |
|            |                  | 4242                         | 3.52  | 2.94             | HMF3-4K-B9-B9 with F738-10-(B9)     | 3                 | 3604                   | I               | B9             | LUTF                      |
|            |                  | 9413                         | 7.74  | 6.53             | HMF3-4K-B11-B11 with RF752-10-(B11) | 7-1/2             | 9009                   | I               | B11            | NUTF                      |
|            |                  |                              |       |                  | HMF3-4K-B9-B9 with RF752-10-(B9)    | 5<br>3            | 6006<br>3604           | II<br>III       | B9<br>B9       | MUTF<br>LUTF              |
|            |                  | 15112                        | 12.28 | 10.49            | HMF3-4K-B11-B11 with RF760-10-(B11) | 10<br>7-1/2       | 12012<br>9009          | II<br>II        | B11<br>B11     | PUTF<br>NUTF              |
|            |                  |                              |       |                  | HMF3-4K-B9-B9 with RF760-10-(B9)    | 5                 | 6006                   | III             | B9             | MUTF                      |
| 38.9       | 45<br>3x15       | 296                          | 0.25  | 0.183            | HMF1-3K-B5-B5 with F713-15-(B5)     | 1/4<br>1/6        | 296<br>202             | II<br>II        | B5<br>B5       | DUTF<br>CUTF              |
|            |                  | 425                          | 0.346 | 0.262            | HMF1-3K-B5-B5 with F715-15-(B5)     | 1/3<br>1/4<br>1/6 | 408<br>306<br>204      | I<br>II<br>III  | B5<br>B5<br>B5 | EUTF<br>DUTF<br>CUTF      |
|            |                  | 545                          | 0.428 | 0.336            | HMF1-3K-B5-B5 with F718-15-(B5)     | 1/3<br>1/4<br>1/6 | 424<br>318<br>212      | II<br>II<br>III | B5<br>B5<br>B5 | EUTF<br>DUTF<br>CUTF      |
|            |                  | 856                          | 0.66  | 0.53             | HMF1-3K-B5-B5 with F721-15-(B5)     | 1/2<br>1/3        | 652<br>435             | II<br>III       | B5<br>B5       | FUTF<br>EUTF              |

\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see our Electrical Products Catalog.

# Double Reduction Output RPM & Capacity Selection Tables

## @ 1750 RPM Input

| Output<br>RPM                    | Ratio      | Flanged Reducers (Gearmotor) |                                     |        |                                  |                |                   |                              |                  | Motors*          |                                 |
|----------------------------------|------------|------------------------------|-------------------------------------|--------|----------------------------------|----------------|-------------------|------------------------------|------------------|------------------|---------------------------------|
|                                  |            | Gear Capacity                |                                     |        | Available Models                 |                | Ratings           |                              |                  |                  | Catalog Nos.                    |
|                                  |            | Output<br>Torque<br>(lb.in.) | HP                                  |        | F, QC, HF, SF, HQC, RF           |                | MTR HP            | Output<br>Torque<br>(lb.in.) | Service<br>Class | MTR<br>Bore Code | 230/460 VAC<br>3 Phase<br>60 Hz |
|                                  |            |                              | Input                               | Output | Gearbox Size K                   |                |                   |                              |                  |                  |                                 |
| 38.9                             | 45<br>3x15 | 1279                         | 0.951                               | 0.789  | HMF2-3K-B5-B5 with F724-15-(B5)  |                | 3/4<br>1/2        | 978<br>652                   | II<br>III        | B5<br>B5         | GUTF<br>FUTF                    |
|                                  |            | 1744                         | 1.337                               | 1.076  | HMF2-3K-B5-B5 with F726-15-(B5)  |                | 1<br>3/4<br>1/2   | 1304<br>978<br>652           | II<br>III<br>III | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF        |
|                                  |            | 3051                         | 2.319                               | 1.883  | HMF2-3K-B7-B7 with F730-15-(B7)  |                | 2<br>1-1/2        | 2608<br>1956                 | I<br>II          | B7<br>B7         | KUTF<br>JUTF                    |
|                                  |            |                              |                                     |        | HMF2-3K-B5-B5 with F730-15-(B5)  |                | 1                 | 1304                         | III              | B5               | HUTF-5/8                        |
|                                  |            | 3126                         | 2.34                                | 1.929  | HMF2-3K-B7-B7 with F732-15-(B7)  |                | 2<br>1-1/2        | 2671<br>2003                 | I<br>II          | B7<br>B7         | KUTF<br>JUTF                    |
|                                  |            |                              |                                     |        | HMF2-3K-B5-B5 wth F732-15-(B5)   |                | 1                 | 1304                         | III              | B5               | HUT-5/8                         |
|                                  |            | 4380                         | 3.24                                | 2.703  | HMF3-3K-B9-B9 with F738-15-(B9)  |                | 3                 | 4054                         | I                | B9               | LUTF                            |
|                                  |            | 9913                         | 7.25                                | 6.118  | HMF3-3K-B9-B9 with RF752-15-(B9) |                | 5<br>3            | 6757<br>4054                 | II<br>III        | B9<br>B9         | MUTF<br>LUTF                    |
| 13874                            | 10.15      | 8.563                        | HMF3-3K-B11-B11 with RF752-15-(B11) |        | 10<br>7-1/2                      | 13514<br>10135 | I<br>II           | B11<br>B11                   | PUTF<br>NUTF     |                  |                                 |
| 35                               | 50<br>5x10 | 283                          | 0.205                               | 0.157  | HMF1-5K-B5-B5 with F713-10-(B5)  |                | 1/6               | 232                          | I                | B5               | CUTF                            |
|                                  |            | 411                          | 0.296                               | 0.228  | HMF1-5K-B5-B5 with F715-10-(B5)  |                | 1/4               | 347                          | I                | B5               | DUTF                            |
|                                  |            |                              |                                     |        |                                  |                | 1/6               | 232                          | II               | B5               | CUTF                            |
|                                  |            |                              |                                     |        |                                  |                | 1/3               | 477                          | I                | B5               | EUTF                            |
|                                  |            | 577                          | 0.403                               | 0.32   | HMF1-5K-B5-B5 with F718-10-(B5)  |                | 1/4<br>1/6        | 356<br>239                   | II<br>III        | B5<br>B5         | DUTF<br>CUTF                    |
|                                  |            | 903                          | 0.655                               | 0.501  | HMF1-5K-B5-B5 with F721-10-(B5)  |                | 1/2<br>1/3        | 690<br>460                   | II<br>III        | B5<br>B5         | FUTF<br>EUTF                    |
|                                  |            | 1332                         | 0.89                                | 0.74   | HMF2-5K-B5-B5 with F724-10-(B5)  |                | 3/4               | 1123                         | I                | B5               | GUTF                            |
|                                  |            |                              |                                     |        |                                  |                | 1/2               | 749                          | II               | B5               | FUTF                            |
|                                  |            |                              |                                     |        |                                  |                | 1/3               | 499                          | III              | B5               | EUTF                            |
|                                  |            | 1807                         | 1.217                               | 1.003  | HMF2-5K-B5-B5 with F726-10-(B5)  |                | 1<br>3/4<br>1/2   | 1484<br>1113<br>742          | I<br>II<br>III   | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF        |
|                                  |            | 2944                         | 2.03                                | 1.635  | HMF2-5K-B7-B7 with F730-10-(B7)  |                | 2<br>1-1/2        | 2898<br>2174                 | I<br>II          | B7<br>B7         | KUTF<br>JUTF                    |
|                                  |            |                              |                                     |        | HMF2-5K-B5-B5 with F730-10-(B5)  |                | 1                 | 1449                         | III              | B5               | HUTF-5/8                        |
|                                  |            | 3088                         | 2.016                               | 1.715  | HMF2-5K-B7-B7 with F732-10-(B7)  |                | 2<br>1-1/2        | 2968<br>2226                 | I<br>II          | B7<br>B7         | KUTF<br>JUTF                    |
|                                  |            |                              |                                     |        | HMF2-5K-B5-B5 with F732-10-(B5)  |                | 1                 | 1484                         | III              | B5               | HUTF-5/8                        |
|                                  |            | 4361                         | 2.91                                | 2.422  | HMF3-5K-B9-B9 with F738-10-(B9)  |                | 3                 | 4361                         | I                | B9               | LUTF                            |
|                                  |            |                              |                                     |        | HMF2-5K-B7-B7 with F738-10-(B7)  |                | 2<br>1-1/2        | 2989<br>2242                 | II<br>III        | B7               | KUTF<br>JUTF                    |
| HMF3-5K-B9-B9 with RF752-10-(B9) |            |                              |                                     |        | 5<br>3                           | 7578<br>4547   | II<br>III         | B9                           | MUTF<br>LUTF     |                  |                                 |
| 15757                            | 10.39      | 8.75                         | HMF3-5K-B11-B11 with RF760-10-(B11) |        | 10<br>7-1/2                      | 15155<br>11366 | I<br>II           | B11                          | PUTF<br>NUTF     |                  |                                 |
|                                  |            |                              | HMF3-5K-B9-B9 with RF760-10-(B9)    |        | 5                                | 7578           | III               | B9                           | MUTF             |                  |                                 |
| 29.2                             | 60<br>4x15 | 302                          | 0.192                               | 0.14   | HMF1-4K-B5-B5 with F713-15-(B5)  |                | 1/6               | 262                          | I                | B5               | CUTF                            |
|                                  |            | 438                          | 0.278                               | 0.203  | HMF1-4K-B5-B5 with F715-15-(B5)  |                | 1/4<br>1/6        | 393<br>262                   | I<br>II          | B5<br>B5         | DUTF<br>CUTF                    |
|                                  |            | 560                          | 0.343                               | 0.259  | HMF1-4K-B5-B5 with F718-15-(B5)  |                | 1/3<br>1/4<br>1/6 | 524<br>393<br>262            | I<br>II<br>II    | B5<br>B5<br>B5   | EUTF<br>DUTF<br>CUTF            |

\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see our Electrical Products Catalog.

# Double Reduction Output RPM & Capacity Selection Tables

@ 1750 RPM Input

| Output<br>RPM | Ratio      | Flanged Reducers (Gearmotor) |                                     |        |                                  |               |                                 |                              |                  | Motors*          |                                 |          |              |
|---------------|------------|------------------------------|-------------------------------------|--------|----------------------------------|---------------|---------------------------------|------------------------------|------------------|------------------|---------------------------------|----------|--------------|
|               |            | Gear Capacity                |                                     |        | Available Models                 |               | Ratings                         |                              |                  |                  | Catalog Nos.                    |          |              |
|               |            | Output<br>Torque<br>(lb.in.) | HP                                  |        | F, QC, HF, SF, HQC, RF           |               | MTR HP                          | Output<br>Torque<br>(lb.in.) | Service<br>Class | MTR<br>Bore Code | 230/460 VAC<br>3 Phase<br>60 Hz |          |              |
|               |            |                              | Input                               | Output | Gearbox Size K                   |               |                                 |                              |                  |                  |                                 |          |              |
| 29.2          | 60<br>4X15 | 890                          | 0.525                               | 0.412  | HMF1-4K-B5-B5 with F721-15-(B5)  |               | 1/2<br>1/3<br>1/4               | 848<br>566<br>424            | I<br>II<br>III   | B5<br>B5<br>B5   | FUTF<br>EUTF<br>DUTF            |          |              |
|               |            | 1334                         | 0.796                               | 0.617  | HMF2-4K-B5-B5 with F724-15-(B5)  |               | 3/4<br>1/2<br>1/3               | 1257<br>838<br>556           | I<br>II<br>III   | B5<br>B5<br>B5   | GUTF<br>FUTF<br>EUTF            |          |              |
|               |            | 1838                         | 1.09                                | 0.851  | HMF2-4K-B5-B5 with F726-15-(B5)  |               | 1<br>3/4<br>1/2                 | 1676<br>1257<br>838          | I<br>II<br>III   | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF        |          |              |
|               |            | 3220                         | 1.92                                | 1.49   | HMF2-4K-B7-B7 with F730-15-(B7)  |               | 1-1/2                           | 2514                         | I                | B7               | JUTF                            |          |              |
|               |            |                              |                                     |        | HMF2-4K-B5-B5 with F730-15-(B5)  |               | 1<br>3/4                        | 1676<br>1257                 | II<br>III        | B5<br>B5         | HUTF-5/8<br>GUTF                |          |              |
|               |            | 3299                         | 1.87                                | 1.53   | HMF2-4K-B7-B7 with F732-15-(B7)  |               | 1-1/2                           | 2640                         | II               | B7               | JUTF                            |          |              |
|               |            |                              |                                     |        | HMF2-4K-B5-B5 with F732-15-(B5)  |               | 1<br>3/4                        | 1781<br>1336                 | II<br>III        | B5               | HUTF-5/8<br>GUTF                |          |              |
|               |            | 4628                         | 2.56                                | 2.14   | HMF2-4K-B7-B7 with F738-15-(B7)  |               | 2<br>1-1/2                      | 3562<br>2671                 | II<br>II         | B7<br>B7         | KUTF<br>JUTF                    |          |              |
|               |            |                              |                                     |        | HMF2-4K-B5-B5 with F738-15-(B5)  |               | 1                               | 1781                         | III              | B5               | HUTF-5/8                        |          |              |
|               |            | 10512                        | 5.9                                 | 4.86   | HMF3-4K-B9-B9 with RF752-15-(B9) |               | 5<br>3                          | 8905<br>4343                 | I<br>III         | B9<br>B9         | MUTF<br>LUTF                    |          |              |
| 14817         | 8.32       | 6.86                         | HMF3-4K-B11-B11 with RF760-15-(B11) |        | 7-1/2<br>5                       | 13357<br>8905 | I<br>II                         | B11<br>B11                   | NUTF<br>MUTF     |                  |                                 |          |              |
|               |            |                              | HMF3-4K-B9-B9 with RF760-15-(B9)    |        | 3                                | 5343          | III                             | B9                           | LUTF             |                  |                                 |          |              |
| 23.3          | 75<br>5X15 | 446                          | 0.24                                | 0.165  | HMF1-5K-B5-B5 with F715-15-(B5)  |               | 1/6                             | 314                          | II               | B5               | CUTF                            |          |              |
|               |            | 570                          | 0.289                               | 0.211  | HMF1-5K-B5-B5 with F718-15-(B5)  |               | 1/4<br>1/6                      | 491<br>327                   | I<br>II          | B5<br>B5         | DUTF<br>CUTF                    |          |              |
|               |            | 910                          | 0.434                               | 0.336  | HMF1-5K-B5-B5 with F721-15-(B5)  |               | 1/3<br>1/4<br>1/6               | 698<br>524<br>349            | II<br>II<br>III  | B5<br>B5<br>B5   | EUTF<br>DUTF<br>CUTF            |          |              |
|               |            | 1367                         | 0.66                                | 0.505  | HMF2-5K-B5-B5 with F724-15-(B5)  |               | 1/2<br>1/3                      | 1034<br>690                  | II<br>III        | B5<br>B5         | FUTF<br>EUTF                    |          |              |
|               |            | 1895                         | 0.92                                | 0.701  | HMF2-5K-B5-B5 with F726-15-(B5)  |               | 3/4<br>1/2<br>1/3               | 1548<br>1031<br>688          | I<br>II<br>III   | B5<br>B5<br>B5   | GUTF<br>FUTF<br>EUTF            |          |              |
|               |            | 3221                         | 1.59                                | 1.191  | HMF2-5K-B7-B7 with F730-15-(B7)  |               | 1-1/2<br>1                      | 3025<br>2017                 | I<br>II          | B7               | JUTF<br>HUTF-5/8                |          |              |
|               |            |                              |                                     |        | HMF2-5K-B5-B5 with F730-15-(B5)  |               | 3/4                             | 1512                         | III              | B5               | GUTF                            |          |              |
|               |            | 3402                         | 1.58                                | 1.258  | HMF2-5K-B7-B7 with F732-15-(B7)  |               | 1-1/2<br>1                      | 3221<br>2148                 | I<br>II          | B7<br>B7         | JUTF<br>HUTF-5/8                |          |              |
|               |            |                              |                                     |        | HMF2-5K-B5-B5 with F732-15-(B5)  |               | 3/4                             | 1611                         | III              | B5               | GUTF                            |          |              |
|               |            | 4776                         | 2.22                                | 1.766  | HMF2-5K-B7-B7 with F738-15-(B7)  |               | 2<br>1-1/2                      | 4295<br>3221                 | I<br>II          | B7<br>B7         | KUTF<br>JUTF                    |          |              |
|               |            |                              |                                     |        | HMF2-5K-B5-B5 with F738-15-(B5)  |               | 1                               | 2148                         | III              | B5               | HUTF-5/8                        |          |              |
|               |            | 10872                        | 5.05                                | 4.019  | HMF3-5K-B9-B9 with RF752-15-(B9) |               | 5<br>3                          | 10738<br>6443                | I<br>II          | B9<br>B9         | MUTF<br>LUTF                    |          |              |
|               |            | 15383                        | 6.98                                | 5.687  | HMF3-5K-B9-B9 with RF760-15-(B9) |               | 5<br>3                          | 11000<br>6600                | II<br>III        | B9<br>B9         | MUTF<br>LUTF                    |          |              |
|               |            | 21.9                         | 80<br>4X20                          | 448    | 0.228                            | 0.156         | HMF1-4K-B5-B5 with F715-20-(B5) |                              | 1/6              | 326              | II                              | B5       | CUTF         |
|               |            |                              |                                     | 627    | 0.303                            | 0.218         | HMF1-4K-B5-B5 with F718-20-(B5) |                              | 1/4<br>1/6       | 517<br>344       | I<br>II                         | B5<br>B5 | DUTF<br>CUTF |

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# Double Reduction Output RPM & Capacity Selection Tables

## @ 1750 RPM Input

| Output<br>RPM | Ratio       | Flanged Reducers (Gearmotor) |                                  |        |                                  |               |                   |                              |                  | Motors*          |                                 |
|---------------|-------------|------------------------------|----------------------------------|--------|----------------------------------|---------------|-------------------|------------------------------|------------------|------------------|---------------------------------|
|               |             | Gear Capacity                |                                  |        | Available Models                 |               | Ratings           |                              |                  |                  | Catalog Nos.                    |
|               |             | Output<br>Torque<br>(lb.in.) | HP                               |        | F, QC, HF, SF, HQC, RF           |               | MTR HP            | Output<br>Torque<br>(lb.in.) | Service<br>Class | MTR<br>Bore Code | 230/460 VAC<br>3 Phase<br>60 Hz |
|               |             |                              | Input                            | Output | Gearbox Size K                   |               |                   |                              |                  |                  |                                 |
| 21.9          | 80<br>4x20  | 936                          | 0.45                             | 0.33   | HMF1-4K-B5-B5 with F721-20-(B5)  |               | 1/3<br>1/4<br>1/6 | 698<br>524<br>349            | II<br>II<br>III  | B5<br>B5<br>B5   | EUTF<br>DUTF<br>CUTF            |
|               |             | 1395                         | 0.657                            | 0.485  | HMF2-4K-B5-B5 with F724-20-(B5)  |               | 1/2<br>1/3        | 1062<br>707                  | II<br>III        | B5<br>B5         | FUTF<br>EUTF                    |
|               |             | 1864                         | 0.8                              | 0.648  | HMF2-4K-B5-B5 with F726-20-(B5)  |               | 3/4<br>1/2<br>1/3 | 1697<br>1131<br>754          | I<br>II<br>III   | B5<br>B5<br>B5   | GUTF<br>FUTF<br>EUTF            |
|               |             | 3100                         | 1.22                             | 1.077  | HMF2-4K-B5-B5 with F730-20-(B5)  |               | 1<br>3/4<br>1/2   | 2514<br>1886<br>1256         | II<br>II<br>III  | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF        |
|               |             | 3677                         | 1.646                            | 1.278  | HMF2-4K-B7-B7 with F732-20-(B7)  | 1-1/2         | 3352              | I                            | B7               | JUTF             |                                 |
|               |             |                              |                                  |        | HMF2-4K-B5-B5 with F732-20-(B5)  | 1<br>3/4      | 2234<br>1676      | II<br>III                    | B5               | HUTF-5/8<br>GUTF |                                 |
|               |             | 5285                         | 2.337                            | 1.836  | HMF2-4K-B7-B7 with F738-20-(B7)  |               | 2<br>1-1/2        | 4525<br>3394                 | I<br>II          | B7<br>B7         | KUTF<br>JUTF                    |
|               |             |                              |                                  |        | HMF2-4K-B5-B5 with F738-20-(B5)  |               | 1                 | 2263                         | III              | B5               | HUTF-5/8                        |
|               |             | 10450                        | 4.68                             | 3.63   | HMF3-4K-B9-B9 with RF752-20-(B9) |               | 3                 | 6705                         | II               | B9               | LUTF                            |
| 15140         | 6.56        | 5.261                        | HMF3-4K-B9-B9 with RF760-20-(B9) |        | 5<br>3                           | 11537<br>6922 | II<br>III         | B9<br>B9                     | MUTF<br>LUTF     |                  |                                 |
| 17.5          | 100<br>5x20 | 457                          | 0.19                             | 0.127  | HMF1-5K-B5-B5 with F715-20-(B5)  |               | 1/6               | 402                          | I                | B5               | CUTF                            |
|               |             | 643                          | 0.259                            | 0.179  | HMF1-5K-B5-B5 with F718-20-(B5)  |               | 1/4<br>1/6        | 620<br>413                   | I<br>II          | B5<br>B5         | DUTF<br>CUTF                    |
|               |             | 957                          | 0.37                             | 0.27   | HMF1-5K-B5-B5 with F721-20-(B5)  |               | 1/3<br>1/4<br>1/6 | 861<br>646<br>431            | I<br>II<br>III   | B5<br>B5<br>B5   | EUTF<br>DUTF<br>CUTF            |
|               |             | 1435                         | 0.562                            | 0.398  | HMF2-5K-B5-B5 with F724-20-(B5)  |               | 1/2<br>1/3<br>1/4 | 1275<br>850<br>637           | I<br>II<br>III   | B5<br>B5<br>B5   | FUTF<br>EUTF<br>DUTF            |
|               |             | 1912                         | 0.68                             | 0.531  | HMF2-5K-B5-B5 with F726-20-(B5)  |               | 1/2<br>1/3        | 1379<br>1000                 | II<br>III        | B5<br>B5         | FUTF<br>EUTF                    |
|               |             | 3225                         | 1.15                             | 0.895  | HMF2-5K-B5-B5 with F730-20-(B5)  |               | 1<br>3/4<br>1/2   | 2759<br>2069<br>1379         | I<br>II<br>III   | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF        |
|               |             | 3721                         | 1.4                              | 1.003  | HMF2-5K-B5-B5 with F732-20-(B5)  |               | 1<br>3/4<br>1/2   | 2654<br>1990<br>1327         | II<br>II<br>III  | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF        |
|               |             | 5418                         | 2.01                             | 1.504  | HMF2-5K-B7-B7 with F738-20-(B7)  |               | 2<br>1-1/2        | 5378<br>4033                 | I<br>II          | B7<br>B7         | KUTF<br>JUTF                    |
|               |             |                              |                                  |        | HMF2-5K-B5-B5 with F738-20-(B5)  |               | 1                 | 2689                         | III              | B5               | HUTF-5/8                        |
|               |             | 10744                        | 3.89                             | 2.98   | HMF3-5K-B9-B9 with RF752-20-(B9) |               | 3                 | 8276                         | II               | B9               | LUTF K                          |
|               |             | 15622                        | 5.43                             | 4.338  | HMF3-5K-B9-B9 with RF760-20-(B9) |               | 5<br>3            | 13968<br>8381                | I<br>II          | B9<br>B9         | MUTF<br>LUTF                    |
| 14            | 125<br>5X25 | 609                          | 0.205                            | 0.135  | HMF1-5K-B5-B5 with F718-25-(B5)  |               | 1/6               | 495                          | I                | B5               | CUTF                            |
|               |             | 933                          | 0.31                             | 0.21   | HMF1-5K-B5-B5 with F721-25-(B5)  |               | 1/4<br>1/6        | 917<br>611                   | I<br>II          | B5<br>B5         | DUTF<br>CUTF                    |
|               |             | 1407                         | 0.46                             | 0.313  | HMF2-5K-B5-B5 with F724-25-(B5)  |               | 1/3<br>1/4<br>1/6 | 1018<br>764<br>509           | II<br>II<br>III  | B5<br>B5<br>B5   | EUTF<br>DUTF<br>CUTF            |
|               |             | 1937                         | 0.59                             | 0.43   | HMF2-5K-B5-B5 with F726-25-(B5)  |               | 1/2<br>1/3<br>1/4 | 1637<br>1091<br>818          | I<br>II<br>III   | B5<br>B5<br>B5   | FUTF<br>EUTF<br>DUTF            |

\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see our Electrical Products Catalog.

# Double Reduction Output RPM & Capacity Selection Tables

@ 1750 RPM Input

| Output<br>RPM | Ratio       | Flanged Reducers (Gearmotor) |       |        |                                  |  |                   |                              |                  | Motors*          |                                 |
|---------------|-------------|------------------------------|-------|--------|----------------------------------|--|-------------------|------------------------------|------------------|------------------|---------------------------------|
|               |             | Gear Capacity                |       |        | Available Models                 |  | Ratings           |                              |                  |                  | Catalog Nos.                    |
|               |             | Output<br>Torque<br>(lb.in.) | HP    |        | F, QC, HF, SF, HQC, RF           |  | MTR HP            | Output<br>Torque<br>(lb.in.) | Service<br>Class | MTR<br>Bore Code | 230/460 VAC<br>3 Phase<br>60 Hz |
|               |             |                              | Input | Output | Gearbox Size K                   |  |                   |                              |                  |                  |                                 |
| 14            | 125<br>5x25 | 3158                         | 0.95  | 0.701  | HMF2-5K-B5-B5 with F730-25-(B5)  |  | 1<br>3/4<br>1/2   | 3158<br>2423<br>1615         | I<br>II<br>III   | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF        |
|               |             | 3373                         | 1.1   | 0.75   | HMF2-5K-B5-B5 with F732-25-(B5)  |  | 1<br>3/4<br>1/2   | 3230<br>2423<br>1615         | I<br>II<br>III   | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF        |
| 11.7          | 150<br>5x30 | 663                          | 0.186 | 0.123  | HMF1-5K-B5-B5 with F718-30-(B5)  |  | 1/6               | 594                          | I                | B5               | CUTF                            |
|               |             | 977                          | 0.28  | 0.18   | HMF1-5K-B5-B5 with F721-30-(B5)  |  | 1/4<br>1/6        | 877<br>585                   | I<br>II          | B5<br>B5         | DUTF<br>CUTF                    |
|               |             | 1415                         | 0.404 | 0.263  | HMF2-5K-B5-B5 with F724-30-(B5)  |  | 1/3<br>1/4<br>1/6 | 1170<br>877<br>585           | I<br>II<br>III   | B5<br>B5<br>B5   | EUTF<br>DUTF<br>CUTF            |
|               |             | 1969                         | 0.562 | 0.366  | HMF2-5K-B5-B5 with F726-30-(B5)  |  | 1/2<br>1/3<br>1/4 | 1756<br>1170<br>877          | I<br>II<br>III   | B5<br>B5<br>B5   | FUTF<br>EUTF<br>DUTF            |
|               |             | 3404                         | 1.002 | 0.632  | HMF2-5K-B5-B5 with F730-30-(B5)  |  | 1<br>3/4<br>1/2   | 3404<br>2553<br>1702         | I<br>II<br>III   | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF        |
|               |             | 3788                         | 1.1   | 0.73   | HMF2-5K-B5-B5 with F732-30-(B5)  |  | 1<br>3/4<br>1/2   | 3404<br>2553<br>1702         | I<br>II<br>III   | B5<br>B5<br>B5   | HUTF-5/8<br>GUTF<br>FUTF        |
|               |             | 5303                         | 1.39  | 0.984  | HMF2-5K-B5-B5 with F738-30-(B5)  |  | 1<br>3/4          | 3824<br>2868                 | II<br>II         | B5<br>B5         | HUTF-5/8<br>GUTF                |
|               |             | 11381                        | 3.11  | 2.113  | HMF3-5K-B9-B9 with RF752-30-(B9) |  | 3                 | 11000                        | II               | B9               | LUTF                            |
|               |             | 15932                        | 4.08  | 2.958  | HMF3-5K-B9-B9 with RF760-30-(B9) |  | 3                 | 11000                        | II               | B9               | LUTF                            |
| 8.8           | 200<br>5x40 | 643                          | 0.162 | 0.089  | HMF1-5K-B5-B5 with F718-40-(B5)  |  | 1/6               | 640                          | I                | B5               | CUTF                            |
|               |             | 957                          | 0.25  | 0.13   | HMF1-5K-B5-B5 with F721-40-(B5)  |  | 1/4<br>1/6        | 950<br>640                   | I<br>II          | B5<br>B5         | DUTF<br>CUTF                    |
|               |             | 1435                         | 0.35  | 0.199  | HMF2-5K-B5-B5 with F724-40-(B5)  |  | 1/3<br>1/4<br>1/6 | 1327<br>995<br>663           | I<br>II<br>III   | B5<br>B5<br>B5   | EUTF<br>DUTF<br>CUTF            |
|               |             | 1912                         | 0.464 | 0.265  | HMF2-5K-B5-B5 with F726-40-(B5)  |  | 1/3<br>1/4        | 1374<br>1030                 | II<br>III        | B5<br>B5         | EUTF<br>DUTF                    |
|               |             | 3303                         | 0.775 | 0.459  | HMF2-5K-B5-B5 with F730-40-(B5)  |  | 3/4<br>1/2<br>1/3 | 3195<br>2130<br>1420         | I<br>II<br>III   | B5<br>B5<br>B5   | GUTF<br>FUTF<br>EUTF            |
|               |             | 3636                         | 0.8   | 0.505  | HMF2-5K-B5-B5 with F732-40-(B5)  |  | 3/4<br>1/2<br>1/3 | 3405<br>2270<br>1513         | I<br>II<br>III   | B5<br>B5<br>B5   | GUTF<br>FUTF<br>EUTF            |
|               |             | 5418                         | 1.17  | 0.752  | HMF2-5K-B5-B5 with F738-40-(B5)  |  | 1<br>3/4<br>1/2   | 4609<br>3457<br>2305         | I<br>II<br>III   | B5<br>B5<br>B5   | HUTF-5/8<br>CUTF<br>FUTF        |
|               |             | 15623                        | 3.19  | 2.169  | HMF3-5K-B9-B9 with F760-40-(B9)  |  | 3                 | 14457                        | I                | B9               | LUTF                            |

\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see our Electrical Products Catalog.

# Double Reduction Output RPM & Capacity Selection Tables

## @ 1750 RPM Input

| Output RPM | Ratio    | Flanged Reducers (Gearmotor) |       |        |                                 |                   |                        |                |                | Motors*                   |
|------------|----------|------------------------------|-------|--------|---------------------------------|-------------------|------------------------|----------------|----------------|---------------------------|
|            |          | Gear Capacity                |       |        | Available Models                |                   | Ratings                |                |                | Catalog Nos.              |
|            |          | Output Torque (lb.in.)       | HP    |        | F, QC, HF, SF, HQC, RF          | MTR HP            | Output Torque (lb.in.) | Service Class  | MTR Bore Code  | 230/460 VAC 3 Phase 60 Hz |
|            |          |                              | Input | Output | Gearbox Size K                  |                   |                        |                |                |                           |
| 7          | 250 5x50 | 915                          | 0.18  | 0.10   | HMF1-5K-B5-B5 with F721-50-(B5) | 1/6               | 844                    | I              | B5             | CUTF                      |
|            |          | 1340                         | 0.274 | 0.149  | HMF2-5K-B5-B5 with F724-50-(B5) | 1/4<br>1/6        | 1222<br>814            | I<br>II        | B5<br>B5       | DUTF<br>CUTF              |
|            |          | 1848                         | 0.359 | 0.205  | HMF2-5K-B5-B5 with F726-50-(B5) | 1/3<br>1/4<br>1/6 | 1717<br>1288<br>858    | I<br>II<br>III | B5<br>B5<br>B5 | EUTF<br>DUTF<br>CUTF      |
|            |          | 3008                         | 0.604 | 0.334  | HMF2-5K-B5-B5 with F730-50-(B5) | 1/2<br>1/3<br>1/4 | 2488<br>1659<br>1244   | I<br>II<br>III | B5<br>B5<br>B5 | FUTF<br>EUTF<br>DUTF      |
|            |          | 3210                         | 0.634 | 0.356  | HMF2-5K-B5-B5 with F732-50-(B5) | 1/2<br>1/3        | 2488<br>1659           | II<br>III      | B5<br>B5       | FUTF<br>EUTF              |
|            |          | 4373                         | 0.862 | 0.486  | HMF2-5K-B5-B5 with F738-50-(B5) | 3/4<br>1/2<br>1/3 | 3798<br>2532<br>1688   | I<br>II<br>III | B5<br>B5<br>B5 | GUTF<br>FUTF<br>EUTF      |
| 5.8        | 300 5x60 | 877                          | 0.17  | 0.08   | HMF1-5K-B5-B5 with F721-60-(B5) | 1/6               | 873                    | I              | B5             | CUTF                      |
|            |          | 1255                         | 0.239 | 0.116  | HMF2-5K-B5-B5 with F724-60-(B5) | 1/6               | 873                    | II             | B5             | CUTF                      |
|            |          | 1725                         | 0.31  | 0.16   | HMF2-5K-B5-B5 with F726-60-(B5) | 1/4<br>1/6        | 1388<br>925            | II<br>II       | B5<br>B5       | DUTF                      |
|            |          | 2868                         | 0.43  | 0.265  | HMF2-5K-B5-B5 with F730-60-(B5) | 1/3<br>1/4        | 2200<br>1650           | II<br>II       | B5<br>B5       | EUTF<br>DUTF              |
|            |          |                              |       |        | HMF2-5K-B5-B5 with F730-60-(B5) | 1/6               | 1100                   | III            | B5             | CUTF                      |
|            |          | 3015                         | 0.522 | 0.278  | HMF2-5K-B5-B5 with F732-60-(B5) | 1/2<br>1/3<br>1/6 | 2881<br>1921<br>1440   | I<br>II<br>III | B5<br>B5<br>B5 | FUTF<br>EUTF<br>CUTF      |
|            |          | 4272                         | 0.73  | 0.395  | HMF2-5K-B5-B5 with F738-60-(B5) | 3/4<br>1/2<br>1/3 | 4272<br>2933<br>1955   | I<br>II<br>III | B5<br>B5<br>B5 | GUTF<br>FUTF<br>EUTF      |

\* Totally Enclosed, Fan Cooled. For complete motor Catalog Numbers and additional motors, see our Electrical Products Catalog.

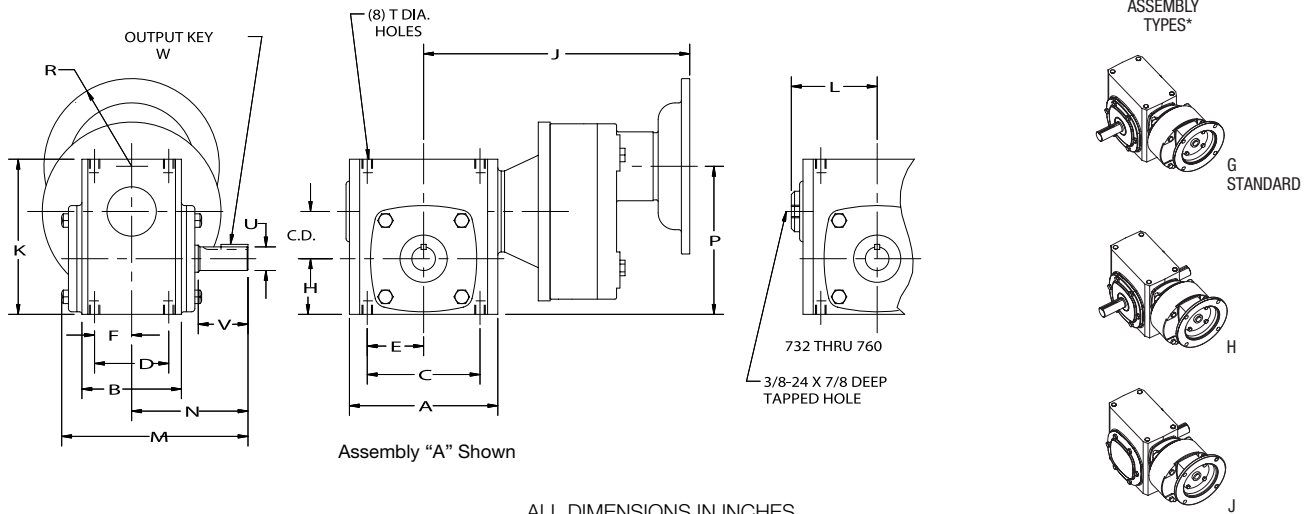


# HMF and 700 Series Double Reduction Flanged Reducer Dimensions

## F700/QC700 Series Flanged Quill/Flanged Coupling Types

### Basic Models (No Base)

FOR ORDERING INFORMATION, see Page 106.  
FOR RATING INFORMATION, See Pages 109-118.



ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B    | C     | D    | E    | F    | H    | J-NEMA Mounting |       |               |       |       |                         | K     | L    | M     |
|------|------|-------|------|-------|------|------|------|------|-----------------|-------|---------------|-------|-------|-------------------------|-------|------|-------|
|      |      |       |      |       |      |      |      |      | F700            |       |               | QC700 |       |                         |       |      |       |
|      |      |       |      |       |      |      |      |      | 56C             | 140TC | 180TC<br>210C | 56C   | 140TC | 180TC<br>210TC<br>250TC |       |      |       |
| 713  | 1.33 | 4.25  | 2.88 | 3.25  | 2.00 | 1.63 | 1.00 | 1.72 | 9.12            | —     | —             | 10.65 | —     | —                       | 4.64  | —    | 6.03  |
| 715  | 1.54 | 5.13  | 3.69 | 4.19  | 2.75 | 2.09 | 1.38 | 1.91 | 9.68            | —     | —             | 11.29 | —     | —                       | 5.38  | —    | 6.84  |
| 718  | 1.75 | 5.50  | 3.69 | 4.19  | 2.75 | 2.09 | 1.38 | 2.06 | 9.87            | —     | —             | 11.47 | —     | —                       | 5.75  | —    | 6.81  |
| 721  | 2.06 | 6.00  | 3.81 | 5.00  | 2.88 | 2.50 | 1.44 | 2.28 | 10.24           | 10.69 | —             | 11.94 | 12.39 | —                       | 6.38  | —    | 7.28  |
| 724  | 2.38 | 6.38  | 4.06 | 5.00  | 2.88 | 2.50 | 1.44 | 2.50 | 10.88           | 10.88 | 11.32         | 12.58 | 12.58 | 13.45                   | 6.94  | —    | 7.81  |
| 726  | 2.62 | 7.38  | 4.44 | 6.38  | 3.38 | 3.19 | 1.69 | 2.94 | 11.38           | 11.38 | 11.82         | 13.02 | 13.02 | 13.94                   | 8.00  | —    | 8.53  |
| 730  | 3.00 | 8.12  | 5.25 | 7.00  | 4.00 | 3.50 | 2.00 | 3.25 | 11.83           | 11.83 | 14.07         | 13.47 | 13.47 | 16.17                   | 8.88  | —    | 10.02 |
| 732  | 3.25 | 9.00  | 5.88 | 7.50  | 4.00 | 3.75 | 2.00 | 3.50 | 12.19           | 12.19 | 14.43         | 13.83 | 13.84 | 16.57                   | 9.38  | 4.94 | 10.81 |
| 738  | 3.75 | 10.00 | 6.38 | 8.50  | 4.75 | 4.25 | 2.38 | 3.88 | 12.69           | 12.69 | 14.93         | 14.34 | 14.34 | 17.71                   | 10.44 | 5.50 | 11.88 |
| 752  | 5.16 | 13.13 | 7.38 | 11.00 | 5.81 | 5.50 | 2.91 | 5.31 | —               | —     | —             | —     | —     | 23.43†                  | 13.75 | 7.19 | 13.81 |
| 760  | 6.00 | 14.50 | 8.13 | 12.75 | 6.38 | 6.38 | 3.19 | 6.50 | —               | —     | —             | —     | —     | 23.43†                  | 16.50 | 7.94 | 15.31 |

| Size | N     | P     |      | R-NEMA    |                   | T        |       | Low Speed Shaft |      |       |         | Approx. Weight (LBS.) |           | Fan Kit No.** |
|------|-------|-------|------|-----------|-------------------|----------|-------|-----------------|------|-------|---------|-----------------------|-----------|---------------|
|      |       |       |      | 56C 140TC | 180TC 210TC 250TC | Tap Size | Depth | U +.000 -.001   | V    | W-Key |         | F700 (1)              | QC700 (1) |               |
|      |       |       |      |           |                   |          |       |                 |      | Sq.   | Length  |                       |           |               |
| 713  | 4.00  | 4.74  | —    | 3.31      | —                 | 5/16-18  | .50   | .625            | 2.00 | 3/16  | 1       | 30                    | 33        | —             |
| 715  | 4.31  | 5.12  | —    | 3.31      | —                 | 5/16-18  | .50   | .750            | 1.78 | 3/16  | 1       | 36                    | 42        | —             |
| 718  | 4.31  | 5.49  | —    | 3.31      | —                 | 5/16-18  | .50   | .875            | 1.78 | 3/16  | 1       | 38                    | 45        | —             |
| 721  | 4.69  | 6.02  | 7.22 | 3.31      | —                 | 3/8-16   | .56   | 1.000           | 2.09 | 1/4   | 1-1/4   | 47                    | 51        | —             |
| 724  | 5.09  | 7.76  | —    | 3.31      | 4.63              | 3/8-16   | .56   | 1.125           | 2.38 | 1/4   | 1-1/4   | 56                    | 61        | —             |
| 726  | 5.63  | 8.44  | —    | 3.31      | 4.63              | 3/8-16   | .56   | 1.125           | 2.63 | 1/4   | 1-15/16 | 71                    | 72        | —             |
| 730  | 6.75  | 9.11  | —    | 3.31      | 4.63              | 7/16-14  | .88   | 1.250           | 3.25 | 1/4   | 2-1/4   | 91                    | 97        | —             |
| 732  | 7.06  | 9.63  | —    | 3.31      | 4.63              | 7/16-14  | .66   | 1.375           | 3.25 | 5/16  | 2-7/16  | 109                   | 109       | 51450         |
| 738  | 7.75  | 10.51 | —    | 3.31      | 4.63              | 1/2-13   | .81   | 1.625           | 3.50 | 3/8   | 2-1/4   | 142                   | 142       | 51451         |
| 752  | 9.06  | 13.38 | —    | —         | 4.63              | 5/8-11   | 1.00  | 2.000           | 4.16 | 1/2   | 2-15/16 | —                     | 271†      | 51452         |
| 760  | 10.00 | 15.38 | —    | —         | 4.63              | 5/8-11   | 1.00  | 2.250           | 4.56 | 1/2   | 3-3/8   | —                     | 320†      | 51453         |

\* See Assemblies and Mounting Positions, Pages 107 and 108.

\*\* For Fan Kits, see Page 130.

(1) For sizes 724 and larger using HM3 add 25 lbs.

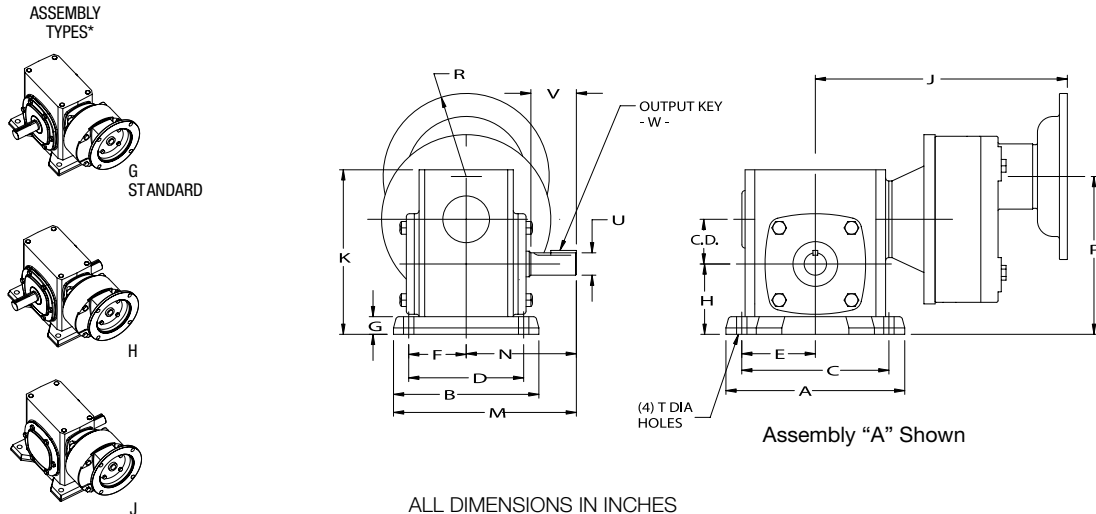
† 752 & 760 SIZES AVAILABLE ONLY IN RF-FLANGED COUPLING TYPE. Reference Page 245 for flange details.

# HMF and 700 Series Double Reduction Flanged Reducer Dimensions

## F700/QC700 Series Flanged Quill/Flanged Coupling Types

### B Position Horizontal Base

FOR ORDERING INFORMATION, see Page 106.  
FOR RATING INFORMATION, See Pages 109-118.



ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B     | C     | D    | E    | F    | G    | H    | J-NEMA Mounting |       |               |       |       |                         | K     | M     |
|------|------|-------|-------|-------|------|------|------|------|------|-----------------|-------|---------------|-------|-------|-------------------------|-------|-------|
|      |      |       |       |       |      |      |      |      |      | F700            |       |               | QC700 |       |                         |       |       |
|      |      |       |       |       |      |      |      |      |      | 56C             | 140TC | 180TC<br>210C | 56C   | 140TC | 180TC<br>210TC<br>250TC |       |       |
| 713  | 1.33 | 5.38  | 4.19  | 4.38  | 3.31 | 2.19 | 1.66 | .53  | 2.25 | 9.12            | —     | —             | 10.65 | —     | —                       | 5.19  | 6.09  |
| 715  | 1.54 | 6.44  | 5.44  | 5.25  | 4.31 | 2.63 | 2.16 | .59  | 2.50 | 9.68            | —     | —             | 11.29 | —     | —                       | 5.97  | 7.03  |
| 718  | 1.75 | 7.00  | 5.69  | 5.75  | 4.50 | 2.88 | 2.25 | .69  | 2.75 | 9.87            | —     | —             | 11.47 | —     | —                       | 6.44  | 7.16  |
| 721  | 2.06 | 7.75  | 5.94  | 6.38  | 4.69 | 3.19 | 2.34 | .72  | 3.00 | 10.24           | 10.69 | —             | 11.94 | 12.39 | —                       | 7.09  | 7.66  |
| 724  | 2.38 | 8.50  | 6.19  | 7.06  | 4.88 | 3.53 | 2.44 | .75  | 3.25 | 10.88           | 10.88 | 11.32         | 12.58 | 12.58 | 13.45                   | 7.69  | 8.19  |
| 726  | 2.62 | 9.63  | 6.66  | 8.00  | 5.25 | 4.00 | 2.63 | .75  | 3.69 | 11.38           | 11.38 | 11.82         | 13.02 | 13.02 | 13.94                   | 8.75  | 8.97  |
| 730  | 3.00 | 10.00 | 7.50  | 8.44  | 5.88 | 4.22 | 2.94 | .75  | 4.00 | 11.83           | 11.83 | 14.07         | 13.47 | 13.47 | 16.17                   | 9.63  | 10.50 |
| 732  | 3.25 | 11.19 | 7.66  | 9.50  | 6.13 | 4.75 | 3.06 | .88  | 4.38 | 12.19           | 12.19 | 14.43         | 13.83 | 13.83 | 16.57                   | 10.25 | 10.94 |
| 738  | 3.75 | 12.13 | 8.66  | 10.38 | 7.00 | 5.19 | 3.50 | .94  | 4.81 | 12.69           | 12.69 | 14.93         | 14.34 | 14.34 | 17.71                   | 11.38 | 12.09 |
| 752  | 5.16 | 16.38 | 10.63 | 14.13 | 8.38 | 7.06 | 4.19 | 1.13 | 6.44 | —               | —     | —             | —     | —     | 23.43††                 | 14.88 | 14.38 |
| 760  | 6.00 | 19.00 | 12.00 | 16.50 | 9.50 | 8.25 | 4.75 | 1.25 | 7.75 | —               | —     | —             | —     | —     | 23.43††                 | 17.75 | 16.00 |

| Size | N     | P     |      | R-NEMA    |                   | T     | Low Speed Shaft |      |       |         | Approx. Weight (LBS.) |           | Base Kit No. † | Fan Kit No.** |
|------|-------|-------|------|-----------|-------------------|-------|-----------------|------|-------|---------|-----------------------|-----------|----------------|---------------|
|      |       |       |      | 56C 140TC | 180TC 210TC 250TC |       | U +.000 - .001  | V    | W-Key |         | F700 (1)              | QC700 (1) |                |               |
|      |       |       |      |           |                   |       |                 |      | Sq.   | Length  |                       |           |                |               |
| 713  | 4.00  | 5.27  | —    | 3.31      | —                 | 11/32 | .625            | 2.00 | 3/16  | 1       | 31                    | 35        | 56577          | —             |
| 715  | 4.31  | 5.71  | —    | 3.31      | —                 | 13/32 | .750            | 1.78 | 3/16  | 1       | 37                    | 43        | 56438          | —             |
| 718  | 4.31  | 6.18  | —    | 3.31      | —                 | 13/32 | .875            | 1.78 | 3/16  | 1       | 39                    | 46        | 56585          | —             |
| 721  | 4.69  | 6.74  | 7.94 | 3.31      | —                 | 15/32 | 1.000           | 2.09 | 1/4   | 1-1/4   | 48                    | 51        | 56440          | —             |
| 724  | 5.09  | 8.51  | —    | 3.31      | 4.63              | 15/32 | 1.125           | 2.38 | 1/4   | 1-1/4   | 57                    | 62        | 56591          | —             |
| 726  | 5.63  | 9.19  | —    | 3.31      | 4.63              | 17/32 | 1.125           | 2.63 | 1/4   | 1-15/16 | 74                    | 75        | 56595          | —             |
| 730  | 6.75  | 9.86  | —    | 3.31      | 4.63              | 17/32 | 1.250           | 3.25 | 1/4   | 2-1/4   | 96                    | 102       | 65544          | —             |
| 732  | 7.06  | 10.51 | —    | 3.31      | 4.63              | 17/32 | 1.375           | 3.25 | 5/16  | 2-7/16  | 118                   | 119       | 56599          | 51450         |
| 738  | 7.75  | 11.45 | —    | 3.31      | 4.63              | 19/32 | 1.625           | 3.50 | 3/8   | 2-1/4   | 156                   | 158       | 56603          | 51451         |
| 752  | 9.06  | 14.51 | —    | —         | 4.63              | 25/32 | 2.000           | 4.16 | 1/2   | 2-15/16 | —                     | 292††     | 56607          | 51452         |
| 760  | 10.00 | 16.63 | —    | —         | 4.63              | 29/32 | 2.250           | 4.56 | 1/2   | 3-3/8   | —                     | 350††     | 56610          | 51453         |

\* See Assemblies and Mounting Positions, Pages 107 and 108.

\*\* For Fan Kits, see Page 130.

† For Base Kits, see Page 129.

(1) For sizes 724 and larger using HM3 add 25 lbs.

†† 752 & 760 SIZES AVAILABLE ONLY IN RF-FLANGED COUPLING TYPE.

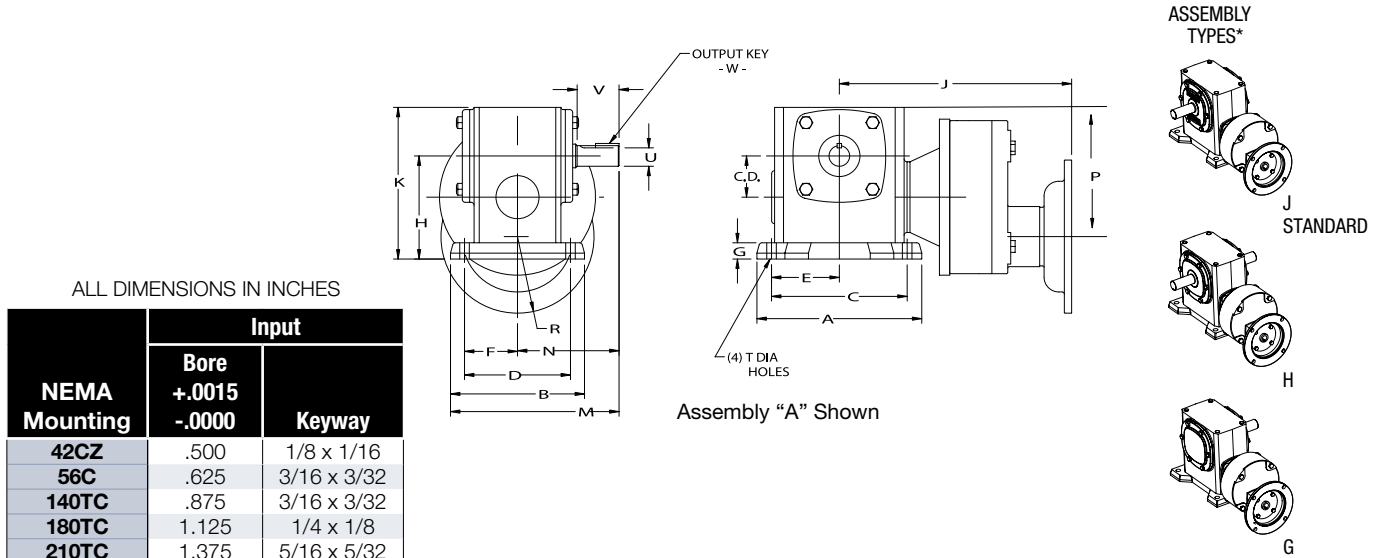
Reference Page 245 for flange details.

# HMF and 700 Series Double Reduction Flanged Reducer Dimensions

## F700/QC700 Series Flanged Quill/Flanged Coupling Types

### A Position Horizontal Base

FOR ORDERING INFORMATION, see Page 106.  
FOR RATING INFORMATION, See Pages 109-118.



ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B    | C     | D    | E    | F    | G   | H    | J-NEMA Mounting |       |               |       |       |                         | K     | M     |
|------|------|-------|------|-------|------|------|------|-----|------|-----------------|-------|---------------|-------|-------|-------------------------|-------|-------|
|      |      |       |      |       |      |      |      |     |      | F700            |       |               | QC700 |       |                         |       |       |
|      |      |       |      |       |      |      |      |     |      | 56C             | 140TC | 180TC<br>210C | 56C   | 140TC | 180TC<br>210TC<br>250TC |       |       |
| 713  | 1.33 | 5.38  | 4.19 | 4.38  | 3.31 | 2.19 | 1.66 | .53 | 3.47 | 9.12            | —     | —             | 10.65 | —     | —                       | 5.19  | 6.09  |
| 715  | 1.54 | 6.44  | 5.44 | 5.25  | 4.31 | 2.63 | 2.16 | .59 | 4.06 | 9.68            | —     | —             | 11.29 | —     | —                       | 5.97  | 7.03  |
| 718  | 1.75 | 7.00  | 5.69 | 5.75  | 4.50 | 2.88 | 2.25 | .69 | 4.38 | 9.87            | —     | —             | 11.47 | —     | —                       | 6.44  | 7.16  |
| 721  | 2.06 | 7.75  | 5.94 | 6.37  | 4.69 | 3.19 | 2.34 | .72 | 4.81 | 10.24           | 10.69 | —             | 11.94 | 12.39 | —                       | 7.09  | 7.66  |
| 724  | 2.37 | 8.50  | 6.19 | 7.06  | 4.88 | 3.53 | 2.44 | .75 | 5.19 | 10.88           | 10.88 | 11.32         | 12.58 | 12.58 | 13.45                   | 7.69  | 8.19  |
| 726  | 2.62 | 9.63  | 6.66 | 8.00  | 5.25 | 4.00 | 2.62 | .75 | 5.81 | 11.38           | 11.38 | 11.82         | 13.02 | 13.02 | 13.94                   | 8.75  | 8.97  |
| 730  | 3.00 | 10.00 | 7.50 | 8.44  | 5.88 | 4.22 | 2.94 | .75 | 6.38 | 11.83           | 11.83 | 14.07         | 13.47 | 13.47 | 16.17                   | 9.63  | 10.50 |
| 732  | 3.25 | 11.19 | 7.66 | 9.50  | 6.12 | 4.75 | 3.06 | .88 | 6.75 | 12.19           | 12.19 | 14.43         | 13.83 | 13.83 | 16.57                   | 10.25 | 10.89 |
| 738  | 3.75 | 12.13 | 8.66 | 10.37 | 7.00 | 5.19 | 3.50 | .94 | 7.50 | 12.69           | 12.69 | 14.93         | 14.34 | 14.34 | 17.71                   | 11.38 | 12.09 |

| Size | N    | P     |      | R-NEMA |       |       |       | T<br>Holes | Low Speed Shaft     |      |       |         | Approx. Weight<br>(LBS.) |              | Base<br>Kit<br>No. † | Fan<br>Kit<br>No.** |
|------|------|-------|------|--------|-------|-------|-------|------------|---------------------|------|-------|---------|--------------------------|--------------|----------------------|---------------------|
|      |      |       |      | 56C    | 140TC | 180TC | 210TC |            | U<br>+.000<br>-.001 | V    | W-Key |         | F700<br>(1)              | QC700<br>(1) |                      |                     |
|      |      |       |      |        |       |       |       |            |                     |      | Sq.   | Length  |                          |              |                      |                     |
| 713  | 4.00 | 4.74  | —    | 3.31   | —     | —     | —     | 11/32      | .625                | 2.00 | 3/16  | 1       | 31                       | 35           | 56577                | —                   |
| 715  | 4.31 | 5.12  | —    | 3.31   | 3.31  | —     | —     | 13/32      | .750                | 1.78 | 3/16  | 1       | 37                       | 43           | 56438                | —                   |
| 718  | 4.31 | 5.49  | —    | 3.31   | 3.31  | —     | —     | 13/32      | .875                | 1.78 | 3/16  | 1       | 39                       | 46           | 56585                | —                   |
| 721  | 4.69 | 6.02  | 7.22 | 3.31   | 3.31  | —     | —     | 15/32      | 1.000               | 2.09 | 1/4   | 1-1/4   | 48                       | 51           | 56440                | —                   |
| 724  | 5.09 | 7.76  | —    | 3.31   | 3.31  | 4.63  | —     | 15/32      | 1.125               | 2.37 | 1/4   | 1-1/4   | 57                       | 62           | 56591                | —                   |
| 726  | 5.62 | 8.44  | —    | 3.31   | 3.31  | 4.63  | —     | 17/32      | 1.125               | 2.62 | 1/4   | 1-15/16 | 74                       | 75           | 56595                | —                   |
| 730  | 6.75 | 9.11  | —    | 3.31   | 3.31  | 4.63  | —     | 17/32      | 1.250               | 3.25 | 1/4   | 2-1/4   | 96                       | 102          | 65544                | —                   |
| 732  | 7.06 | 9.63  | —    | 3.31   | 3.31  | 4.63  | —     | 17/32      | 1.375               | 3.25 | 5/16  | 2-7/16  | 118                      | 119          | 56599                | 54150               |
| 738  | 7.75 | 10.51 | —    | —      | 3.31  | 4.63  | 4.63  | 19/32      | 1.625               | 3.50 | 3/8   | 2-1/4   | 156                      | 158          | 56603                | 54151               |

\* See Assemblies and Mounting Positions, Pages 107 and 108.

\*\* For Fan Kits, see Page 130.

† For Base Kits, see Page 129.

(1) For sizes 724 and larger using HM3 add 25 lbs.

†† 752 & 760 SIZES AVAILABLE ONLY IN RF-FLANGED COUPLING TYPE.

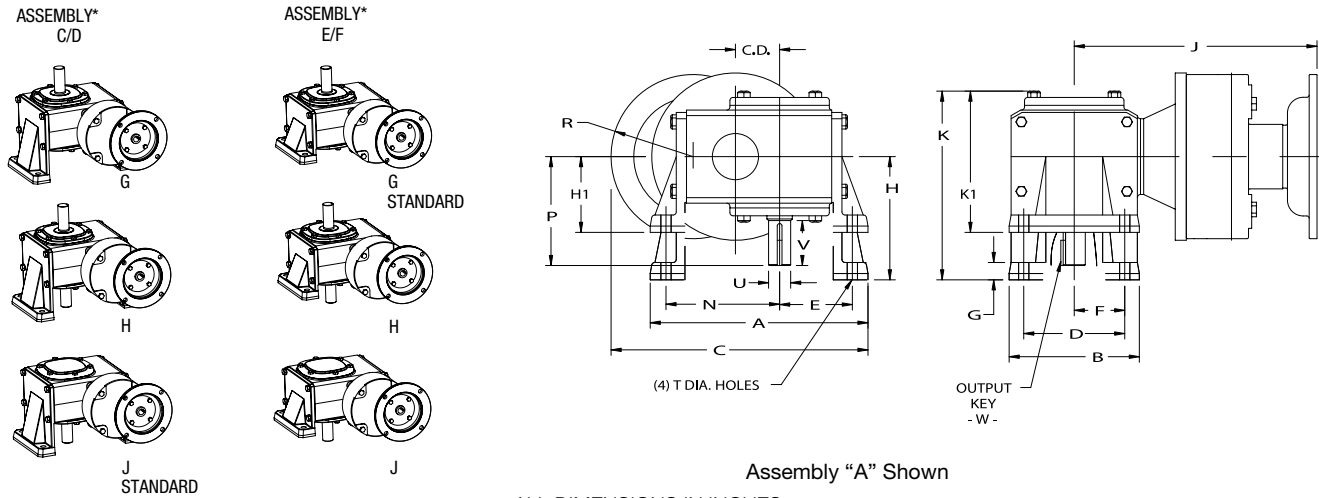
Reference Page 245 for flange details.

# HMF and 700 Series Double Reduction Flanged Reducer Dimensions

## F700/QC700 Series Flanged Quill/Flanged Coupling Types

C/D Position Vertical Base; C/E = High Base; D/F = Low Base

FOR ORDERING INFORMATION, see Page 106.  
FOR RATING INFORMATION, See Pages 109-118.



ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B     | C     | D     | E    | F    | G    | H    | H1   | J-NEMA Mounting |       |               |       |       |                         | K     | K1    |
|------|------|-------|-------|-------|-------|------|------|------|------|------|-----------------|-------|---------------|-------|-------|-------------------------|-------|-------|
|      |      |       |       |       |       |      |      |      |      |      | F700            |       |               | QC700 |       |                         |       |       |
|      |      |       |       |       |       |      |      |      |      |      | 56C             | 140TC | 180TC<br>210C | 56C   | 140TC | 180TC<br>210TC<br>250TC |       |       |
| 713  | 1.33 | 7.09  | 4.13  | 6.16  | 3.25  | 1.78 | 1.63 | .53  | 3.56 | 2.31 | 9.12            | —     | —             | 10.65 | —     | —                       | 5.59  | 4.34  |
| 715  | 1.54 | 8.03  | 5.16  | 6.97  | 4.00  | 1.97 | 2.00 | .69  | 4.38 | 3.00 | 9.68            | —     | —             | 11.29 | —     | —                       | 6.91  | 5.53  |
| 718  | 1.75 | 8.44  | 5.16  | 7.38  | 4.00  | 2.13 | 2.00 | .69  | 4.38 | 3.00 | 9.87            | —     | —             | 11.47 | —     | —                       | 6.88  | 5.50  |
| 721  | 2.06 | 9.50  | 6.03  | 8.38  | 4.88  | 2.34 | 2.44 | .72  | 4.88 | 3.13 | 10.24           | 10.69 | —             | 11.94 | 12.39 | —                       | 7.50  | 5.75  |
| 724  | 2.38 | 10.06 | 6.31  | 8.94  | 4.88  | 2.56 | 2.44 | .75  | 5.25 | 3.38 | 10.88           | 10.88 | 11.32         | 12.58 | 12.58 | 13.45                   | 7.97  | 6.09  |
| 726  | 2.62 | 11.69 | 7.38  | 10.13 | 5.75  | 3.00 | 2.88 | .88  | 5.59 | 3.63 | 11.38           | 11.38 | 11.82         | 13.02 | 13.02 | 13.94                   | 8.50  | 6.53  |
| 730  | 3.00 | 12.50 | 8.00  | 11.13 | 6.00  | 3.34 | 3.00 | .94  | 5.88 | 3.94 | 11.83           | 11.83 | 14.07         | 13.47 | 13.47 | 16.17                   | 9.13  | 7.20  |
| 732  | 3.25 | 13.38 | 9.00  | 11.88 | 6.13  | 3.56 | 3.06 | .88  | 6.25 | 4.69 | 12.19           | 12.19 | 14.43         | 13.83 | 13.83 | 16.57                   | 10.00 | 8.56  |
| 738  | 3.75 | 15.69 | 10.00 | 13.94 | 8.00  | 4.00 | 4.00 | .94  | 7.00 | 5.25 | 12.69           | 12.69 | 14.93         | 14.34 | 14.34 | 17.71                   | 11.12 | 9.38  |
| 752  | 5.16 | 20.50 | 13.13 | 18.00 | 10.00 | 5.44 | 5.00 | 1.13 | 8.63 | 6.38 | —               | —     | —             | —     | —     | 23.43††                 | 13.38 | 11.13 |
| 760  | 6.00 | 23.25 | 14.75 | 20.88 | 11.75 | 6.63 | 5.88 | 1.13 | 9.63 | 7.31 | —               | —     | —             | —     | —     | 23.43††                 | 14.94 | 12.63 |

| Size | N     | P     | R-NEMA Mounting |           |                   | T Holes | Low Speed Shaft |      |       |         | High Base             |                |                       | Low Base |                |       | Fan Kit No.** |
|------|-------|-------|-----------------|-----------|-------------------|---------|-----------------|------|-------|---------|-----------------------|----------------|-----------------------|----------|----------------|-------|---------------|
|      |       |       | 42CZ            | 56C 140TC | 180TC 210TC 250TC |         | U +.000 -.001   | V    | W-Key |         | Approx. Weight (LBS.) | Base Kit No. † | Approx. Weight (LBS.) |          | Base Kit No. † |       |               |
|      |       |       |                 |           |                   |         |                 |      | Sq.   | Length  | F                     |                | QC                    | F        |                | QC    |               |
| 713  | 3.69  | 4.00  | —               | 3.31      | —                 | 11/32   | .625            | 2.00 | 3/16  | 1       | 13                    | 19             | 56578                 | 30       | 35             | 56579 | —             |
| 715  | 4.25  | 4.31  | —               | 3.31      | —                 | 13/32   | .750            | 1.78 | 3/16  | 1       | 22                    | 27             | 56582                 | 39       | 44             | 56583 | —             |
| 718  | 4.50  | 4.31  | —               | 3.31      | —                 | 13/32   | .875            | 1.78 | 3/16  | 1       | 24                    | 30             | 56582                 | 41       | 47             | 56583 | —             |
| 721  | 5.09  | 4.69  | —               | 3.31      | —                 | 15/32   | 1.000           | 2.09 | 1/4   | 1-1/4   | 29                    | 35             | 56588                 | 50       | 52             | 56589 | —             |
| 724  | 5.44  | 5.09  | —               | 3.31      | 4.63              | 15/32   | 1.125           | 2.38 | 1/4   | 1-1/4   | 39                    | 44             | 56592                 | 63       | 66             | 56593 | —             |
| 726  | 6.13  | 5.63  | —               | 3.31      | 4.63              | 17/32   | 1.125           | 2.63 | 1/4   | 1-15/16 | 59                    | 57             | 56596                 | 80       | 81             | 56597 | —             |
| 730  | 6.75  | 6.75  | —               | 3.31      | 4.63              | 17/32   | 1.250           | 3.25 | 1/4   | 2-1/4   | 77                    | 79             | 65545                 | 98       | 101            | 65546 | —             |
| 732  | 7.13  | 7.06  | —               | 3.31      | 4.63              | 17/32   | 1.375           | 3.25 | 5/16  | 2-7/16  | 95                    | 98             | 56600                 | 115      | 119            | 56601 | 51450         |
| 738  | 8.31  | 7.75  | —               | 3.31      | 4.63              | 19/32   | 1.625           | 3.50 | 3/8   | 2-1/4   | 153                   | 147            | 56604                 | 162      | 166            | 56605 | 51451         |
| 752  | 10.56 | 9.06  | —               | —         | 4.63              | 29/32   | 2.000           | 4.16 | 1/2   | 2-15/16 | —                     | 267            | 56608                 | —        | 305††          | 56609 | 51452         |
| 760  | 12.19 | 10.00 | —               | —         | 4.63              | 29/32   | 2.250           | 4.56 | 1/2   | 3-3/8   | —                     | 345            | 56611                 | —        | 375††          | 56612 | 51453         |

\* See Assemblies and Mounting Positions, Pages 107 and 108.

\*\* For Fan Kits, see Page 130.

† For Base Kits, see Page 129.

(1) For sizes 724 and larger using HM3 add 25 lbs.

†† 752 & 760 SIZES AVAILABLE ONLY IN RF-FLANGED COUPLING TYPE.

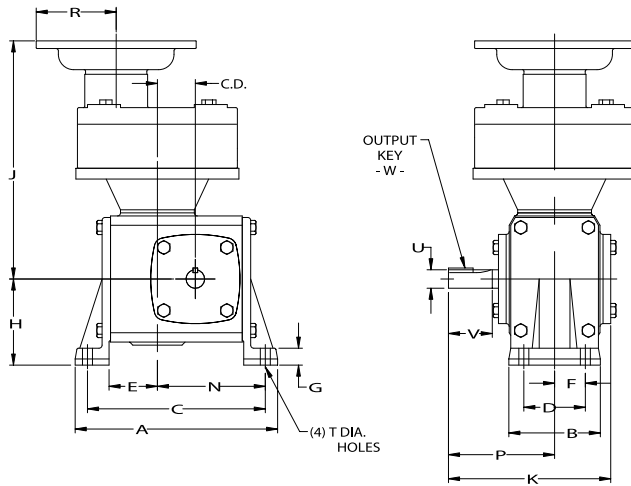
Reference Page 245 for flange details.

# HMF and 700 Series Double Reduction Flanged Reducer Dimensions

## F700/QC700 Series Flanged Quill/Flanged Coupling Types

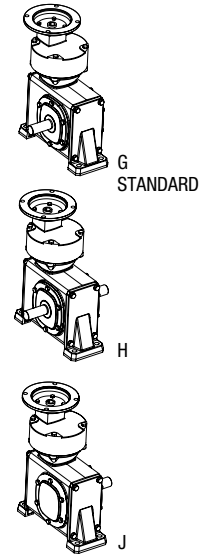
X Position Vertical Base; X = Input Vertical Up

FOR ORDERING INFORMATION, see Page 106.  
FOR RATING INFORMATION, See Pages 109-118.



Assembly "A" Shown

ASSEMBLY TYPES\*



ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B    | C     | D    | E    | F    | G    | H    | J-NEMA MOUNTING |               |                |               | K    | N    |
|------|------|-------|------|-------|------|------|------|------|------|-----------------|---------------|----------------|---------------|------|------|
|      |      |       |      |       |      |      |      |      |      | F700            |               | QC700          |               |      |      |
|      |      |       |      |       |      |      |      |      |      | 56C<br>140TC    | 180TC<br>210C | 56C<br>140TC   | 180TC<br>210C |      |      |
| 713  | 1.33 | 7.28  | 2.91 | 6.41  | 2.00 | 1.70 | 1.00 | 0.53 | 2.94 | 9.12            | —             | 10.65          | —             | 6.03 | 3.92 |
| 715  | 1.54 | 8.25  | 3.72 | 7.25  | 2.50 | 2.00 | 1.25 | 0.69 | 3.50 | 9.68            | —             | 11.29          | —             | 6.84 | 4.37 |
| 718  | 1.75 | 8.62  | 3.72 | 7.63  | 2.50 | 2.00 | 1.25 | 0.69 | 3.50 | 9.87            | —             | 11.47          | —             | 6.81 | 4.75 |
| 721  | 2.06 | 9.75  | 3.84 | 8.63  | 2.63 | 2.09 | 1.31 | 0.72 | 3.94 | 10.24<br>10.69  | —             | 11.94<br>12.39 | —             | 7.28 | 5.47 |
| 724  | 2.37 | 10.31 | 4.13 | 9.19  | 2.88 | 2.13 | 1.44 | 0.75 | 4.06 | 10.88           | 11.32         | 12.58          | 13.45         | 7.81 | 6.00 |
| 726  | 2.62 | 11.88 | 4.53 | 10.38 | 3.13 | 2.50 | 1.56 | 0.88 | 4.75 | 11.38           | 11.82         | 13.02          | 13.94         | 8.53 | 6.75 |

| Size | P    | R-NEMA Mounting |               | T Holes | Low Speed Shaft     |      |       |        | Approximate Weight (LBS.) (1) |    | Base Kit No. † |
|------|------|-----------------|---------------|---------|---------------------|------|-------|--------|-------------------------------|----|----------------|
|      |      | 56C<br>140TC    | 180TC<br>210C |         | U<br>+.001<br>-.000 | V    | W-Key |        | F                             | QC |                |
|      |      |                 |               |         |                     |      | Sq.   | Length |                               |    |                |
| 713  | 4.00 | 3.31            | —             | 11/32   | .625                | 2.00 | 3/16  | 1      | 31                            | 31 | 55196          |
| 715  | 4.31 | 3.31            | —             | 13/32   | .750                | 1.78 | 3/16  | 1      | 39                            | 42 | 55349          |
| 718  | 4.30 | 3.31            | —             | 13/32   | .875                | 1.78 | 3/16  | 1      | 40                            | 45 | 55349          |
| 721  | 4.69 | 3.31            | —             | 15/32   | 1.000               | 2.09 | 1/4   | 1-1/4  | 50                            | 52 | 55644          |
| 724  | 5.09 | 3.31            | 4.63          | 15/32   | 1.125               | 2.38 | 1/4   | 1-1/4  | 59                            | 59 | 55678          |
| 726  | 5.63 | 3.31            | 4.63          | 17/32   | 1.125               | 2.63 | 1/4   | 1-1/4  | 76                            | 77 | 55769          |

\* Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounted surfaces.

Input may be rotated clockwise or counterclockwise. See Assemblies and Mounting Positions, Pages 107 and 108.

† For Base Kits, see Page 129.

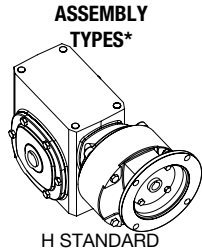
(1) For sizes 724 and larger using HM3 add 25 lbs.  
Reference Page 245 for flange details.

# HMF and 700 Series Double Reduction Flanged Reducer Dimensions

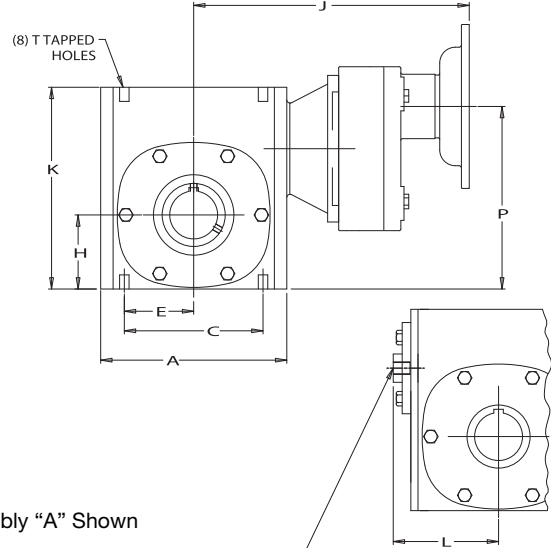
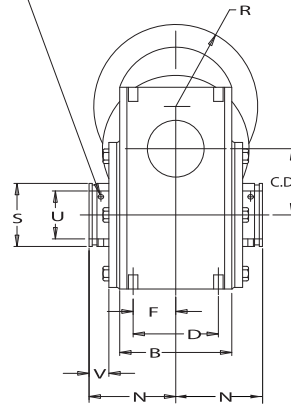
## HF700/HQC700 Series Flanged Quill/Flanged Coupling Types

### Basic Models (No Base); Bored to Size Hollow Output Shaft

FOR ORDERING INFORMATION, see Page 106.  
FOR RATING INFORMATION, See Pages 109-118.



(2) G SOCKET SETSCREWS  
120° APART



Assembly "A" Shown

ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B    | C    | D    | E    | F    | G       | H    | J-NEMA Mounting |               |       |                |               | K     | L     | N    |      |
|------|------|-------|------|------|------|------|------|---------|------|-----------------|---------------|-------|----------------|---------------|-------|-------|------|------|
|      |      |       |      |      |      |      |      |         |      | HF700           |               | 250TC | HQC700         |               |       |       |      |      |
|      |      |       |      |      |      |      |      |         |      | 56C<br>140TC    | 180TC<br>210C |       | 56C<br>140TC   | 180TC<br>210C |       |       |      |      |
| 713  | 1.33 | 4.25  | 2.88 | 3.25 | 2.00 | 1.63 | 1.00 | #10-32  | 1.72 | 9.12            | —             | —     | 10.65          | —             | —     | 4.66  | —    | 2.50 |
| 715  | 1.54 | 5.13  | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | #10-32  | 1.91 | 9.68            | —             | —     | 11.29          | —             | —     | 5.38  | —    | 3.03 |
| 718  | 1.75 | 5.50  | 3.69 | 4.19 | 2.75 | 2.09 | 1.38 | #10-32  | 2.06 | 9.87            | —             | —     | 11.47          | —             | —     | 5.75  | —    | 3.03 |
| 721  | 2.06 | 6.00  | 3.81 | 5.00 | 2.88 | 2.50 | 1.44 | 1/4-28  | 2.28 | 10.24<br>10.69  | —             | —     | 11.94<br>12.39 | —             | —     | 6.38  | —    | 3.22 |
| 724  | 2.38 | 6.38  | 4.06 | 5.00 | 2.88 | 2.50 | 1.44 | 1/4-28  | 2.50 | 10.88           | 11.32         | —     | 12.58          | 13.45         | —     | 6.94  | —    | 3.22 |
| 726  | 2.62 | 7.38  | 4.44 | 6.38 | 3.38 | 3.19 | 1.69 | 5/16-24 | 2.94 | 11.38           | 11.82         | —     | 13.02          | 13.94         | —     | 8.00  | —    | 3.44 |
| 730  | 3.00 | 8.12  | 5.25 | 7.00 | 4.00 | 3.50 | 2.00 | 5/16-24 | 3.25 | 11.83           | 14.07         | —     | 13.47          | 16.17         | —     | 8.88  | —    | 4.19 |
| 732  | 3.25 | 9.00  | 5.88 | 7.50 | 4.00 | 3.75 | 2.00 | 5/16-24 | 3.50 | 12.19           | 14.43         | —     | 13.83          | 16.57         | —     | 9.38  | 4.94 | 4.31 |
| 738  | 3.75 | 10.00 | 6.38 | 8.50 | 4.75 | 4.25 | 2.38 | 3/8-24  | 3.88 | 12.69           | 14.93         | —     | 14.34          | 17.71         | —     | 10.44 | 5.50 | 4.81 |
| 752  | 5.16 | 13.13 | 7.38 | 11.0 | 5.81 | 5.50 | 2.91 | 3/8-24  | 5.31 | —               | 22.44         | 22.44 | —              | 22.44         | 22.44 | 13.75 | 7.19 | 6.12 |

| Size | P     |      | R-NEMA Mounting |       | 250TC | S    | T                   |      | Low Speed Shaft |        |                       |       | Approx. Weight (LBS.) (1) |     | Fan Kit No.** |
|------|-------|------|-----------------|-------|-------|------|---------------------|------|-----------------|--------|-----------------------|-------|---------------------------|-----|---------------|
|      |       |      | Tap Size        | Depth |       |      | Max U +.0015 -.0000 | V    | W-Key           |        | HF                    | HQC   |                           |     |               |
|      |       |      |                 |       |       |      |                     |      | Sq.             | Length |                       |       |                           |     |               |
| 713  | 4.74  | —    | 3.31            | —     |       | .88  | 5/16-18             | .50  | .625            | .68    | 3/16 x 1/8            | 1     | 25                        | 27  | —             |
| 715  | 5.12  | —    | 3.31            | —     |       | 1.38 | 5/16-18             | .50  | 1.000           | .84    | 1/4 x 7/32            | 1-3/8 | 39                        | 41  | —             |
| 718  | 5.49  | —    | 3.31            | —     |       | 1.38 | 5/16-18             | .50  | 1.000           | .74    | 1/4 x 7/32            | 1-3/8 | 41                        | 42  | —             |
| 721  | 6.02  | 7.22 | 3.31            | —     |       | 2.00 | 3/8-16              | .56  | 1.4375          | .87    | 3/8 x 5/16            | 1-3/4 | 46                        | 47  | —             |
| 724  | 7.76  | —    | 3.31            | 4.63  |       | 2.00 | 3/8-16              | .56  | 1.4375          | .75    | 3/8 x 5/16            | 1-3/4 | 61                        | 65  | —             |
| 726  | 8.44  | —    | 3.31            | 4.63  |       | 2.50 | 3/8-16              | .56  | 1.9375          | .78    | 1/2 x 3/8             | 2     | 74                        | 75  | —             |
| 730  | 9.11  | —    | 3.31            | 4.63  |       | 2.88 | 7/16-14             | .88  | 2.1875          | 1.10   | 1/2 x 3/8             | 2     | 95                        | 99  | —             |
| 732  | 9.63  | —    | 3.31            | 4.63  |       | 2.88 | 7/16-14             | .66  | 2.1875          | .93    | 1/2 x 3/8             | 2     | 115                       | 127 | 51450         |
| 738  | 10.51 | —    | 3.31            | 4.63  |       | 3.25 | 1/2-13              | .75  | 2.4375          | 1.11   | 5/8 x 3/8             | 2-1/2 | 155                       | 166 | 51451         |
| 752  | 13.38 | —    | —               | 4.63  | 4.63  | 4.25 | 5/8-11              | 1.00 | 3.4375          | 1.37   | See Chart on page 128 |       | 221                       |     | 51457         |

\* See Assemblies and Mounting Positions, Pages 107 and 108.

\*\* For Fan Kits, see Page 130.

(1) For sizes 724 and larger using HM3 add 25 lbs.

Input may be rotated clockwise or counterclockwise.

See Page 128 for available bore sizes.

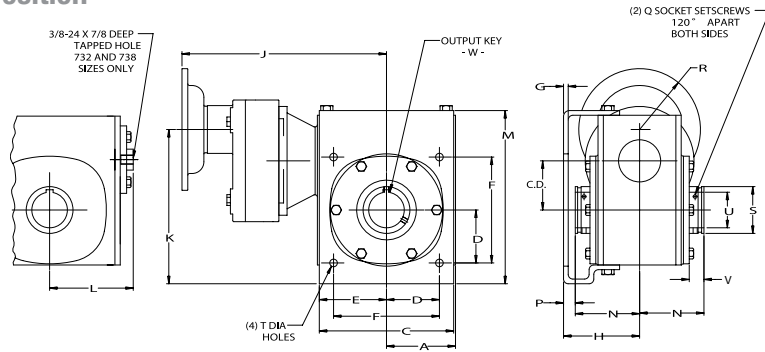
Reference Page 245 for flange details.

# HMF and 700 Series Double Reduction Flanged Reducer Dimensions

## HF700/HQC700 Series Flanged Quill/Flanged Coupling Types

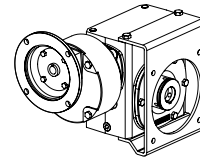
### R/L Position Mounting Bracket; Bored to Size Hollow Output Shaft

#### R Position

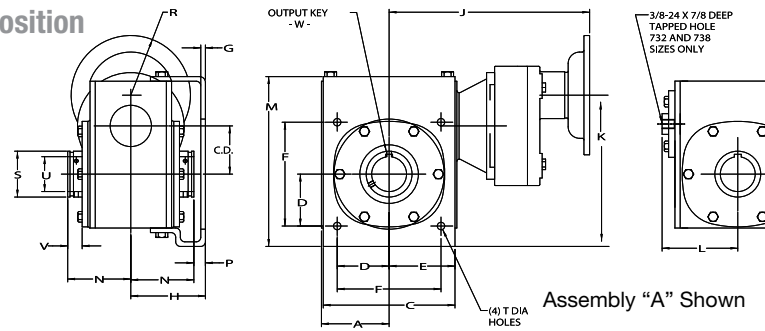


FOR ORDERING INFORMATION, see Page 106.  
FOR RATING INFORMATION, See Pages 109-118.

ASSEMBLY TYPES\*



#### L Position



ALL DIMENSIONS IN INCHES

| Size | C.D. | A    | B    | C    | D    | E    | F    | G   | H    | J-NEMA Mounting       |               |                       |               | K                   | L    |
|------|------|------|------|------|------|------|------|-----|------|-----------------------|---------------|-----------------------|---------------|---------------------|------|
|      |      |      |      |      |      |      |      |     |      | HF700                 |               | HQC700                |               |                     |      |
|      |      |      |      |      |      |      |      |     |      | 56C<br>140TC          | 180TC<br>210C | 56C<br>140TC          | 180TC<br>210C |                     |      |
| 713  | 1.33 | 2.12 | 3.62 | 4.25 | 1.77 | 2.12 | 3.54 | .19 | 3.00 | 9.12                  | —             | 10.65                 | —             | 5.34                | —    |
| 715  | 1.54 | 2.56 | 3.62 | 4.75 | 1.77 | 2.38 | 3.54 | .19 | 3.56 | 9.68                  | —             | 11.29                 | —             | 5.75                | —    |
| 718  | 1.75 | 2.75 | 4.06 | 4.81 | 2.08 | 2.41 | 4.16 | .19 | 3.50 | 9.87                  | —             | 11.47                 | —             | 6.25                | —    |
| 721  | 2.06 | 3.00 | 4.50 | 5.75 | 2.30 | 2.88 | 4.60 | .19 | 3.75 | <u>10.24</u><br>10.69 | —             | <u>11.94</u><br>12.39 | —             | <u>6.86</u><br>8.06 | —    |
| 724  | 2.38 | 3.19 | 5.00 | 5.75 | 2.65 | 2.88 | 5.30 | .25 | 3.72 | 10.88                 | 11.32         | 12.58                 | 13.45         | 8.86                | —    |
| 726  | 2.62 | 3.69 | 6.00 | 7.18 | 2.83 | 3.59 | 5.66 | .25 | 4.06 | 11.38                 | 11.82         | 13.02                 | 13.94         | 9.44                | —    |
| 730  | 3.00 | 4.06 | 7.00 | 8.00 | 3.18 | 4.00 | 6.36 | .25 | 4.50 | 11.83                 | 14.07         | 13.47                 | 16.17         | 10.39               | —    |
| 732  | 3.25 | 4.50 | 7.00 | 8.50 | 3.54 | 4.25 | 7.08 | .25 | 5.25 | 12.19                 | 14.43         | 13.83                 | 16.57         | 10.88               | 4.94 |
| 738  | 3.75 | 5.00 | 8.00 | 9.50 | 4.06 | 4.75 | 8.12 | .25 | 5.47 | 12.69                 | 14.93         | 14.34                 | 17.71         | 33.78               | 5.50 |

| Size | M     | N    | P   | Q       | R-NEMA Mounting |             | S    | T Holes | Low Speed Shaft      |      |          |        | Approx. Weight (LBS.) (1) |     | Fan Kit No.** |
|------|-------|------|-----|---------|-----------------|-------------|------|---------|----------------------|------|----------|--------|---------------------------|-----|---------------|
|      |       |      |     |         | 56C 140TC       | 180TC 210TC |      |         | Max U +.0015 -0.0000 | V    | W-Key    |        | HF                        | HQC |               |
|      |       |      |     |         |                 |             |      |         |                      |      | Size.    | Length |                           |     |               |
| 713  | 5.55  | 2.50 | .50 | #10-32  | 3.31            | —           | .88  | 11/32   | .625                 | .68  | 3/16x1/8 | 1      | 34                        | 39  | —             |
| 715  | 6.16  | 3.03 | .44 | #10-32  | 3.31            | —           | 1.38 | 11/32   | 1.000                | .84  | 1/4x7/32 | 1-3/8  | 40                        | 46  | —             |
| 718  | 6.66  | 3.03 | .47 | #10-32  | 3.31            | —           | 1.38 | 11/32   | 1.000                | .74  | 1/4x7/32 | 1-3/8  | 47                        | 49  | —             |
| 721  | 7.47  | 3.22 | .53 | 1/4-28  | 3.31            | —           | 1.94 | 13/32   | 1.4375               | .87  | 3/8x5/16 | 1-3/4  | 58                        | 59  | —             |
| 724  | 8.30  | 3.22 | .50 | 1/4-28  | 3.31            | 4.63        | 1.94 | 13/32   | 1.4375               | .75  | 3/8x5/16 | 1-3/4  | 66                        | 72  | —             |
| 726  | 9.25  | 3.44 | .62 | 5/16-24 | 3.31            | 4.63        | 2.50 | 13/32   | 1.9375               | .78  | 1/2x3/8  | 2      | 77                        | 78  | —             |
| 730  | 10.38 | 4.19 | .31 | 5/16-24 | 3.31            | 4.63        | 2.88 | 13/32   | 2.1875               | 1.12 | 1/2x3/8  | 2      | 101                       | 105 | —             |
| 732  | 10.91 | 4.31 | .94 | 5/16-24 | 3.31            | 4.63        | 2.88 | 9/16    | 2.1875               | .93  | 1/2x3/8  | 2      | 120                       | 132 | 51450         |
| 738  | 11.84 | 4.81 | .66 | 3/8-24  | 3.31            | 4.63        | 3.25 | 9/16    | 2.4375               | 1.11 | 5/8x3/8  | 2-1/2  | 172                       | 175 | 51451         |

\* See Assemblies and Mounting Positions, Pages 107 and 108.

\*\* For Fan Kits, see Page 130.

(1) For sizes 724 and larger using HM3 add 25 lbs.

Input may be rotated clockwise or counterclockwise.

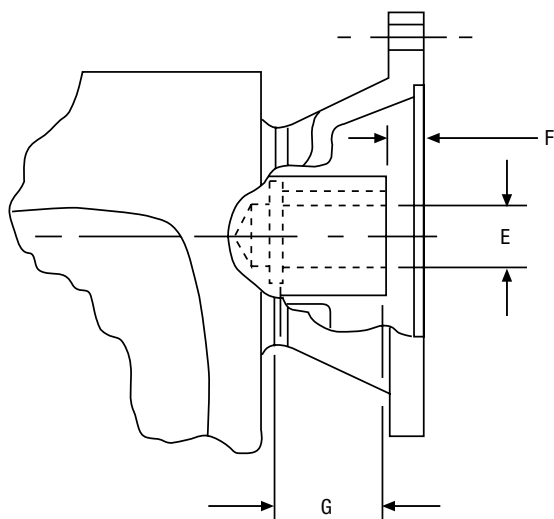
See Page 128 for available bore sizes.

Reference Page 245 for flange details.



# 700 Series Miscellaneous Component Data

## F700 NEMA C Quill Type Motor Flange Data

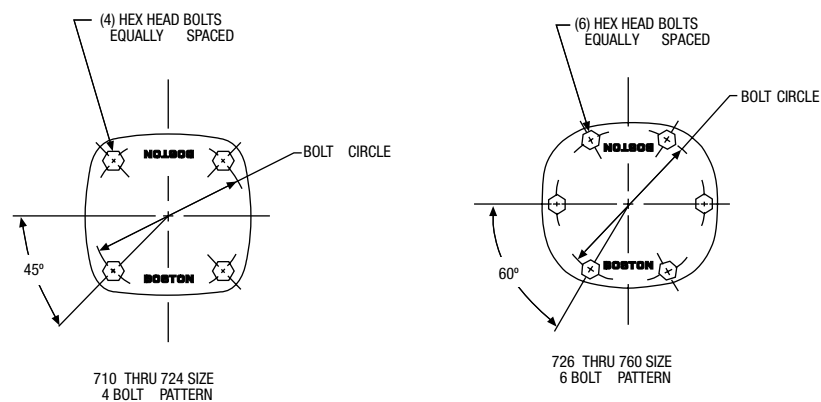


ALL DIMENSIONS IN INCHES

| SIZE | BORE CODE | E     | F     | G       |
|------|-----------|-------|-------|---------|
| 710  | B4        | 1/2   | 3/8   | 1-3/32  |
|      | B5        | 5/8   | 9/32  | 1-5/16  |
| 713  | B5        | 5/8   | 23/32 | 1-5/16  |
| 715  | B5        | 5/8   | 21/32 | 1-5/8   |
|      | B7        | 7/8   | 7/16  | 1-3/4   |
| 718  | B5        | 5/8   | 21/32 | 1-5/8   |
|      | B7        | 7/8   | 17/32 | 1-3/4   |
| 721  | B5        | 5/8   | 5/8   | 1-5/8   |
|      | B7        | 7/8   | 13/16 | 1-3/4   |
| 724  | B5        | 5/8   | 11/16 | 1-5/8   |
|      | B7        | 7/8   | 11/16 | 1-3/4   |
|      | B9        | 1-1/8 | 7/16  | 2-7/16  |
| 726  | B5        | 5/8   | 5/8   | 1-5/8   |
|      | B7        | 7/8   | 21/32 | 1-3/4   |
|      | B9        | 1-1/8 | 5/8   | 2-3/8   |
| 730  | B5        | 5/8   | 5/8   | 1-11/32 |
|      | B7        | 7/8   | 5/8   | 1-11/32 |
|      | B9        | 1-1/8 | 11/16 | 2-11/16 |
| 732  | B5        | 5/8   | 23/32 | 1-5/8   |
|      | B7        | 7/8   | 23/32 | 1-3/4   |
|      | B9        | 1-1/8 | 29/32 | 2-3/8   |
| 738  | B7        | 7/8   | 19/32 | 1-3/4   |
|      | B9        | 1-1/8 | 5/16  | 2-1/8   |
|      | B11       | 1-3/8 | 3/4   | 2-7/8   |

## Cast Iron Output Bearing Carrier Data

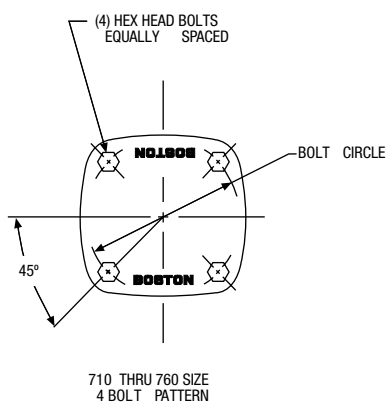
ALL DIMENSIONS IN INCHES



| SIZE | BOLT        |         |        |
|------|-------------|---------|--------|
|      | CIRCLE DIA. | SIZE    | LENGTH |
| 710  | 2-3/8       | 10-32   | 1/2    |
| 713  | 3           | 1/4-20  | 5/8    |
| 715  | 3-5/8       | 5/16-18 | 3/4    |
| 718  | 4           | 5/16-18 | 3/4    |
| 721  | 4-3/8       | 5/16-18 | 3/4    |
| 724  | 4-15/16     | 5/16-18 | 3/4    |
| 726  | 5-3/8       | 5/16-18 | 3/4    |
| 730  | 6           | 5/16-18 | 3/4    |
| 732  | 6-9/16      | 5/16-18 | 3/4    |
| 738  | 7-5/8       | 3/8-16  | 7/8    |
| 752  | 10-3/8      | 7/16-14 | 1-1/4  |
| 760  | 12-1/16     | 1/2-13  | 1-1/4  |

## Input Bearing Retainer Data

ALL DIMENSIONS IN INCHES



| SIZE | BOLT        |         |        |
|------|-------------|---------|--------|
|      | CIRCLE DIA. | SIZE    | LENGTH |
| 710  | 1-5/8       | 10-32   | 1/2    |
| 713  | 2           | 1/4-20  | 5/8    |
| 715  | 2-5/8       | 5/16-18 | 3/4    |
| 718  | 2-5/8       | 5/16-18 | 3/4    |
| 721  | 3           | 5/16-18 | 3/4    |
| 724  | 3           | 5/16-18 | 3/4    |
| 726  | 3-7/16      | 5/16-18 | 3/4    |
| 730  | 3-7/16      | 5/16-18 | 3/4    |
| 732  | 3-7/16      | 5/16-18 | 3/4    |
| 738  | 3-7/16      | 5/16-18 | 3/4    |
| 752  | 4-3/8       | 7/16-14 | 1-1/4  |
| 760  | 4-3/8       | 7/16-14 | 1-1/4  |



**Section Contents**

**Output Bracket . . . . .128**

**Reaction Rods . . . . .128**

**Bases . . . . .129**

**Posivent® . . . . .129**

**Fan Kits . . . . .130**

**Riser Block Kit . . . . .130**

**Bushing . . . . .130**

**CFA Hardware Kit . . . . .130**

**RF C-Face Flange Kit . . . . .131**

**Bost-Kleen & Washdown Duty . . . . .132**



# 700 Series Accessories

| H Series Hollow Output Bore Sizes |                  |     |     |     |     |     |     |     |     |     |     |               |                     |
|-----------------------------------|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|---------------------|
| Unit Size                         |                  |     |     |     |     |     |     |     |     |     |     |               |                     |
| Fraction Size                     | Output Bore Code | 713 | 715 | 718 | 721 | 724 | 726 | 730 | 732 | 738 | 752 | Decimal Size* | Key Size†           |
| 5/8                               | P10              | •   |     |     |     |     |     |     |     |     |     | .6250         | 3/16 x 1/8 x 1"     |
| 3/4                               | P12              | •   | •   | •   | •   | •   |     |     |     |     |     | .7500         | 3/16 x 5/32 x 1"    |
| 7/8                               | P14              | •   | •   | •   | •   | •   |     |     |     |     |     | .8750         | 3/16 x 5/32 x 1"    |
| 15/16                             | P15              | •   | •   | •   | •   | •   | •   |     |     |     |     | .9375         | 1/4 x 7/32 x 1-3/8" |
| 1                                 | P16              | •   | •   | •   | •   | •   | •   |     |     |     |     | 1.0000        | 1/4 x 7/32 x 1-3/8" |
| 1 1/16                            | P17              |     |     |     | •   | •   | •   |     |     |     |     | 1.0625        | 1/4 x 7/32 x 1-3/8" |
| 1 1/8                             | P18              |     |     |     | •   | •   | •   |     |     |     |     | 1.1250        | 1/4 x 7/32 x 1-3/8" |
| 1 3/16                            | P19              |     |     |     | •   | •   | •   | •   | •   |     |     | 1.1875        | 1/4 x 7/32 x 1-3/8" |
| 1 1/4                             | P20              |     |     |     | •   | •   | •   | •   | •   |     |     | 1.2500        | 1/4 x 7/32 x 1-3/8" |
| 1 5/16                            | P21              |     |     |     | •   | •   | •   | •   | •   |     |     | 1.3125        | 5/16 x 1/4 x 1-5/8" |
| 1 3/8                             | P22              |     |     |     |     | •   | •   | •   | •   | •   |     | 1.3750        | 5/16 x 1/4 x 1-5/8" |
| 1 7/16                            | P23              |     |     |     | •   | •   | •   | •   | •   | •   |     | 1.4375        | 3/8 x 5/16 x 1-3/4" |
| 1 1/2                             | P24              |     |     |     |     |     | •   | •   | •   | •   |     | 1.5000        | 3/8 x 5/16 x 1-3/4" |
| 1 5/8                             | P26              |     |     |     |     |     | •   | •   | •   | •   |     | 1.6250        | 3/8 x 5/16 x 1-3/4" |
| 1 11/16                           | P27              |     |     |     |     |     | •   | •   | •   | •   |     | 1.6875        | 3/8 x 5/16 x 1-3/4" |
| 1 3/4                             | P28              |     |     |     |     |     | •   | •   | •   | •   |     | 1.7500        | 3/8 x 5/16 x 1-3/4" |
| 1 7/8                             | P30              |     |     |     |     |     |     | •   | •   | •   |     | 1.8750        | 1/2 x 3/8 x 2"      |
| 1 15/16                           | P31              |     |     |     |     |     | •   | •   | •   | •   | •   | 1.9375        | 1/2 x 3/8 x 2"      |
| 2                                 | P32              |     |     |     |     |     |     | •   | •   | •   | •   | 2.0000        | 1/2 x 3/8 x 2"      |
| 2 1/8                             | P34              |     |     |     |     |     |     |     |     | •   |     | 2.1250        | 1/2 x 3/8 x 2"      |
| 2 3/16                            | P35              |     |     |     |     |     |     | •   | •   | •   | •   | 2.1875        | 1/2 x 3/8 x 2"      |
| 2 1/4                             | P36              |     |     |     |     |     |     |     |     | •   | •   | 2.2500        | 1/2 x 3/8 x 2"      |
| 2 7/16                            | P39              |     |     |     |     |     |     |     |     | •   | •   | 2.4375        | 5/8 x 1/2 x 2-1/2"  |
| 3 7/16                            | P55              |     |     |     |     |     |     |     |     |     | •   | 3.4375        | 7/8 x 5/8 x 3"      |

\* Bore Tolerance +.0015 – .0000

• Available bore sizes

† Key is provided with reducer to fit hollow shaft. Driven shaft requires standard width and depth keyway.  
Also available in stainless steel.

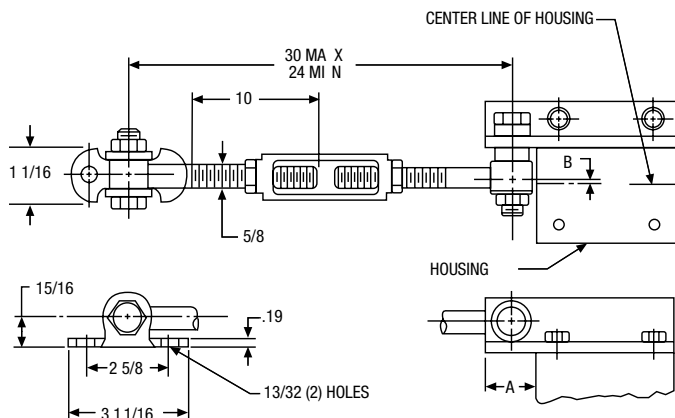
## Output Bracket (Including Fasteners)



ORDER BY CATALOG OR KIT NUMBER

| Size | Catalog Number | Kit Number |
|------|----------------|------------|
| 713  | XH713-11RLK    | 13977      |
| 715  | XH715-11RLK    | 13978      |
| 718  | XH718-11RLK    | 13979      |
| 721  | XH721-11RLK    | 13980      |
| 724  | XH724-11RLK    | 13981      |
| 726  | XH726-11RLK    | 13982      |
| 730  | XH730-11RLK    | 65547      |
| 732  | XH732-11RLK    | 13983      |
| 738  | XH738-11RLK    | 13984      |

## Reaction Rod Kits



Accessory kits are shipped separately, unless otherwise specified.

ORDER BY CATALOG OR KIT NUMBER

| Size | Dimensions |     | Catalog Number | Kit Number |
|------|------------|-----|----------------|------------|
|      | A          | B   |                |            |
| 713  | 1.31       | .26 | XH713-76K      | 13973      |
| 715  | 1.18       | .12 | XH715-76K      | 13974      |
| 718  | 1.09       | .09 | X718-76K       | 69692      |
| 721  | 1.25       | .03 | X721-76K       | 69693      |
| 724  | 1.00       | .03 | X721-76K       | 69693      |
| 726  | 1.25       | .22 | X726-76K       | 69694      |
| 730  | 2.10       | .52 | X732-76K       | 69695      |
| 732  | 1.50       | .53 | X732-76K       | 69695      |
| 738  | 1.41       | .91 | XH738-76K      | 13976      |

Complete kit includes all hardware shown, angle bracket and cap screws.

Dimensions of bases assembled on units are shown on applicable reducer dimension pages.  
Accessory kits are shipped separately, unless otherwise specified.

ORDER BY KIT NUMBER

| Size   | Cast Iron Kit Number |
|--------|----------------------|
| 710A,B | 87874                |
| 713A,B | 56437                |
| 715A,B | 56438                |
| 718A,B | 56439                |
| 721A,B | 56440                |
| 724A,B | 56441                |
| 726A,B | 56442                |
| 730A,B | 65544                |
| 732A,B | 56599                |
| 738A,B | 56603                |
| 752A,B | 56607                |
| 760A,B | 56610                |

## Cast Iron Base Kits (Including Fasteners) For Horizontal Positions A & B



ORDER BY KIT NUMBER

| SIZE   | KIT NUMBER | SIZE   | KIT NUMBER |
|--------|------------|--------|------------|
| 710C   | 56576      | 724X/Y | 55678      |
| 713D   | 56579      | 726D   | 56597      |
| 713C   | 56578      | 726C   | 56596      |
| 713X/Y | 55196      | 726X/Y | 55769      |
| 715D   | 56583      | 730D   | 65546      |
| 715C   | 56582      | 730C   | 65545      |
| 715X/Y | 55349      | 732D   | 56601      |
| 718D   | 56583      | 732C   | 56600      |
| 718C   | 56582      | 738D   | 56605      |
| 718X/Y | 55349      | 738C   | 56604      |
| 721D   | 56589      | 752D   | 56609      |
| 721C   | 56588      | 752C   | 56608      |
| 721X/Y | 55644      | 760D   | 56612      |
| 724D   | 56593      | 760C   | 56611      |
| 724C   | 56592      |        |            |

## Cast Iron Base Kits (Including Fasteners) For Vertical Positions C, D, E & F



Type "C" and "E" are High Base.  
Type "D" and "F" are Low Base.  
Type "X" and "Y" are Input Vertical.

For E Base order C Base.  
For F Base order D Base.

710 available High Base only.

The Boston Gear PosiVent option is available in all current 700 series styles and configurations. This specially-designed internal pressure equalization system allows the gearbox to operate in all environments without the use of conventional pressure vents. Unlike competitive versions, our unique single seam design allows for easy installation and extended life. This means longer trouble-free operation with virtually no maintenance.

USDA approved washdown finishes available in Bost-Kleen™ and Stainless Bost-Kleen™

The PosiVent option is ideal for material handling, food processing, medical and pharmaceutical applications.

To order specify the letter "Z" for the vent option, in the 700 series catalog number.

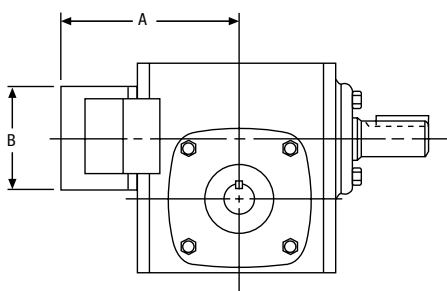
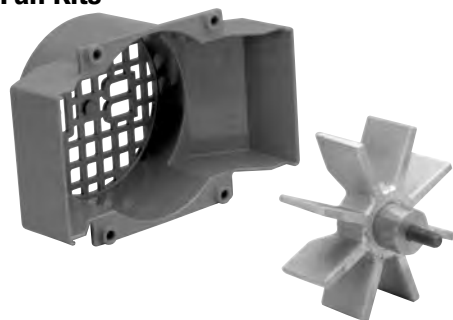
## Speed Reducers With PosiVent® Option



# 700 Series Accessories

Accessory kits are shipped separately, unless otherwise specified.

## Fan Kits



ALL DIMENSIONS IN INCHES  
ORDER BY KIT NUMBER

| Size | Kit Number | A     | B    |
|------|------------|-------|------|
| 732  | 51450      | 7.60  | 4.87 |
| 738  | 51451      | 8.09  | 5.19 |
| 752  | 51452      | 10.87 | 6.25 |
| 760  | 51453      | 11.56 | 7.50 |

## Riser Block Kit

Riser blocks permit the speed reducer to be mounted in the most desirable position, i.e. high speed input shaft above the oil level. The riser blocks allow clearance over the motor without inverting the speed reducer. They are ideal for mounting on inclined conveyors for frame clearance. The kit includes Riser Block and attachment bolts. Horizontal Base must be ordered separately.

Dimensions of kits assembled on units are shown on Page 37.



ORDER BY KIT NUMBER

| Size | C.D. | Kit Number | Motor Frame |
|------|------|------------|-------------|
| 710  | 1.00 | 51434      | 42CZ        |
|      |      | 51513      | 56C         |
| 713  | 1.33 | 51435      | 56C         |
| 715  | 1.54 | 51436      | 56C         |
|      |      |            | 140TC       |
| 718  | 1.75 | 51437      | 56C         |
|      |      |            | 140TC       |
| 721  | 2.06 | 51438      | 56C         |
|      |      |            | 140TC       |
| 724  | 2.38 | 51439      | 56C         |
|      |      |            | 140TC       |
|      |      | 51514      | 180TC       |
| 726  | 2.62 | 51440      | 56C         |
|      |      |            | 140TC       |
|      |      | 51515      | 180TC       |
| 730  | 3.00 | 65542      | 56C/140TC   |
|      |      | 65548      | 180TC       |
| 732  | 3.25 | 51441      | 56C         |
|      |      |            | 140TC       |
|      |      | 51516      | 180TC       |

## 7/8 x 5/8 Input Bushing & Key Kit

Convenient for reducing input quill of a flanged reducer from 7/8" bore to 5/8" bore.



ORDER BY KIT NUMBER

| DESCRIPTION             | KIT NUMBER |
|-------------------------|------------|
| 7/8 X 5/8 Bushing & Key | 18958      |

## CFA Hardware Kits

These end caps are ideally suited to cover the non-working shaft end of the Boston hollow shaft worm gear speed reducers. (And in particular, the HF700 M/N CFA models.)

ORDER BY KIT NUMBER

| DESCRIPTION          | KIT NUMBER | CATALOG NUMBER |
|----------------------|------------|----------------|
| 718 CFA Hardware Kit | 87406      | XH718-CFA-Kit  |
| 721 CFA Hardware Kit | 87408      | XH721-CFA-Kit  |
| 724 CFA Hardware Kit | 87415      | XH724-CFA-Kit  |
| 726 CFA Hardware Kit | 87422      | XH726-CFA-Kit  |



Not Recommended for Shock Loads or Reversing Applications

Accessory kits are shipped separately, unless otherwise specified.

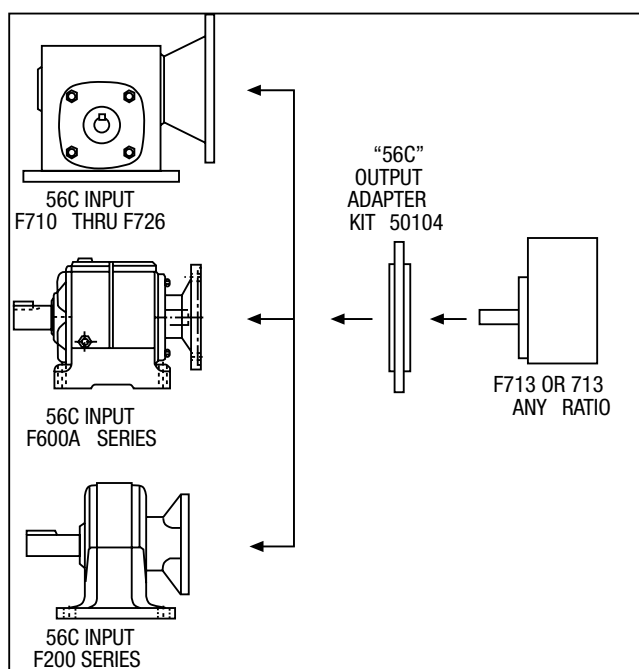
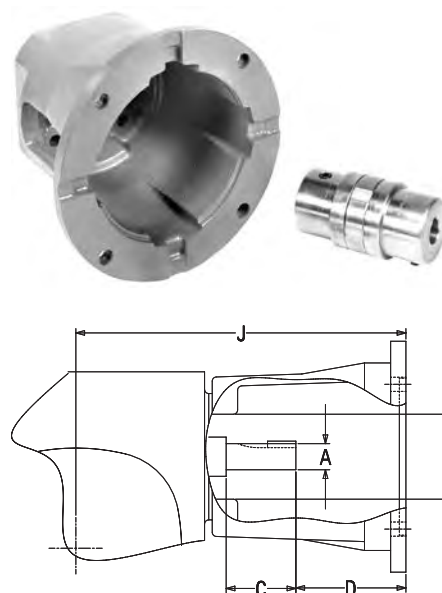
ORDER BY KIT NUMBER

| Reduction |              | NEMA Frame              | Flange Kit No.*         | A     | B                           | C       | D                             | J                       |
|-----------|--------------|-------------------------|-------------------------|-------|-----------------------------|---------|-------------------------------|-------------------------|
| Single    | Double       |                         |                         |       |                             |         |                               |                         |
| 710       | W713<br>W718 | 42CZ<br>56C             | 52966<br>52967          | 3/8   | 1-3/16<br>1-1/8             | 13/16   | 1-7/8<br>2-27/32              | 4.76<br>5.72            |
| 713       | W721<br>W726 | 56C<br>140TC            | 52968<br>52970          | 1/2   | 1-7/8                       | 1-5/16  | 2-11/16                       | 6.59                    |
| 715       |              | 56C<br>140TC            | 52969<br>52970          | 5/8   | 1-7/8                       | 1-9/16  | 2-21/32                       | 7.34<br>7.34            |
| 718       | W730<br>W732 | 56C<br>140TC            | 52969<br>52970          | 5/8   | 1-7/8                       | 1-9/16  | 2-21/32                       | 7.53<br>7.53            |
| 721       | W738         | 56C<br>140TC            | 52971<br>52972          | 5/8   | 2                           | 1-9/16  | 3-3/16                        | 8.31<br>8.31            |
| 724       |              | 56C<br>140TC<br>180TC   | 52973<br>52974<br>52964 | 3/4   | 2                           | 2       | 2-3/4<br>2-3/4<br>4-3/16      | 8.50<br>8.50<br>9.94    |
| 726       | W752         | 56C<br>140TC<br>180TC   | 52976<br>52977<br>52975 | 3/4   | 2-7/16<br>2-7/16<br>3-3/8   | 2       | 3-5/32<br>3-5/32<br>4-1/8     | 9.47<br>9.47<br>10.44   |
| 730       |              | 56C<br>140TC<br>180TC   | 52976<br>52977<br>52975 | 3/4   | 2-7/16<br>2-7/16<br>3-3/8   | 2       | 3-5/32<br>3-5/32<br>4-1/8     | 9.92<br>9.92<br>10.88   |
| 732       | W760         | 56C<br>140TC<br>180TC   | 52978<br>52979<br>52980 | 7/8   | 2-7/16<br>2-7/16<br>3-3/8   | 2-11/32 | 2-27/32<br>2-27/32<br>3-13/16 | 10.28<br>10.28<br>11.25 |
| 738       |              | 140TC<br>180TC<br>210TC | 52981<br>52982<br>52983 | 1     | 2-11/16<br>2-7/16<br>2-7/16 | 2-3/4   | 2-15/16<br>4-1/2<br>4-1/2     | 11.81<br>11.81<br>12.88 |
| 752       |              | 180TC<br>210TC<br>250TC | 52984<br>52985<br>52986 | 1-1/4 | 3-3/8                       | 3-1/4   | 5-5/16                        | 16.00<br>16.00<br>16.00 |
| 760       |              | 210TC<br>250TC          | 52987<br>52988          | 1-1/2 | 3-3/8                       | 3-7/8   | 4-15/16                       | 16.69<br>16.69          |

\* Includes FC coupling kit.

## RF700 NEMA C-Face Flange Kits

Flange is designed specifically to adapt Boston 700 Series speed reducers to a standard NEMA C-Face mounted motor. Flanges are offered in kit form and should be ordered in addition to the worm gear speed reducer size and specific ratio. Refer to pages 16-33 for ordering and rating information. The kit includes flange, Boston FC type three jaw coupling, polyurethane insert and all mounting hardware. See RF models for dimensions.



## 713 "56C" Face Output Adapter kit

Capable of adapting any F713 or 713 Speed Reducer to a suitable size Worm, Helical or Planetary Drive to obtain a Multiple Reduction Gear Drive.

Ideally suited to make Multi-reduction gear reducers from stock 56C input flanged reducers.

Simply order Kit No. 50104. The kit contains all appropriate hardware and instructions for easy use.

- Overall Output Ratings Should Not Exceed Gear Capacity for Required Output RPM.
- Refer To Rating Tables And Interpolate As Required To Obtain Appropriate H.P. And Torque.



# 700 Series Worm Gear Bost-Kleen Speed Reducers Washdown Duty



Boston Gear's Bost-Kleen and Stainless Bost-Kleen reducers assure contamination-safe operation in the most stringent environmental conditions.

## White Bost-Kleen™

- Washable and Scrubbable
- Stainless Steel Output Shafts
- Exposed hardware made of stainless steel
- White Epoxy Finish
- Boston Gear's Proven 700 Series Quality
- Limited Lifetime Warranty
- Cast Iron Housing
- Plated Pressure Relief Valves Standard
- Double Lipped Oil Seals
- Available from Stock up to 25 HP in 1" to 6" Center Distances
- Indoor use only (Not UV rated)

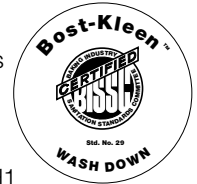


## Available options on BK and SBK

- Premounted Stainless Washdown Motors
- Prelubrication from the factory see page 16 for a complete list of lubrication options

## BISSC Certified Units

- Includes all the standard Bost-Kleen features
- Single reduction quill style units
- Available in BK or SBK
- Pre-lubricated standard with Klubersynth UH1 6-460 synthetic oil when ordered with "K" in the catalog description
- Non-aggressive cleaning solutions only
- Smooth flat machined surfaces to resist dirt build-up. Bolt heads and nuts are exposed so contaminants can easily be removed to simplify washdown.
- Solid projecting output shafts  
(BISSC—The Baking Industry Sanitation Standards Committee)



## Stainless Bost-Kleen™

- Includes all Bost-Kleen features plus a multi layered paint system
- U.S.D.A. approved for use in food processing and handling industry where incidental food contact may occur
- Best painted solution for harsh wash down conditions
- Durable stainless steel epoxy coating system utilizes a unique #316L stainless steel leafing pigment. This catalyzed system creates a hard, non-toxic metallic finish



BISSC CERTIFIED Basic Model Numbers, Dimensions and Available Ratios

| WHITE BOST-KLEEN |            | STAINLESS BOST-KLEEN |             | Center Distance | NEMA Mounting*      | Input Shaft Dia.**<br>+.000<br>-.001 | Output Shaft Dia.<br>+.000<br>-.001 | Available Ratios                  |
|------------------|------------|----------------------|-------------|-----------------|---------------------|--------------------------------------|-------------------------------------|-----------------------------------|
| Non-Flanged Type | Quill Type | Non-Flanged Type     | Quill Typed |                 |                     |                                      |                                     |                                   |
| BK710†           | BKF710†    | SBK710†              | SBKF710†    | 1.00            | 56C                 | .3745                                | .500                                | 5, 10, 15, 20, 30, 40, 50, 60     |
| BK713            | BKF713     | SBK713               | SBKF713     | 1.33            | 56C                 | .4995                                | .625                                | 5, 10, 15, 20, 25, 30, 40, 50, 60 |
| BK715            | BKF715     | SBK715               | SBKF715     | 1.54            | 56C, 140TC          | .6245                                | .750                                | 5, 10, 15, 20, 25, 30, 40, 50, 60 |
| BK718            | BKF718     | SBK718               | SBKF718     | 1.75            | 56C, 140TC          | .6245                                | .875                                | 5, 10, 15, 20, 25, 30, 40, 50, 60 |
| BK721            | BKF721     | SBK721               | SBKF721     | 2.06            | 56C, 140TC          | .6245                                | 1.000                               | 5, 10, 15, 20, 25, 30, 40, 50, 60 |
| BK724            | BKF724     | SBK724               | SBKF724     | 2.38            | 56C, 140TC, 180TC   | .7495                                | 1.125                               | 5, 10, 15, 20, 25, 30, 40, 50, 60 |
| BK726            | BKF726     | SBK726               | SBKF726     | 2.62            | 56C, 140TC, 180TC   | .7495                                | 1.125                               | 5, 10, 15, 20, 25, 30, 40, 50, 60 |
| BK730            | BKF730     | SBK730               | SBKF730     | 3.00            | 56C, 140TC, 180TC   | .8745                                | 1.250                               | 5, 10, 15, 20, 25, 30, 40, 50, 60 |
| BK732            | BKF732     | SBK732               | SBKF732     | 3.25            | 56C, 140TC          | .8745                                | 1.375                               | 10, 15, 20, 25, 30, 40, 50, 60    |
| BK738            | BKF738     | SBK738               | SBKF738     | 3.75            | 140TC, 180TC, 210TC | .9995                                | 1.625                               | 10, 15, 20, 30, 40, 50, 60        |
| BK752            | —          | SBK752               | —           | 5.16            | —                   | 1.2495                               | 2.000                               | 10, 15, 20, 30, 40, 50, 60        |
| BK760            | —          | SBK760               | —           | 6.00            | —                   | 1.4995                               | 2.250                               | 10, 15, 20, 30, 40, 50, 60        |

\* For BKF700 and SBKF700 Series Quill Type.

\*\* For BK700 and SBK700 Series Reductor Type.

† Cast Iron Base Not Available.

See Pages 16 (Single reduction) and 56 (double reduction), add prefix "BK" (Bost-Kleen) or SBK (Stainless Bost-Kleen) to style type. All other ordering information remains the same.



# 700 Series Worm Gear Speed Reducers

## Installation, Lubrication, Operation Instructions and Parts



### Section Contents

|                                          |                |
|------------------------------------------|----------------|
| <b>General Instructions</b> .....        | <b>133</b>     |
| <b>Lubrication Instructions</b> .....    | <b>135</b>     |
| <b>Oil Capacities</b> .....              | <b>135</b>     |
| <b>Recommended Lubricants</b> .....      | <b>135</b>     |
| <b>Lubricant interchange</b> .....       | <b>135</b>     |
| <b>Single Reduction Parts List</b> ..... | <b>136-137</b> |
| <b>Double Reduction Parts List</b> ..... | <b>138-139</b> |
| <b>Lifetime Warranty</b> .....           | <b>140</b>     |



**WARNING:** Cancer and Reproductive Harm – [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

### General Instructions

1. Align all shafts accurately. Improper alignment can result in failure. Use of flexible couplings is recommended to compensate for slight misalignment.
2. When mounting, use maximum possible bolt size and secure reducer to a rigid foundation. Periodic inspection of all bolts is recommended.
3. Auxiliary drive components (such as sprockets, gears and pulleys) should be mounted on the shafts as close as possible to the housing to minimize effects of overhung loads. Avoid force fits that might damage bearings or gears.
4. For hollow-shaft speed reducers, place speed reducer as close as possible to supporting bearing on drive shaft. Spot-drill driven shaft for setscrews in severe applications. See kit instructions for reaction rod assembly.
5. Check and record gear backlash at installation and again at regular intervals. This should be done by measuring the rotary movement of the output shaft (rotating alternately clockwise and counterclockwise) at a suitable radius while holding the input shaft stationary. Gears should be replaced when the backlash exceeds four times the measurement taken at installation.
6. Gear drives are rated for 1750 input RPM and Class Service (Service Factor 1.0), using Klübersynth UH1 6-460 synthetic lubricant. For lower input speeds or for different service classes or lubricants, see catalog selection pages for rating information.
7. Initial operating temperatures may be higher than normal during the break-in period of the gear set. FOR MAXIMUM LIFE, DO NOT ALLOW THE SPEED REDUCER TO OPERATE CONTINUOUSLY ABOVE 225°F AT THE GEAR CASE. In the event of overheating, check for overloads or high ambient temperatures. Keep shafts and vent plugs clean to prevent foreign particles from entering seals or gear housing.
8. All reducers should be checked to see if they have been lubricated. Prelubed 700 Series reducers will have a solid plug in the vent hole which must be replaced by the vent plug at time of installation.

**E**

# 700 Series Worm Gear Speed Reducers

## NOTE

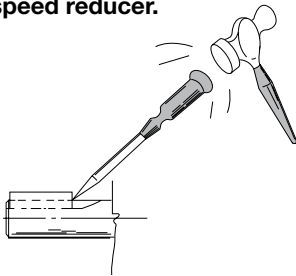
- Vented oil filler plug must be located in the uppermost position.
- For all mounting positions where the vented filler plug is located in a horizontal plane, the vent hole must point upward.
- For all mounting positions where the vented filler plug is located in a vertical plane, the vent hole must point toward center of housing.

## CAUTION

- For safe operation of any gear drive, all rotating shafts and auxiliary components must be shielded to conform with applicable safety standards. You must consider overall operational system safety at all times.
- When using a speed reducer to raise or lower a load, such as in hoisting applications, provision must be made for external braking. Under no conditions should a speed reducer be considered self-locking.
- Mounting of speed reducers in overhead positions may be hazardous. Use of external guides or supports is strongly recommended for overhead mounting.

## Key Staking Instructions

**Lightly tap area of keyway adjacent to key. This will upset material and not allow key to move axially when assembling to speed reducer.**



## Instructions for Flanged Models

### F700 (Quill Type Input)

1. Assemble the key to the motor shaft and coat the quill bore with anti-seize compound. Insert the motor shaft into the reducer input shaft. **DO NOT** coat motorshaft with anti-seize compound.
2. Rotate the motor to proper position and firmly secure to flange with four hex-head cap screws.

### RF700 (Coupling Input – 3-Jaw Type FC)

1. Coat coupling bore with anti-seize compound.
2. Position coupling half on input shaft with shaft flush to end of coupling bore.
3. Locate remaining half on motor shaft, with 1/32" clearance between jaw surfaces.
4. Tighten setscrews securely. For reversing applications, a thread-locking compound is recommended.
5. Install coupling insert and position motor. Rotate motor to proper position and firmly secure to flange.

**CAUTION – If the motor does not readily seat itself, check to determine if key has moved axially along motor shaft, causing interference. Staking of the keyway adjacent to the motor key will facilitate this procedure.**

### QC700 (Coupling Input-3-Jaw Quick Connect Type)

1. Coat coupling bore with anti-seize compound.
2. Install motor coupling half onto motor shaft. Use a straight edge to align coupling jaw top end flush with motor shaft except 738-B9 which will be flush with bottom of jaw. Secure with set screw.
3. Install urethane spider insert on motor coupling half.
4. Insert D-Bore coupling half into urethane spider element.
5. Rotate reducer input shaft so “milled flats” are either vertical or parallel. Rotate motor coupling D-Bore to match the reducer milled flats. Coat “D” flats with anti-seize compound furnished with speed reducer.
6. Insert motor assembly into reducer flange assembly. Minor rotating of the motor may be necessary to facilitate D-Bore alignment.
7. Once aligned, push motor towards reducer until properly seated against the face of the reducer flange.
8. Insert (4) hex head cap screws into the designated locations and securely tighten.

## WARNING

Boston Gear speed reducers are normally shipped without lubricant. They must be filled to the proper level with the recommended lubricant for your application before operation.

## Lubrication Instructions

The table on Page 135 indicates the type and viscosity of lubricant suitable for reducers operating at various temperatures.

Lubrication and maintenance instructions are provided with each speed reducer. These instructions should be followed for best results. It is important that the proper type of oil be used since many oils are not suitable for the lubrication of gears. Various types of gearing require different types of lubricants.

The lubricant must remain free from oxidation and contamination by water or debris, since only a very thin film of oil stands between efficient operation and failure. To assure long service life, the reducer should be periodically drained (preferably while warm) and refilled to the proper level with a recommended gear oil. Under normal environmental conditions oil changes are suggested after the initial 250 hours or every 6 months.

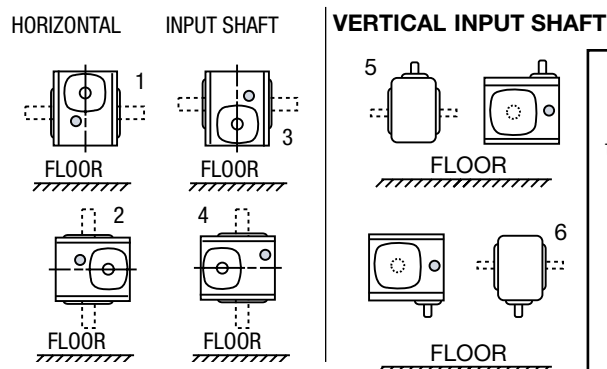
Synthetic lubricants will allow extended lubrication intervals due to its increased resistance to thermal and oxidation degradation. It is suggested that the initial oil change be made at 1500 hours and, thereafter, at 5000 hour intervals.

During the initial period of operation, higher than normal operating temperatures may be seen. This is due to the initial break-in of the worm gear set. The temperature of Double Reduction Worm Gear Reducers may reach 160°F and Single Reduction Worm Gear Reducers approximately 225°F.

## Oil Capacities

### Single Reduction Models Only

#### Oil Levels for typical mounting positions



#### CAUTION

Avoiding those positions where the high speed oil seal is immersed in oil will provide greater security against high speed input seal wear.

- Indicates proper oil level.
- When mounting gearboxes in positions 2, 3, 4, 6 Double Input Seals are required.

OIL CAPACITY IN FLUID OUNCES

| Unit Size | Position |       |       |       |       |
|-----------|----------|-------|-------|-------|-------|
|           | 1        | 2     | 3     | 4     | 5 & 6 |
| 710       | 2.2      | 3.3   | 3.3   | 3.3   | 3.3   |
| 713       | 5.5      | 7.0   | 7.0   | 7.0   | 5.5   |
| 715       | 10.0     | 15.0  | 15.0  | 13.5  | 13.5  |
| 718       | 12.0     | 16.0  | 18.5  | 16.0  | 16.0  |
| 721       | 15.0     | 20.5  | 20.5  | 19.0  | 19.0  |
| 724       | 18.0     | 24.5  | 28.5  | 24.5  | 24.5  |
| 726       | 28.0     | 36.0  | 43.0  | 36.0  | 36.0  |
| 730       | 43.0     | 60.0  | 66.0  | 58.0  | 58.0  |
| 732       | 58.0     | 84.0  | 90.0  | 80.0  | 80.0  |
| 738       | 85.0     | 120.0 | 130.0 | 120.0 | 107.0 |
| 752       | 204.0    | 240.0 | 245.0 | 240.0 | 215.0 |
| 760       | 330.0    | 400.0 | 415.0 | 400.0 | 370.0 |

## Double Reduction Models

The variety of mounting possibilities for double reduction drives makes it impractical to illustrate positions for these models. In general, the vent filler is at the uppermost plug position, and the drain plug at the lowest possible position. The oil level must be at the approximate centerline of the uppermost gear.

## Recommended Lubricants

ENCLOSED WORM GEAR REDUCERS

| RECOMMENDED OIL<br>(or equivalent)  | VISCOSITY RANGE<br>SUS<br>@ 100°F | Oil<br>Type | ISO<br>VISCOSITY<br>GRADE NO.† |
|-------------------------------------|-----------------------------------|-------------|--------------------------------|
| Klubersynth* UH1 6-460<br>Synthetic | 1950/2500                         | PAG         | 460                            |
| Mobil SHC634<br>Synthetic           | 1950/2500                         | PAO         | 320/460                        |

Ambient temperature range of -20F to +125F is suitable for standard configured products and ratings. Contact technical support for operating conditions beyond this range.

WORM GEAR LUBRICANTS  
AVAILABLE FROM BOSTON GEAR  
ORDER BY ITEM CODE

| Type      | Klubersynth<br>UH1 6-460 | Mobil<br>SHC634 |
|-----------|--------------------------|-----------------|
| Size      | QT.                      | QT.             |
| Item Code | 65159                    | 51493           |

Available in quarts only

**CAUTION:** Relubricate more frequently if drive operated in high ambient temperatures or unusually contaminated atmosphere. High loads and operating temperatures will also require more frequent lubrication.

\* Synthetic recommendation is Klubersynth UH1 6-460, the use of other lubrications may reduce efficiency and torque capacity.

\*\* The Klubersynth UH1 6-460 lubricant will perform at temperatures considerably higher than 225°F. However, the factory should always be consulted prior to operating at higher temperature as damage may occur to oil seals and other components.

† Other lubricants corresponding to AGMA/ISO numbers are available from all major oil companies.

## Lubricant Interchange

1. Ambient temperature is based upon 1.0 service factor.
2. Lubricants are compounded for use in worm gears. Some contain non-corrosive, extreme pressure additives. DO NOT USE lubes that contain sulphur and/or chlorine which are corrosive to bronze gears. Extreme pressure lubes, in some cases contain materials that are toxic. Avoid use of these lubes where they can result in harmful effects. If in doubt, consult your lube supplier.

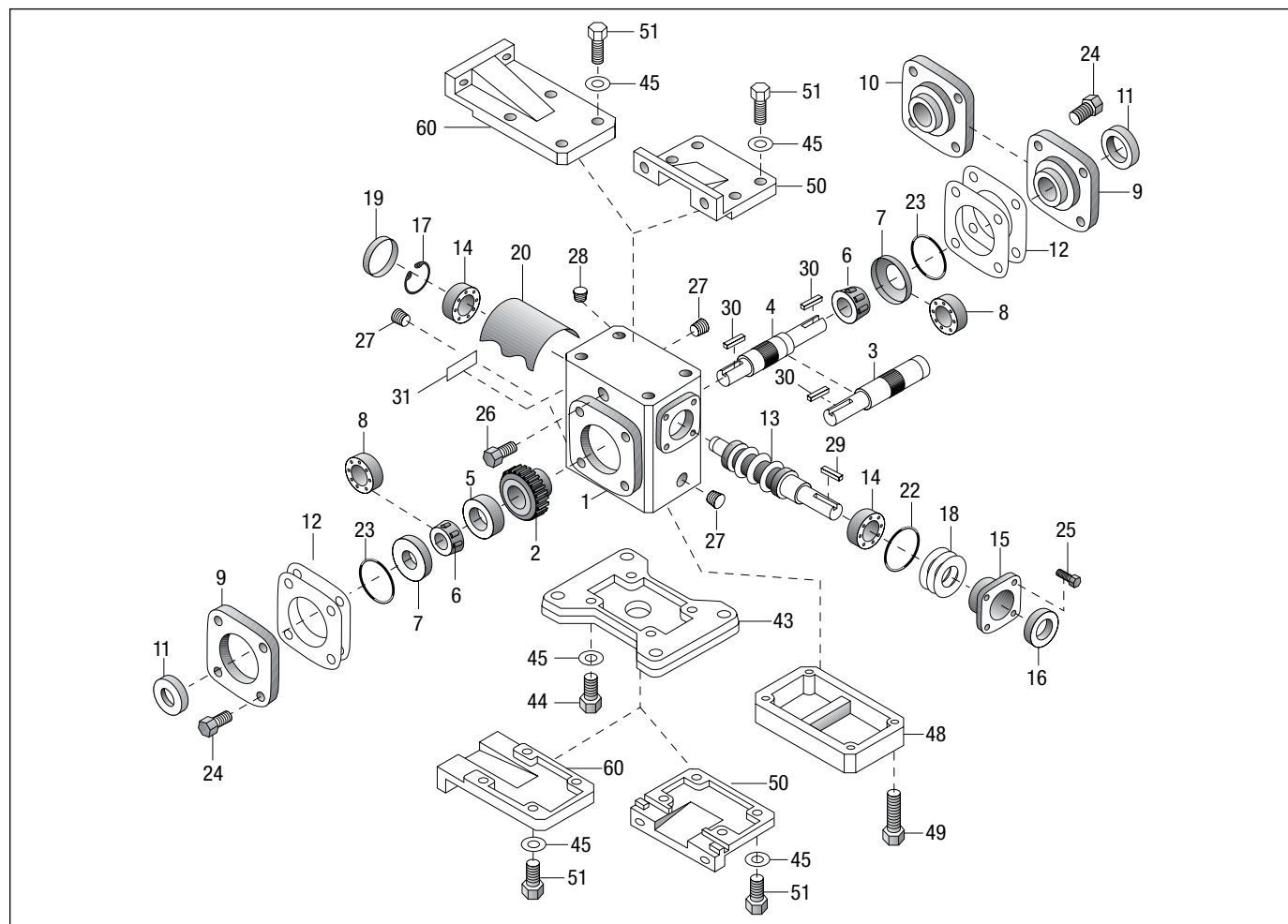
**WARNING: Different oil types should not be mixed. For example Klubersynth UH1 6-460 is not compatible with Mobil SHC634.**

| Manufacturer           | Lubricant Name          | AGMA<br>Rating |
|------------------------|-------------------------|----------------|
| Getty Refining Co.     | Veedol Asreslube 98     | 8 EP           |
| Getty Refining Co.     | Veedol Asreslube 95     | 7 EP           |
| Getty Refining Co.     | Veedol Asreslube 90     | 6 EP           |
| Lubrication Engr. Inc. | Almasol 609             | 8              |
| Lubrication Engr. Inc. | Almasol 608             | 7              |
| Mobil Oil Corp.        | Mobilgear 634           | 8 EP           |
| Mobil Oil Corp.        | Mobil Extra Hecla Super | 8              |
| Mobil Oil Corp.        | Mobil Cylinder 600W     | 7              |
| Shell Oil Co.          | Omala 460               | 7 EP           |
| Shell Oil Co.          | Valvala J460            | 7              |
| Shell Oil Co.          | Omala 680               | 8 EP           |
| Shell Oil Co.          | Valvala J680            | 8              |
| Texaco Inc.            | Meropa 680              | 8 EP           |
| Texaco Inc.            | Meropa 460              | 7 EP           |

# 700 Series Worm Gear Speed Reducers

## Parts List – Single Reduction Models

### Models 710-760



| Part No. | Description                            |
|----------|----------------------------------------|
| 1        | HOUSING                                |
| 2*       | WORM GEAR                              |
| 3*       | SINGLE PROJECTING OUTPUT SHAFT         |
| 4*       | DOUBLE PROJECTING OUTPUT SHAFT         |
| 5*       | GEAR SPACER                            |
| 6*       | OUTPUT BEARING (CONE) – MODELS 713-760 |
| 7        | OUTPUT BEARING (CUP) – MODELS 713-760  |
| 8        | OUTPUT BEARING – MODEL 710 ONLY        |
| 9        | BEARING CARRIER (OPEN)                 |
| 10       | BEARING CARRIER (CLOSED)               |
| 11*      | OUTPUT OIL SEAL                        |
| 12*      | ADJUSTMENT SHIMS                       |
| 13       | INPUT WORM SHAFT                       |
| 14       | INPUT BEARING – MODELS 710-730         |
| 15       | INPUT BEARING RETAINER                 |
| 16       | INPUT OIL SEAL – MODELS 710-760        |
| 17       | RETAINING RING                         |
| 18       | ADJUSTMENT SHIMS                       |
| 19       | BORE PLUG – MODELS 710-730             |
| 20       | INTERNAL BAFFLE – MODELS 713-760       |
| 22       | INPUT “O” RING                         |
| 23*      | OUTPUT “O” RING                        |
| 24       | HEX HEAD CAP SCREW                     |
| 25       | HEX HEAD CAP SCREW                     |

| Part No. | Description                           |
|----------|---------------------------------------|
| 26**     | VENT PLUG – 2 PIECE                   |
| 27       | PIPE PLUG                             |
| 28       | PROTECTIVE CAP PLUG (BK & SBK ONLY)   |
| 29       | INPUT KEY                             |
| 30       | OUTPUT KEY                            |
| 31       | NAMEPLATE                             |
| 32       | INPUT BEARING (CUP) – MODELS 732-760  |
| 33       | INPUT BEARING (CONE) – MODELS 732-760 |
| 34       | GREASE CUPS – MODELS 732-760          |
| 35       | HEX HEAD CAP SCREW                    |
| 37       | OUTPUT GEAR KEY – MODELS 730-760      |
| 38       | RETAINING RING – MODELS 710-738       |
| 39       | MOTOR SHAFT – MODELS 710-738          |
| 40       | MOTOR FLANGE – MODELS 710-738         |
| 41       | OIL SEAL – MODELS 710-738             |
| 42       | HEX HEAD CAP SCREW                    |
| 43       | HORIZONTAL BASE                       |
| 44       | HEX HEAD CAP SCREW                    |
| 45       | LOCKWASHER                            |
| 46       | 2 PIECE FC/BF COUPLING – WITH INSERT  |
| 47       | RETAINING MOTOR FLANGE                |
| 48       | RISER BLOCK (MODELS 710-732)          |
| 49       | HEX HEAD CAP SCREW (MODELS 710-732)   |
| 50       | VERTICAL BASE (HIGH OR LOW)           |

| Part No. | Description                             |
|----------|-----------------------------------------|
| 51       | HEX HEAD CAP SCREW                      |
| 60       | VERTICAL BASE (X & Y ASSEMBLY 713-726)  |
| 101      | FAN                                     |
| 102      | SPACER                                  |
| 103      | HEX HEAD CAP SCREW                      |
| 104      | FAN GUARD                               |
| 105      | HEX HEAD CAP SCREW                      |
| 106      | WASHER                                  |
| 165      | HOLLOW OUTPUT SHAFT (S VERSION ONLY)    |
| 166      | HOLLOW OUTPUT SHAFT (H VERSION ONLY)    |
| 167      | WORM GEAR                               |
| 168      | OUTPUT BEARING (CONE)                   |
| 169      | OUTPUT BEARING (CUP)                    |
| 170      | OIL SEAL                                |
| 171      | BEARING CARRIER                         |
| 172      | HOLLOW SHAFT MTG. BRACKET               |
| 173      | HEX HEAD CAP SCREW                      |
| 174      | LOCKWASHER                              |
| 175      | KEY (INTERNAL)                          |
| 176      | KEY (EXTERNAL)                          |
| 177      | “V” TYPE BASE-MODEL 718, 721, 726, 732) |
| 178      | SOCKET SETSCREW                         |
| 179      | FAN GUARD DUCT PLATE                    |

\* For Models 710 to 726, these parts are available as complete assemblies. See Part Ordering Information, page 137.

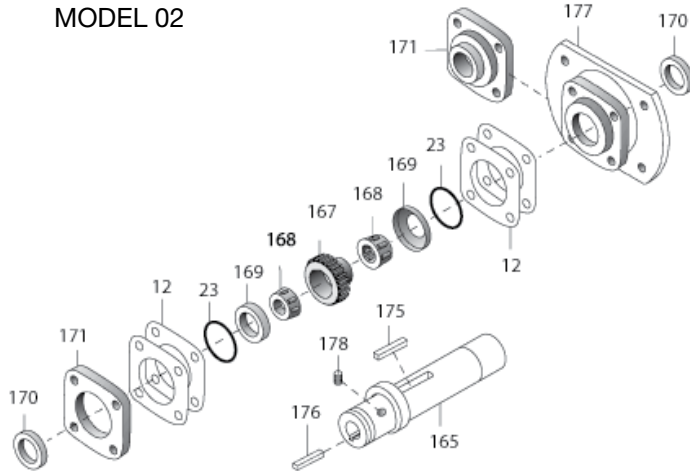
\*\* Extension not required on single reduction Models 713 through 732.

# 700 Series Worm Gear Speed Reducers

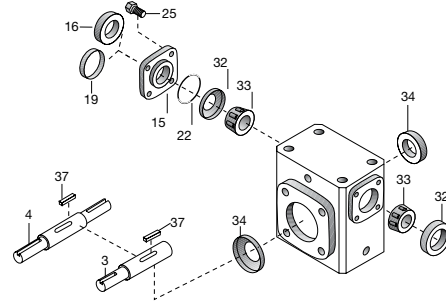
## Options & Accessories – Single Reduction Models

### Hollow output Shaft Models S and SF718-732\*

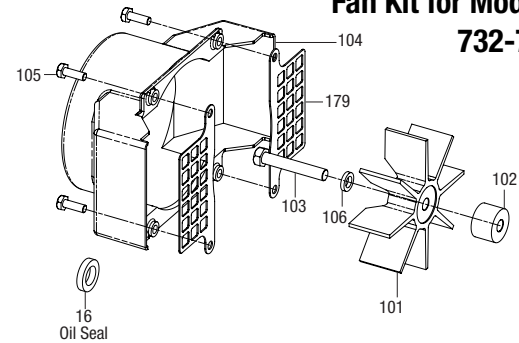
MODEL 02



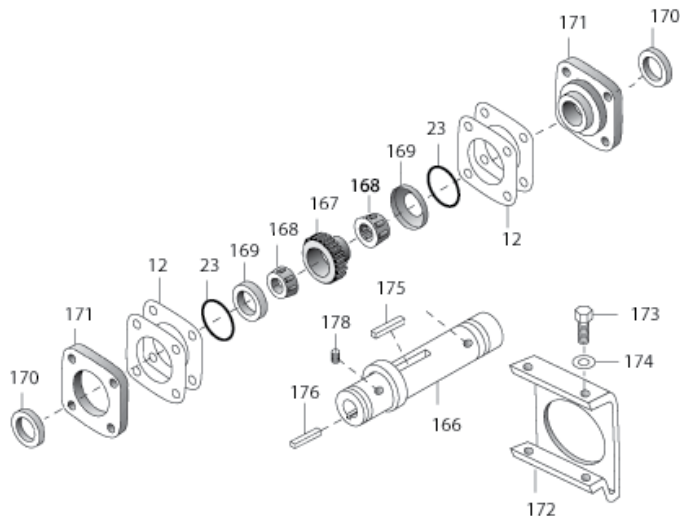
### Models 732-760



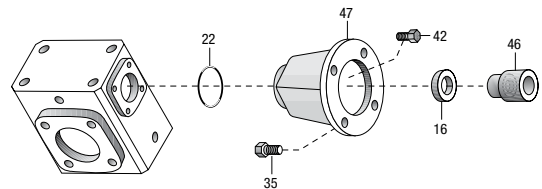
### Fan Kit for Models 732-760



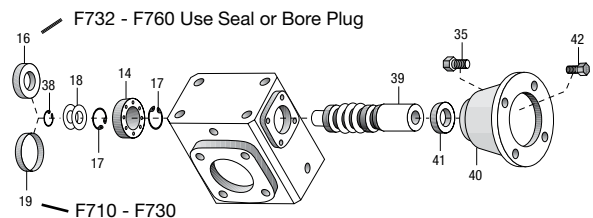
### Hollow Output Shaft Models H, HF, and HQC713-752



### Models QC710-QC738 RF752-RF760



### Models F710-F738



## PART ORDERING INFORMATION

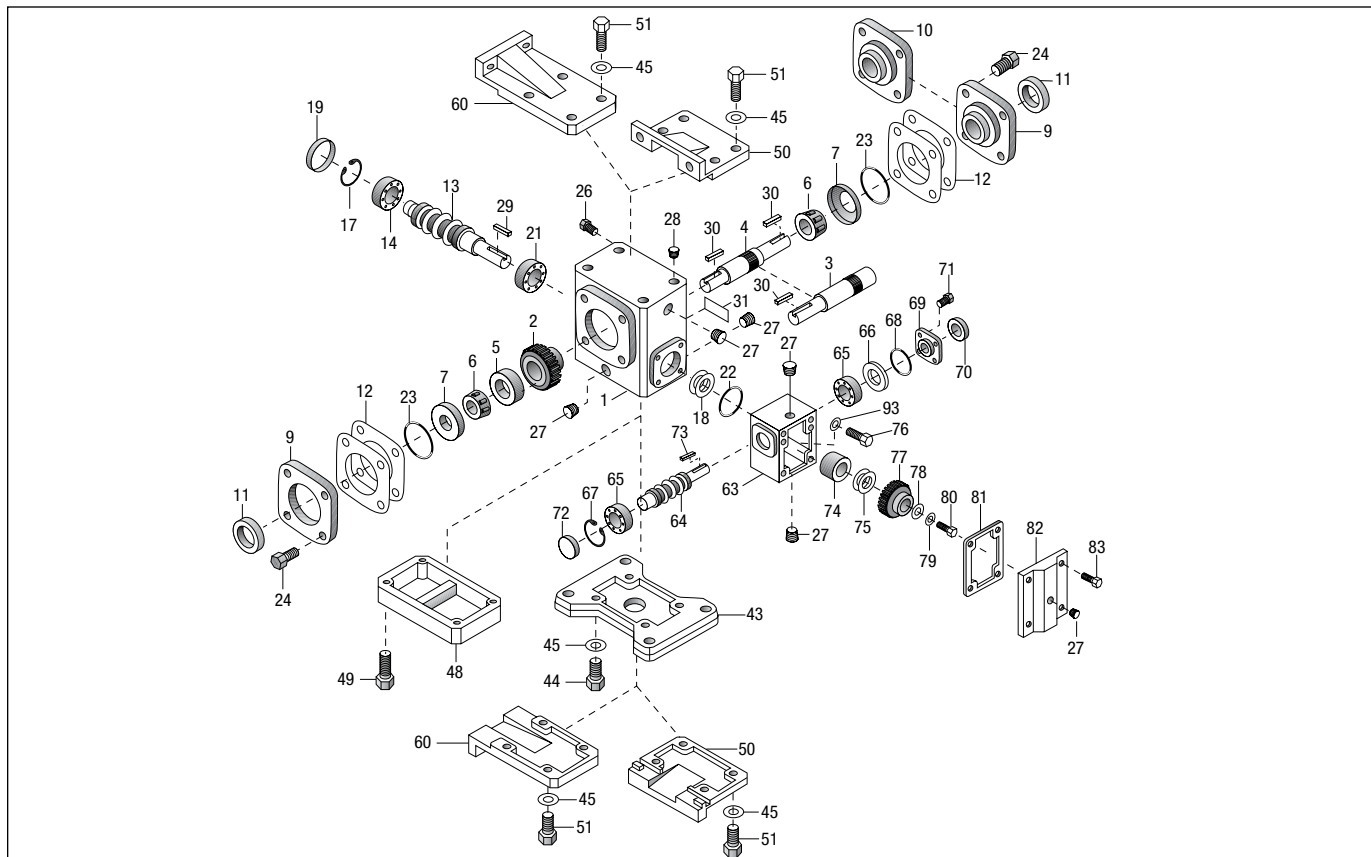
1. Be sure to provide complete Boston Gear catalog number from speed reducer nameplate, along with part description and number. For example, "One output oil seal, Part No. 11, for QC718-30-B5-G".
2. Output shaft components for Boston Gear models 710 through 726 are available only as complete assemblies that include Parts 2, 3, 5, 6, 11, 12 and 23 for single projecting shafts; and Parts 2, 4, 5, 6, 11, 12 and 23 for double projecting shafts. When ordering, specify "output shaft assembly" and full Boston Gear catalog number from nameplate.

\* Not available in the 730 center distance, see H series.

# 700 Series Worm Gear Speed Reducers

## Parts List – Double Reduction Models

### Models W713-W760



| Part No. | Description                             |
|----------|-----------------------------------------|
| 1        | HOUSING                                 |
| 2*       | WORM GEAR                               |
| 3*       | SINGLE PROJECTING OUTPUT SHAFT          |
| 4*       | DOUBLE PROJECTING OUTPUT SHAFT          |
| 5*       | GEAR SPACER                             |
| 6*       | OUTPUT BEARING (CONE)                   |
| 7        | OUTPUT BEARING (CUP)                    |
| 9        | BEARING CARRIER (OPEN)                  |
| 10       | BEARING CARRIER (CLOSED)                |
| 11*      | OUTPUT OIL SEAL                         |
| 12*      | ADJUSTMENT SHIMS                        |
| 13       | INTERMEDIATE WORM SHAFT                 |
| 14       | INTERMEDIATE BEARING—MODELS W713-W730   |
| 15       | INTER. BEARING RETAINER—MODELS W732-760 |
| 16       | INTER. OIL SEAL – MODELS W732-W760      |
| 17       | RETAINING RING – MODELS W713-W730       |
| 18       | ADJUSTMENTS SHIMS                       |
| 19       | BORE PLUG – MODELS W713-W730            |
| 21       | INTERMEDIATE BEARING                    |
| 22       | INTERMEDIATE “O” RING                   |
| 23*      | OUTPUT “O” RING                         |
| 24       | HEX HEAD CAP SCREW                      |
| 25       | HEX HEAD CAP SCREW                      |
| 26       | VENT PLUG – 2 PIECE                     |
| 27       | PIPE PLUG                               |
| 28       | PROTECTIVE CAP PLUG                     |
| 29       | INTERMEDIATE KEY                        |
| 30       | OUTPUT KEY                              |
| 31       | NAMEPLATE                               |

| Part No. | Description                              |
|----------|------------------------------------------|
| 32       | INTER. BEARING (CUP) – MODELS W732-W760  |
| 33       | INTER. BEARING (CONE) – MODELS W732-W760 |
| 34       | GREASE CUPS – MODELS W732-W760           |
| 35       | HEX HEAD CAP SCREW                       |
| 37       | OUTPUT GEAR KEY – MODELS W730-W760       |
| 43       | HORIZONTAL BASE                          |
| 44       | HEX HEAD CAP SCREW                       |
| 45       | LOCKWASHER                               |
| 48       | RISER BLOCK                              |
| 49       | HEX HEAD CAP SCREW                       |
| 50       | VERTICAL BASE (HIGH OR LOW)              |
| 51       | HEX HEAD CAP SCREW                       |
| 60       | VERTICAL BASE (ASSEMBLY X & Y 713 - 726) |
| 63       | ATTACHMENT HOUSING                       |
| 64       | INPUT WORM SHAFT                         |
| 65       | INPUT BEARING                            |
| 66       | ADJUSTMENT SHIMS                         |
| 67       | RETAINING RING                           |
| 68       | “O” RING                                 |
| 69       | BEARING RETAINER                         |
| 70       | OIL SEAL                                 |
| 71       | HEX HEAD CAP SCREW                       |
| 72       | BORE PLUG – MODELS W713-W752             |
| 73       | INPUT WORM SHAFT KEY                     |
| 74       | GEAR SPACER - INTERMEDIATE               |
| 75       | ADJUSTMENT SHIMS                         |
| 76       | HEX HEAD CAP SCREW                       |
| 77       | INTERMEDIATE WORM GEAR                   |
| 78       | WASHER                                   |

| Part No. | Description                              |
|----------|------------------------------------------|
| 79       | LOCKWASHER                               |
| 80       | HEX HEAD CAP SCREW                       |
| 81       | ATTACHMENT COVER GASKET                  |
| 82       | ATTACHMENT COVER                         |
| 83       | HEX HEAD CAP SCREW                       |
| 84       | INPUT BEARING (CONE) – MODEL W760 ONLY   |
| 85       | INPUT BEARING (CUP) – MODEL W760 ONLY    |
| 86       | TWO PIECE COUPLING WITH INSERT           |
| 87       | MOTOR FLANGE                             |
| 88       | HEX HEAD CAP SCREW                       |
| 89       | MOTOR FLANGE                             |
| 90       | INPUT WORM SHAFT                         |
| 91       | EXTERNAL RETAINING RING                  |
| 92       | OIL SEAL – MODELS FW713-FW752            |
| 93       | WASHER                                   |
| 165      | HOLLOW OUTPUT SHAFT (S VERSION ONLY)     |
| 166      | HOLLOW OUTPUT SHAFT (H VERSION ONLY)     |
| 167      | WORM GEAR                                |
| 168      | OUTPUT BEARING (CONE)                    |
| 169      | OUTPUT BEARING (CUP)                     |
| 170      | OIL SEAL                                 |
| 171      | BEARING CARRIER                          |
| 172      | HOLLOW SHAFT MTG. BRACKET                |
| 173      | HEX HEAD CAP SCREW                       |
| 174      | LOCKWASHER                               |
| 175      | KEY (INTERNAL)                           |
| 176      | KEY (EXTERNAL)                           |
| 177      | “V” TYPE BASE MODEL (718, 721, 726, 732) |

\* For Models 710 to 726, these parts are available as complete assemblies. See Part Ordering Information, Page 139.

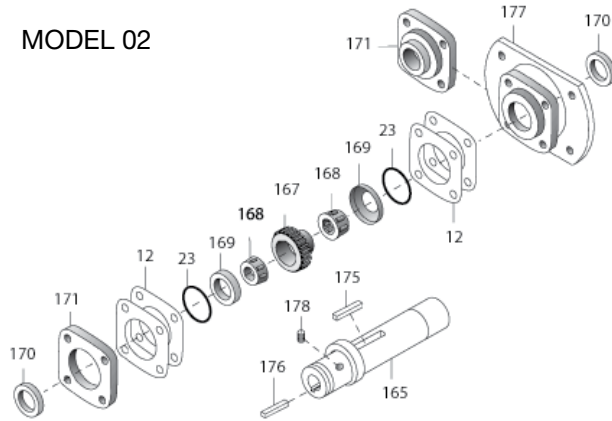


# 700 Series Worm Gear Speed Reducers

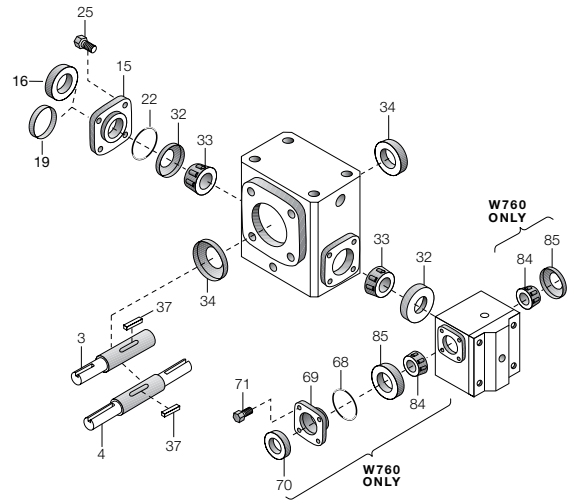
## Options & Accessories – Double Reduction Models

### Hollow Output Shaft Models SW, SFW, and SRFW718-732\*

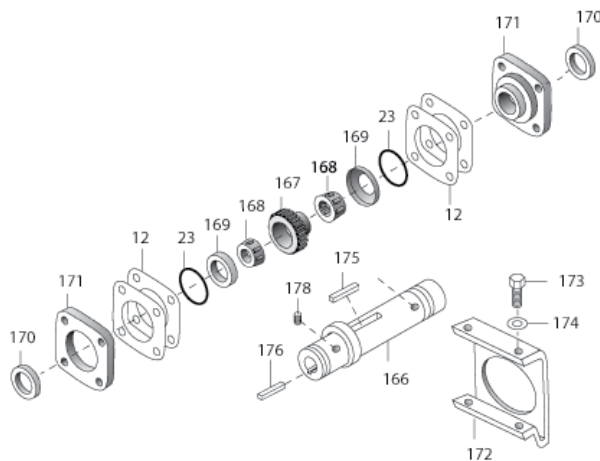
MODEL 02



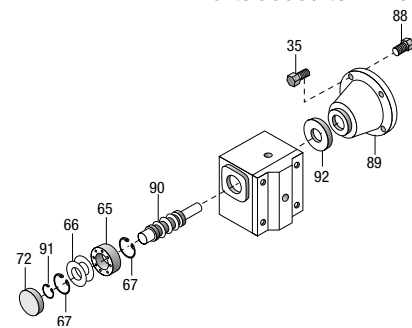
### Models W732-W760 Parts added to W732-W760



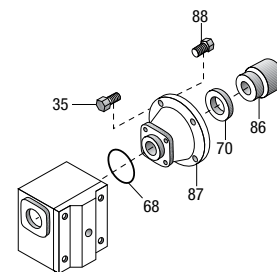
### Hollow Output Shaft Models HW, HFW, and HQCW713-738



### Models FW713-FW752 Parts added to W713-W752.



### Models QCW713-QCW760 parts added to W713-W730 OR W732-W760. these parts available IN KIT FORM.



## PART ORDERING INFORMATION

1. Be sure to provide complete Boston Gear catalog number from speed reducer nameplate, along with part description and number. For example, "One output oil seal, Part No. 11, for W713-150-G".
  2. Output shaft components for Boston Gear models 710 through 726 are available only as complete assemblies that include Parts 2, 3, 5, 6, 11, 12 and 23 for single projecting shafts; and Parts 2, 4, 5, 6, 11, 12 and 23 for double projecting shafts. When ordering, specify "output shaft assembly" and full Boston Gear catalog number from nameplate.
- \* Not available in 730 center distance, see H series.



# 700 Series Worm Gear Speed Reducers

## 700 Series Lifetime Warranty

The Company warrants that all 700 Series speed reducers will be free from defects in material and workmanship over the lifetime of the product.

Oil seals are considered to be replaceable maintenance items.

Any products which shall be proved to the Company's satisfaction to have been defective at the time of delivery in these respects will be replaced or repaired by the Company at its option. Freight is the responsibility of the customer. The Company's liability under this warranty is limited to such replacement or repair and it shall not be held liable in any form of action for direct or consequential damages to property or person. The foregoing warranty is expressly made in lieu of all other warranties whatsoever, express, implied and statutory and including without limitation the implied warranties of merchantability and fitness.

No employee, agent, distributor, or other person is authorized to give additional warranties on behalf of Boston Gear, nor to assume for Boston Gear any other liability in connection with any of its products, except an officer of Boston Gear by a signed writing.

### WARNING

Boston Gear speed reducers are normally shipped without lubricant. They must be filled to the proper level with the recommended lubricant for your application. Klubersynth UH1 6-460 is exclusively recommended by the factory, other lubricants will void warranty.

**These instructions must be read thoroughly before installing or operating speed reducers. File instructions for future reference and for ordering of replacement parts.**

**Single Reduction  
Flanged Reducers &  
Non-Flanged Reducers**

**Ordering Information** – Pages 143-146  
**Selection/Rating Information** – Pages 143-146  
**Lubrication** – Pages 143-146



**F309B**  
Dimensions - Page 143



**309 A & B**  
Dimensions - Page 146

**Double Reduction  
Flanged Reducers &  
Non-Flanged Reducers**

**Ordering Information** — Pages 144-147  
**Selection/Rating Information** — Pages 144-147  
**Lubrication** — Pages 144-147



**FWA309A**  
Dimensions - Page 144



**WA309A**  
Dimensions - Page 146



**TWF113A**  
Dimensions - Page 145



**TW113A**  
Dimensions - Page 148

**Section Contents**

|                                         |            |
|-----------------------------------------|------------|
| <b>Product Reference Guide</b> .....    | <b>141</b> |
| <b>Single Reduction – F309B</b> .....   | <b>143</b> |
| <b>Double Reduction – FWA309A</b> ..... | <b>144</b> |
| <b>Double Reduction – TWF113A</b> ..... | <b>145</b> |
| <b>Single Reduction – 309 A/B</b> ..... | <b>146</b> |
| <b>Double Reduction – WA309A</b> .....  | <b>147</b> |
| <b>Double Reduction – TW113A</b> .....  | <b>148</b> |

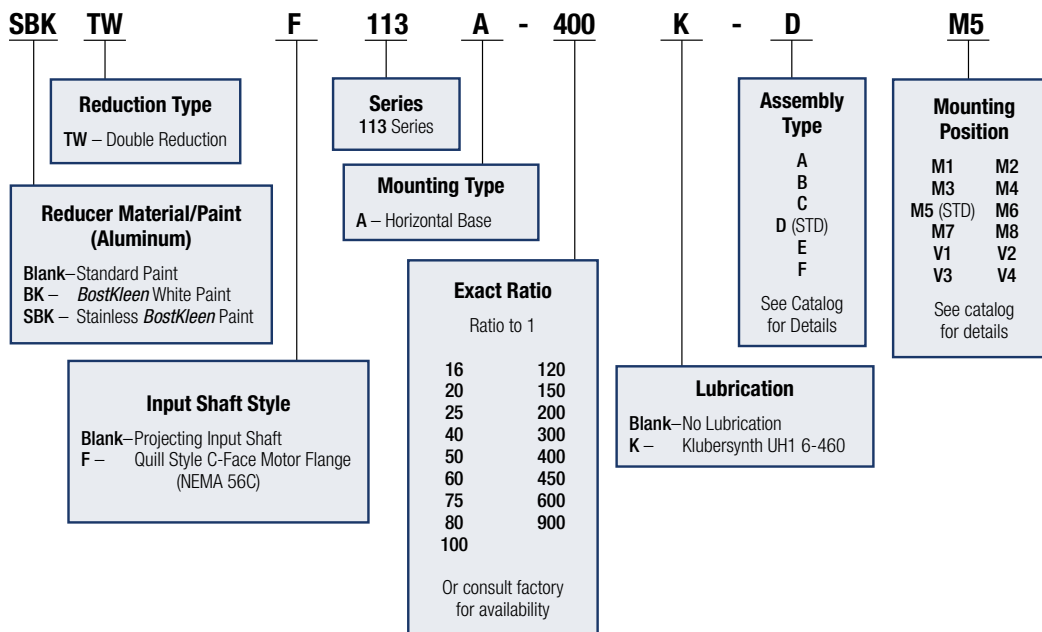
# Sub-Fractional HP Speed Reducers

## 113 and 309 Series Catalog Numbers

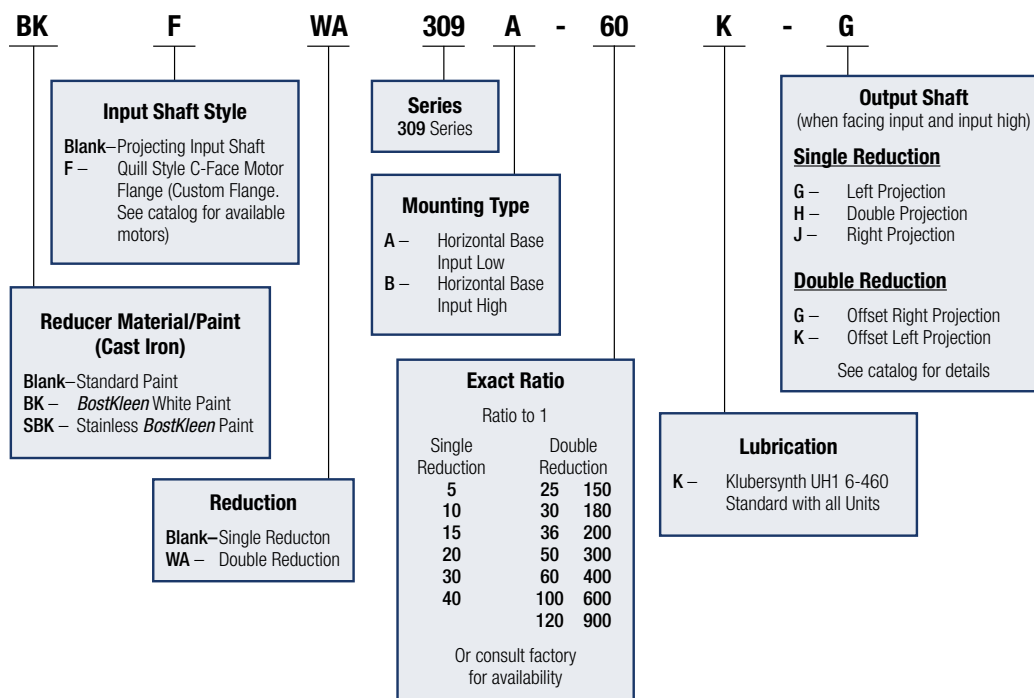
### Position Info

F

#### 113 Series Catalog Number



#### 309 Series Catalog Number



# Sub-Fractional HP Single Reduction Flanged Reducers

## F309B Series Flanged Quill Type Integral Horizontal Base



**LUBRICATION** – Prelubricated for Ambient Temperature Range of -20° to +125° F. For all mounting positions.

**TO ORDER:** Specify Catalog Number and Assembly Type.

**EXAMPLE:** F309B-10K-G\*

1750 INPUT RPM

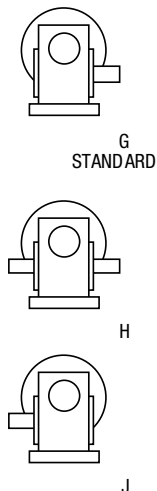
| Motor HP | Output |                  |     | Gear Capacity    |      | Ratio | Catalog* Number | Motor Cat. No.  |
|----------|--------|------------------|-----|------------------|------|-------|-----------------|-----------------|
|          | RPM    | Torque (LB. In.) | HP  | Torque (LB. In.) | HP   |       |                 | 115-1-60 Open** |
| 1/20     | 350    | 6                | .03 | 14               | .078 | 5     | F309B-5K-       | AST-B           |
|          | 175    | 12               | .03 | 25               | .069 | 10    | F309B-10K-      |                 |
|          | 116.7  | 15               | .03 | 30               | .056 | 15    | F309B-15K-      |                 |
|          | 87.5   | 23               | .03 | 43               | .060 | 20    | F309B-20K-      |                 |
|          | 58.3   | 30               | .03 | 30               | .031 | 30    | F309B-30K-      |                 |
|          | 43.8   | 31               | .02 | 31               | .022 | 40    | F309B-40K-      |                 |
| 1/12     | 350    | 9                | .05 | 14               | .078 | 5     | F309B-5K-       | AAS-B           |
|          | 175    | 16               | .04 | 25               | .069 | 10    | F309B-10K-      |                 |
|          | 116.7  | 22               | .04 | 30               | .056 | 15    | F309B-15K-      |                 |
|          | 87.5   | 30               | .04 | 43               | .060 | 20    | F309B-20K-      |                 |

\*\* Open Dripproof. For motor dimensions, see Page 337.

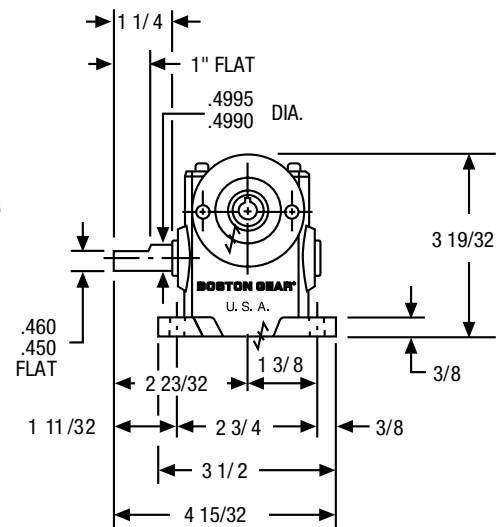
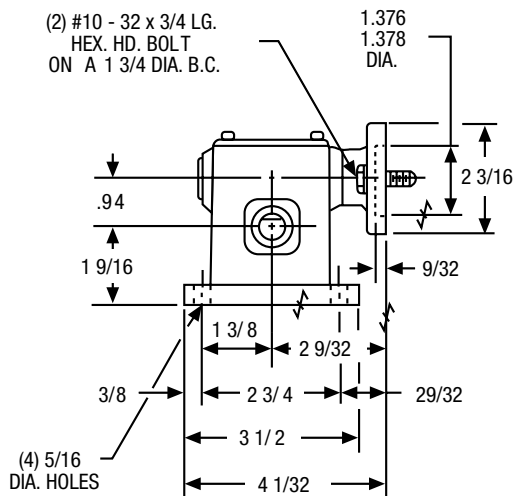
## Dimensions

### Assembly Types

ASSEMBLY TYPES\*



(2) #10 - 32 x 3/4 LG.  
HEX. HD. BOLT  
ON A 1 3/4 DIA. B.C.



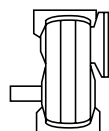
\* Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounting surfaces.  
Input may be rotated clockwise or counterclockwise.

## F

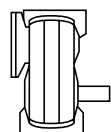
**EXAMPLE:** FWA309A-50K-K\*

| Motor HP | Output |                  |      | Gear Capacity    |      | Ratio | Catalog* Number | Motor Cat. No.  |
|----------|--------|------------------|------|------------------|------|-------|-----------------|-----------------|
|          | RPM    | Torque (LB. In.) | HP   | Torque (LB. In.) | HP   |       |                 | 115-1-60 Open** |
| 1/20     | 70.0   | 25               | .028 | 50               | .056 | 25    | FWA309A-25K-    | AST-B           |
|          | 58.3   | 29               | .027 | 50               | .046 | 30    | FWA309A-30K-    |                 |
|          | 48.6   | 25               | .019 | 40               | .031 | 36    | FWA309A-36K-    |                 |
|          | 35.0   | 35               | .019 | 55               | .031 | 50    | FWA309A-50K-    |                 |
|          | 29.2   | 43               | .020 | 43               | .020 | 60    | FWA309A-60K-    |                 |
|          | 17.5   | 45               | .012 | 60               | .017 | 100   | FWA309A-100K-   |                 |
|          | 14.6   | 55               | .012 | 55               | .012 | 120   | FWA309A-120K-   |                 |
|          | 11.7   | 45               | .008 | 45               | .008 | 150   | FWA309A-150K-   |                 |
|          | 9.7    | 45               | .007 | 45               | .007 | 180   | FWA309A-180K-   |                 |
|          | 8.8    | 65               | .009 | 65               | .009 | 200   | FWA309A-200K-   |                 |

## Dimensions

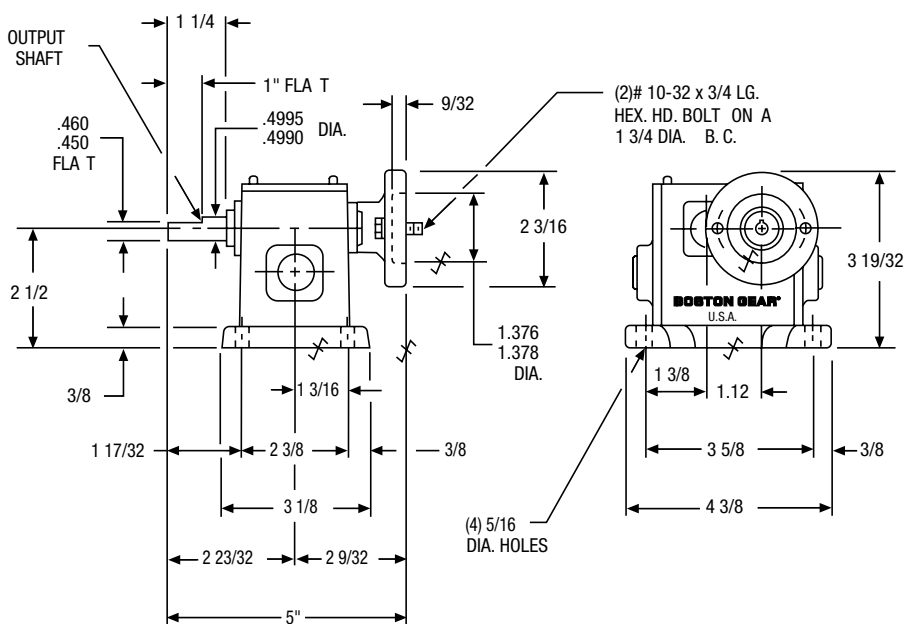
ASSEMBLY  
TYPES\*

## K STANDARD



G

TOP VIEW



P-1485-BG 8/23

# Sub-Fractional HP Double Reduction Flanged Reducers

## TWF113A Series Flanged Quill Type Integral Horizontal Base\*; Parallel Shafts

F



**LUBRICATION** – Quantity - 1/2 Pint.  
MUST BE ORDERED SEPARATELY.  
See Lubrication Instructions, Page 134

**EXAMPLE:** TWF113A-100K-DM5 †

1750 INPUT RPM

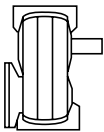
| Motor HP | OutPut |                     |      | Ratio | Catalog †<br>Number | Motor<br>Cat. No.      |
|----------|--------|---------------------|------|-------|---------------------|------------------------|
|          | RPM    | Torque<br>(LB. In.) | HP   |       |                     | 115/230-1-60<br>OPEN** |
| 1/6      | 17.5   | 228                 | .06  | 100   | TWF113A-100K-       | CR-W                   |
|          | 11.7   | 244                 | .045 | 150   | TWF113A-150K-       |                        |
|          | 8.8    | 246                 | .034 | 200   | TWF113A-200K-       |                        |
|          | 5.8    | 280                 | .026 | 300   | TWF113A-300K-       |                        |
|          | 4.4    | 250                 | .017 | 400   | TWF113A-400K-       |                        |
|          | 2.9    | 295                 | .014 | 600   | TWF113A-600K-       |                        |
|          | 1.9    | 295                 | .009 | 900   | TWF113A-900K-       |                        |

\* Base is not detachable.

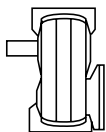
\*\* Open Dripproof. For motor dimensions, see Page 337.

### Dimensions

ASSEMBLY  
TYPES †

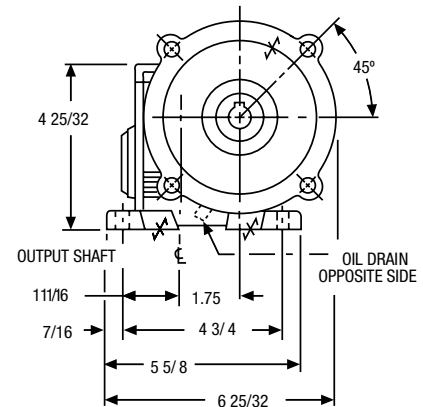
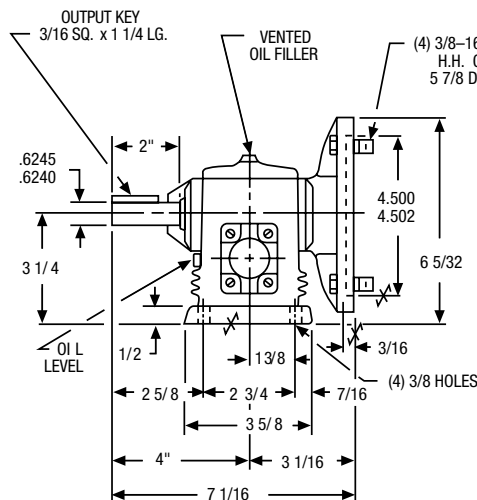


DM5 STANDARD



AM1

TOP VIEW



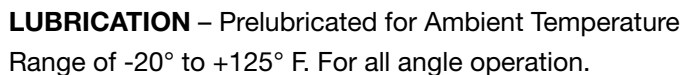
**Approx. Weight: 10 lbs.**

† Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounting surfaces, viewed from end of input shaft.

Input may be rotated clockwise or counterclockwise. Arrows indicate relative rotation. Assembly H available at slight additional charge.

## F

**A Position Horizontal Base\*\*; B Position Horizontal Base\*\***



**TO ORDER:** Specify Catalog Number and Assembly Type.

**EXAMPLE: 309B-20K-G\***

| OutPut |          |      | Approx<br>Input<br>HP | Ratio | Catalog Numbers*   |                    |
|--------|----------|------|-----------------------|-------|--------------------|--------------------|
| RPM    | Torque † | HP   |                       |       | A Base<br>Position | B Base<br>Position |
| 350    | 14       | .078 | .12                   | 5     | 309A-5K-           | 309B-5K-           |
| 175    | 25       | .069 | .13                   | 10    | 309A-10K-          | 309B-10K-          |
| 116.7  | 30       | .056 | .17                   | 15    | 309A-15K-          | 309B-15K-          |
| 87.5   | 43       | .060 | .17                   | 20    | 309A-20K-          | 309B-20K-          |
| 58.3   | 33       | .031 | .10                   | 30    | 309A-30K-          | 309B-30K-          |
| 43.2   | 31       | .022 | .07                   | 40    | 309A-40K-          | 309B-40K-          |

\*\* Base is not detachable.

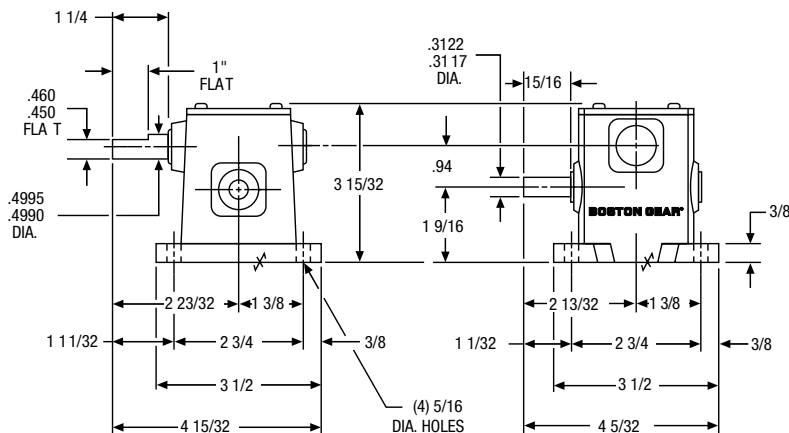
† Maximum torque in Pound Inches.

**ASSEMBLY  
TYPES\***

**J**  
STANDARD

**H**

**G**

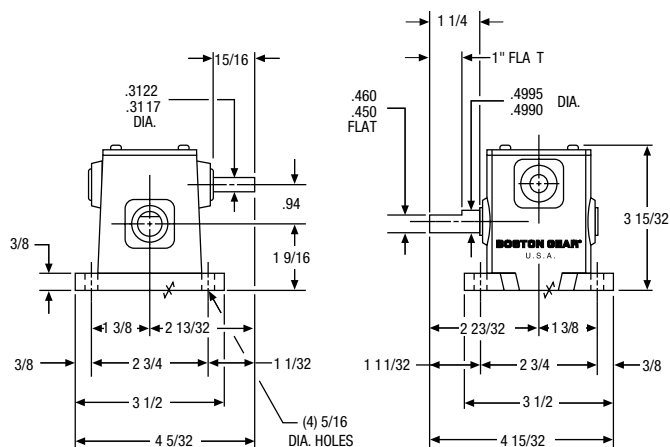


ASSEMBLY TYPES\*

 G  
STANDARD

 H

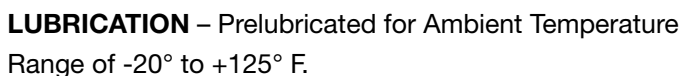
 J





## F

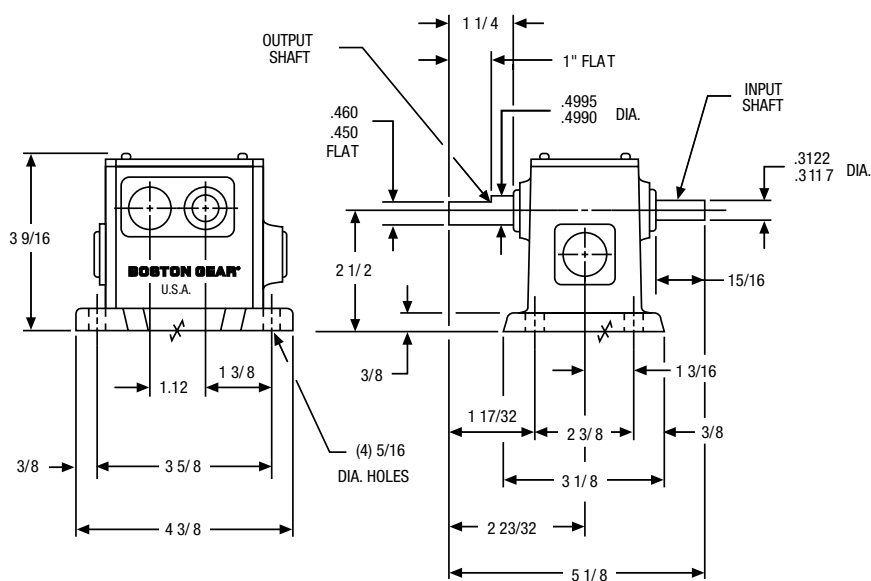
### Horizontal Base\*\*: Parallel Shafts



**EXAMPLE: WA309A-25K-K\***

\*\* Base is not detachable.  
† Maximum Torque in Pound Inches.

### ASSEMBLY TYPES\*



\* Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounting surfaces. Input may be rotated clockwise or counterclockwise.

# Sub-Fractional HP Double Reduction Non-Flanged Reducers

## TW113A Series

Horizontal Base\*\*; Parallel Shafts



**LUBRICATION** – Quantity - 1/2 Pint.

MUST BE ORDERED SEPARATELY.

See Lubrication Instructions, Page 134.

**TO ORDER:** Specify Catalog Number and Assembly Type.

**EXAMPLE:** TW113A-16K-DM5\*

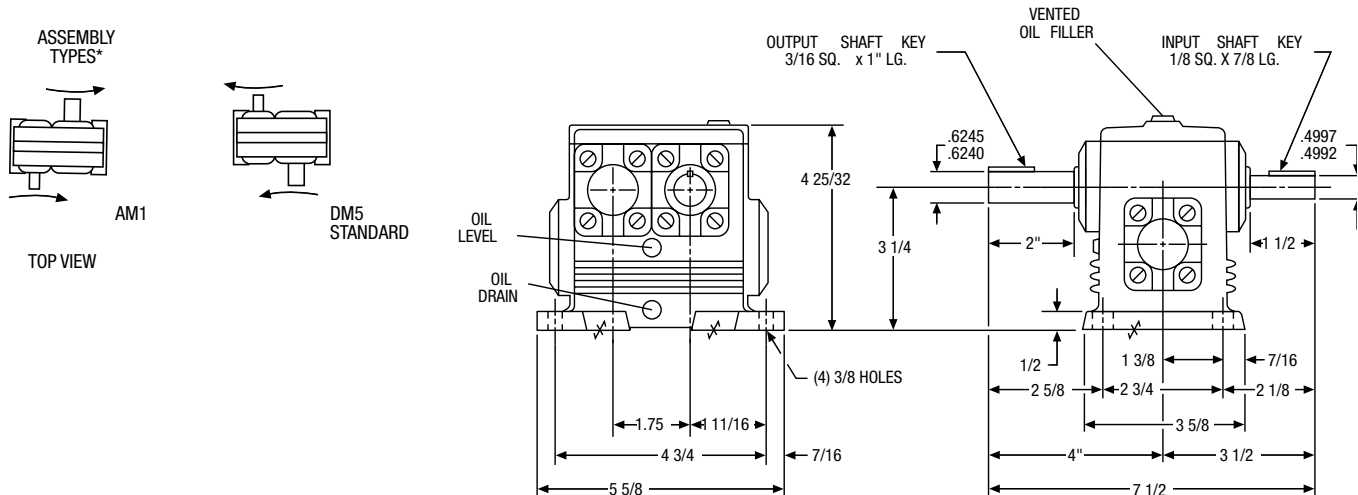
### 1750 INPUT RPM

| OutPut |          |      | Approx<br>Input<br>HP | Ratio | Catalog*<br>Number  |
|--------|----------|------|-----------------------|-------|---------------------|
| RPM    | Torque † | HP   |                       |       |                     |
| 109.4  | 150      | .26  | .55                   | 16    | <b>TW113A-16K-</b>  |
| 87.5   | 180      | .25  | .57                   | 20    | <b>TW113A-20K-</b>  |
| 70.0   | 185      | .21  | .50                   | 25    | <b>TW113A-25K-</b>  |
| 43.8   | 185      | .13  | .33                   | 40    | <b>TW113A-40K-</b>  |
| 35.0   | 210      | .12  | .31                   | 50    | <b>TW113A-50K-</b>  |
| 29.2   | 200      | .093 | .24                   | 60    | <b>TW113A-60K-</b>  |
| 23.3   | 220      | .081 | .23                   | 75    | <b>TW113A-75K-</b>  |
| 21.9   | 225      | .078 | .22                   | 80    | <b>TW113A-80K-</b>  |
| 17.5   | 228      | .063 | .17                   | 100   | <b>TW113A-100K-</b> |
| 14.6   | 235      | .054 | .18                   | 120   | <b>TW113A-120K-</b> |
| 11.7   | 244      | .045 | .17                   | 150   | <b>TW113A-150K-</b> |
| 8.8    | 246      | .034 | .12                   | 200   | <b>TW113A-200K-</b> |
| 5.8    | 280      | .026 | .12                   | 300   | <b>TW113A-300K-</b> |
| 4.4    | 250      | .017 | .12                   | 400   | <b>TW113A-400K-</b> |
| 3.9    | 288      | .018 | .10                   | 450   | <b>TW113A-450K-</b> |
| 2.9    | 295      | .014 | .08                   | 600   | <b>TW113A-600K-</b> |
| 1.9    | 295      | .009 | .08                   | 900   | <b>TW113A-900K-</b> |

## Dimensions

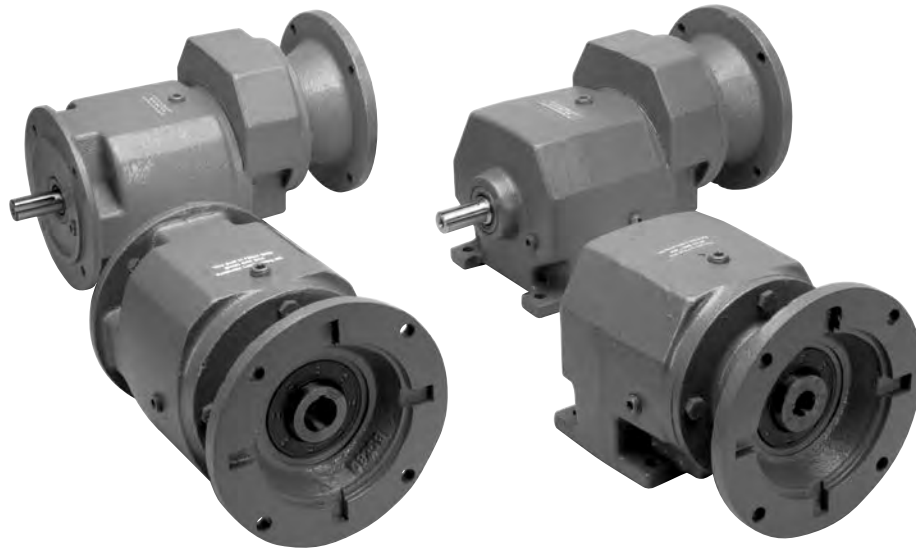
\*\* Base is not detachable.

† Maximum torque in Pound Inches.



**Approx. Weight 6 lbs.**

\* Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounting surfaces.  
Input may be rotated clockwise or counterclockwise.



## Section Contents

|                                           |         |
|-------------------------------------------|---------|
| Product Reference Guide .....             | 150     |
| Numbering System / How to Order .....     | 151     |
| Interchange and Selection Procedure ..... | 152-153 |
| Mountings .....                           | 155     |
| Lubrication .....                         | 156     |
| Overhung Load / Weights .....             | 157-158 |
| Output RPM Selection Tables .....         | 159-175 |
| Reducer Ratings .....                     | 176-185 |
| Dimensions .....                          | 186-193 |
| Washdown Duty / Parts List .....          | 194-195 |

# 800 Series Product Selection / Reference Guide

## 800 Series Inline Helical Gear Drives

### F800B Series In-Line Helical Gear Flanged Input



**Double Reduction  
Foot Mounted, Flange Input**  
Selection Pages 159-175  
Dimensions-Page 186



**Triple Reduction  
Foot Mounted, Flange Input**  
Selection Pages 159-175  
Dimensions-Page 187



**Double Reduction  
Output Flange Mount, Flange Input**  
Selection Pages 159-175  
Dimensions-Page 188



**Triple Reduction  
Output Flange Mount, Flange Input**  
Selection Pages 159-175  
Dimensions-Page 189

### 800B Series In-Line Helical Gear Non-Flanged Input



**Double Reduction  
Foot Mounted**  
Selection Pages 176-185  
Dimensions-Page 190



**Triple Reduction  
Foot Mounted**  
Selection Pages 176-185  
Dimensions-Page 191



**Double Reduction  
Output Flange Mount**  
Selection Pages 176-185  
Dimensions-Page 192



**Triple Reduction  
Output Flange Mount**  
Selection Pages 176-185  
Dimensions-Page 193

# 800 Series In-Line Helical Gear Drives

## Numbering System / How to Order

### 800 Series In-Line Helical Gear Drives

### Clutch/Brake

### Motor

\*BK F 8 3 2 B F - 45 K T - B5 - S - M1 - CMBA56U-6 - HUTF5/8-IDB - 3

#### Series

800B Series

#### Frame Size

3  
4  
6  
7

#### Base/Mounting Attachment

Blank—Foot Mounted  
F— Output Flange

#### Input Oil Seal

Blank—Standard Seal  
T—Two Standard Seals

#### Nominal Gear Ratio (Rounded Value)

Refer to Selection Tables For Available Ratios

#### Input Shaft Style

Blank—Solid Projecting Input Shaft  
F— Quill Style C-Face Motor Flange

#### Reduction Type

2— Double  
3— Triple

#### Lubrication

Blank—No Lubrication  
K— Klubersynth UH1 6-460  
W— Klubersynth GH6  
S— Mobil SHC 634  
X— Mobil 600W  
(Sizes 3 and 4 are non-vented)

#### Reducer Material/Paint

Blank—Cast Iron, Std Gray Paint  
BK— Cast Iron, White BostKleen Paint  
SBK— Cast Iron, Stainless BostKleen Paint

#### NEMA Motor Mounting

| BORE CODE | NEMA MOUNTING | INPUT BORE | KEYWAY      |
|-----------|---------------|------------|-------------|
| B5        | 56C           | .625       | 3/16 x 3/32 |
| B7        | 140TC/180C    | .875       | 3/16 x 3/32 |
| B9        | 180TC/210C    | 1.125      | 1/4 x 1/8   |
| B11       | 210TC/250UC   | 1.375      | 5/16 x 5/32 |

Blank Solid Input Shaft (No Flange)

#### Output Shaft

Blank—Standard Carbon Steel  
S— Stainless Material

#### Mounting Positions

For Factory Prelubrication Specify Mounting Position

Blank— No Lubrication  
M1-M9— Lubrication per Mounting Positions in Catalog

#### Common C-Face Brakes Installed

| 115/230 VAC 60hz | Ft-Lb | Bore Code |
|------------------|-------|-----------|
| CMBA56R-3        | 3     | B5        |
| CMBA56R-6        | 6     | B5        |
| CMBA140TR-6      | 6     | B7        |

| 208-230/460 VAC 60hz | Ft-Lb | Bore Code |
|----------------------|-------|-----------|
| CMBA56U-3            | 3     | B5        |
| CMBA56U-6            | 6     | B5        |
| CMBA140TU-6          | 6     | B7        |

Other sizes available. See catalog.

#### Motor Conduit Box Orientation

(When looking at fan end of motor)

0— 12 O'clock  
3— 3 O'clock  
6— 6 O'clock  
9— 9 O'clock

#### Common C-Face Motors Installed

| HP Rating | Bore Code | AC Voltage       |                  |
|-----------|-----------|------------------|------------------|
|           |           | 115/208-230-1-60 | 208-230/460-3-60 |
| 1/4 HP    | B5        | DRTFB            | DUTFB            |
| 1/3 HP    | B5        | ERTFB            | EUTFB            |
| 1/2 HP    | B5        | FRTFB            | FUTFB            |
|           | B5        |                  | FUT-SS           |
|           | B5        |                  | FUTF-IDB         |
| 3/4 HP    | B5        | GRTFB            | GUTFB            |
|           | B5        |                  | GUT-SS           |
|           | B5        |                  | GUTF-IDB         |
| 1 HP      | B5        | HRTF-5/8B        | HUTF5/8B         |
|           | B5        |                  | HUT5/8-SS        |
|           | B5        |                  | HUTF5/8-IDB      |
|           | B7        |                  | HUTFB            |
|           | B7        |                  | HUT-SS           |
|           | B7        |                  | HUTF-IDB         |
| 1.5 HP    | B7        |                  | JUTFB            |
|           | B7        |                  | JUTF-SS          |
|           | B7        |                  | JUTF-IDB         |
| 2 HP      | B5        |                  | KUTF5/8B         |
|           | B7        |                  | KUTFB            |
|           | B7        |                  | KUTF-SS          |
|           | B7        |                  | KUTF-IDB         |
| 3 HP      | B9        |                  | LUTFB            |
|           | B9        |                  | LUTF-SS          |
|           | B9        |                  | LUTF-IDB         |
| 5 HP      | B9        |                  | MUTFB            |

Other motors available, please see catalog pages 333 to 342.

T— Totally enclosed non-ventilated  
TF— Totally enclosed fan cooled  
SS— Stainless  
IDB— Inverter Duty (10:1 turn down constant torque)  
B5— 56C  
B7— 140TC  
B9— 180TC

### \*Example:

Above listed configuration is an example part number using this numbering system.

### How to Order

#### Example:

Required flange input NEMA 56C, and flanged output, 1/3 HP, Class I, 45:1 ratio, lubricated, and standard mounting position.

#### Order:

1 pc F832BF-45K-B5

# 800 Series In-Line Helical Gear Drives

## Interchange Guide



**Foot Mounted  
NEMA C-Face  
F800B**



**Foot Mounted  
800B**



**Output Flange Mounted  
NEMA C-Face  
F800BF**



**Output Flange Mounted  
800BF**

Boston Gear 800 Series In-Line Helical Gear Drives are designed to be functionally interchangeable with these and many other manufacturer's drives. This chart is intended to be a guide only. Please see appropriate manufacturer's catalogs for exact details regarding ratings and dimensions.

| Manufacturers   | Size | Foot Mounted<br>NEMA C-Face<br>F800B | Foot Mounted<br>800B | Output Flange Mounted<br>NEMA C-Face<br>F800BF | Output Flange<br>Mounted<br>800BF |
|-----------------|------|--------------------------------------|----------------------|------------------------------------------------|-----------------------------------|
| Boston          | 830  | F832B/F833B                          | 832B/833B            | F832BF/F833BF                                  | 832BF/833BF                       |
| SEW Eurodrive   | 32   | R32LP                                | Not Available        | RF32LP                                         | Not Available                     |
| Dodge (Quantis) | NA   | Not Available                        | Not Available        | Not Available                                  | Not Available                     |
| Falk            | 03   | 03UCBN2(3)-A                         | 03UCBN2(3)-N         | 03UCFN2(3)-A                                   | 03UCFN2(3)-N                      |
| David Brown     | M03  | M032(3)BAN                           | M032(3)BRN           | M032(3)FAN                                     | M032(3)FRN                        |
| Flender         | E20* | E20 (M, G, OR A)*                    | E20A*                | EF20 (M, G OR A)*                              | EF20A*                            |
| Sumitomo        | 3090 | H (C or M) 3090/95/97                | H3090/95/97          | HF(C or M) 3090/95/97                          | HF3090/95/97                      |
| Stober          | C002 | C002N-MR                             | C002N-AW             | C002F-MR                                       | C002F-AW                          |
| Nord            | 02   | SK02                                 | SK02-W               | SK02F                                          | SK02-W                            |
| Boston          | 840  | F842B/F843B                          | 842B/843B            | F842BF/F843BF                                  | 842BF/843BF                       |
| SEW Eurodrive   | 40   | R40LP                                | R40                  | RF40LP                                         | RF40                              |
| Dodge (Quantis) | 38   | HB382(3)CN                           | Not Available        | HB382(3)CN                                     | Not Available                     |
| Falk            | 04   | 04UCBN2(3)-A                         | 04UCBN2(3)-N         | 04UCFN2(3)-A                                   | 04UCFN2(3)-N                      |
| David Brown     | M04  | M042(3)BAN                           | M042(3)BRN           | M042(3)FAN                                     | M042(3)FRN                        |
| Flender         | 30   | E30/Z30/D30-(M, G, or A)             | E30/Z30/D30          | EF30/ZF30/DF30 (M, G or A)                     | EF30/ZF30/DF30                    |
| Sumitomo        | 3100 | H(C or M) 3100/05                    | H3100/05             | HF(C or M) 3100/05                             | HF3100/05                         |
| Stober          | C100 | C102/3N-MR                           | C102/3N-AW           | C102/3F-MR                                     | C102/3F-AW                        |
| Nord            | 12   | SK12(3)                              | SK12(3)-W            | SK12(3)F                                       | SK12(3)F-W                        |
| Boston          | 860  | F862B/F863B                          | 862B/863B            | F862BF/F863BF                                  | 862BF/863BF                       |
| SEW Eurodrive   | 60   | R60LP/R63LP                          | R60/R63              | RF60LP/RF63LP                                  | RF60/RF63                         |
| Dodge (Quantis) | 48   | HB482(3)CN                           | Not Available        | HB482(3)CN                                     | Not Available                     |
| Falk            | 06   | 06UCBN2(3)-A                         | 06UCBN2(3)-N         | 06UCFN2(3)-A                                   | 06UCFN2(3)-N                      |
| David Brown     | M06  | M062(3)BAN                           | M062(3)BRN           | M062(3)FAN                                     | M062(3)FRN                        |
| Flender         | 40   | E40/Z40/D40-(M, G or A)              | E40/Z40/D40          | EF40/ZF40/DF40-(M, G or A)                     | EF40/ZF40/DF40                    |
| Sumitomo        | 3110 | H(C or M) 3110/15                    | H3110/15             | HF(C or M) 3110/15                             | HF3110/15                         |
| Stober          | C200 | C202/3N-MR                           | C202/3N-AW           | C202/3F-MR                                     | C202/3F-AW                        |
| Nord            | 22   | SK22                                 | SK22(3)-W            | SK22(3)F                                       | SK22(3)F-W                        |
| Boston          | 870  | F872B/F873B                          | 872B/873B            | F872BF/F873BF                                  | 872BF/873BF                       |
| SEW Eurodrive   | 70   | R70LP/R73LP                          | R70/R73              | RF70LP/RF73LP                                  | RF70/RF73                         |
| Dodge (Quantis) | 68   | HB682(3)CN                           | Not Available        | HB682(3)CN                                     | Not Available                     |
| Falk            | 07   | 07UCBN2(3)-A                         | 07UCBN2(3)-N         | 07UCFN2(3)-A                                   | 07UCFN2(3)-N                      |
| David Brown     | M07  | M072(3)BAN                           | M072(3)BRN           | M072(3)FAN                                     | M072(3)FRN                        |
| Flender         | 60   | E60/Z60/D60 - (M,D or A)             | E60/Z60/D60          | EF60/ZF60/DF60 (M, D or A)                     | EF60/ZF60/DF60                    |
| Sumitomo        | 3140 | H(C or M) 3140/45                    | H3140/45             | HF(C or M) 3140/45                             | HF3140/45                         |
| Stober          | C400 | C402/3N-MR                           | C402/3N-AW           | C402/3F-MR                                     | C402/3F-AW                        |
| Nord            | 32   | SK32(3)                              | SK32(3)-W            | SK32(3)F                                       | SK32(3)F-W                        |

\* Single reduction models only.

If you require assistance with an interchange, please contact our customer service department at 1-888-999-9860.

## Motorized Gear Drives

1. Determine application service factor from page 154, or from Application Classifications on pages 348-349.
2. Determine output speed required.
3. Determine HP or output torque requirement.
4. Select a speed reducer size based on output speed and horsepower requirement for given service class.
5. Check overhung load calculation.

## Example

Select an In-line motorized helical gear drive and motor to drive a uniformly loaded line conveyor 24 hours/day requiring 2 HP at 35 RPM.

## POWER REQUIREMENT

230/460 volt  
3 phase  
60 hertz

1. Select Service Factor Class from page 154.  
Service Class = II
2. Output RPM = 35
3. 2 HP
4. Select a 2 HP drive that will satisfy minimum of II service class.
5. O.H.L. = 1720 lbs. page 157
6. Order: 1 - F872B-50K-B7 (F01078)  
1 - KUTF Motor Ref - page 339 for specific motor manufacturer.

Both a double and triple reduction gear drive is available. The double reduction will have an economic advantage. The triple reduction should be specified when relative rotation is of concern.

## Overhung Load

If the output shaft of a gear drive is connected to the driven machine by other than a flexible coupling, an overhung load is imposed on the shaft. This load may be calculated as follows:

$$OHL = \frac{2TK}{D}$$

OHL = Overhung Load (LB.)  
T = Shaft Torque (LB.-IN.)  
D = Pitch Diameter of Sprocket, Pinion or Pulley (IN.)  
K = Load Connection Factor

## Load Connection Factor (K)

|                                  |      |
|----------------------------------|------|
| Sprocket or Timing Belt .....    | 1.00 |
| Pinion and Gear Drive .....      | 1.25 |
| Pulley and V-Belt Drive .....    | 1.50 |
| Pulley and Flat Belt Drive ..... | 2.50 |

An overhung load greater than permissible load value may be reduced to an acceptable value by the use of a sprocket, pinion or pulley of a larger PD. Relocation of the load closer to the center of gear drive will also increase OHL capacity.

Permissible Overhung Loads and Output Shaft Thrust Loads are listed for each reducer in the Tables on Page 157.

# In-Line Helical Selection Tables

**@ 1750 RPM Input**

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx. Output RPM | Ratio* | Non-Flanged            |          |                         |                         | Flanged (Gearmotors) |                        |           |                         |                         |
|--------------------|--------|------------------------|----------|-------------------------|-------------------------|----------------------|------------------------|-----------|-------------------------|-------------------------|
|                    |        | Gear Capacity          |          | Non-Flange O/P          |                         | Ratings              |                        |           | Non-Flange O/P          | Output Flange           |
|                    |        | Output Torque (LB-IN.) | Input HP | Catalog No. (Item Code) | Catalog No. (Item Code) | Motor HP             | Output Torque (LB-IN.) | S.C.**    | Catalog No. (Item Code) | Catalog No. (Item Code) |
| 35                 | 50     | 5216                   | 3.16     | 872B-50K (F00436)       | 872BF-50K (F00469)      | 3                    | 4900                   | I         | F872B-50K-B9 (F01079)   | F872BF-50K-B9 (F01125)  |
|                    |        |                        |          |                         |                         | 2<br>1.5             | 3268<br>2552           | II<br>III | F872B-50K-B7 (F01078)   | F872BF-50K-B7 (F01124)  |
|                    |        | 5290                   | 3.02     | 873B-50K (F00489)       | 873BF-50K (F00507)      | 3                    | 5256                   | I         | F873B-50K-B9 (F01154)   | F873BF-50K-B9 (F001182) |
|                    |        |                        |          |                         |                         | 2                    | 3504                   | II        | F873B-50K-B7 (F01153)   | F873BF-50K-B7 (F01181)  |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.  
\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service Class III (S.F. = 2.00)  
Overhung Load Ratings refer to Page 157.  
Indicates Triple Reduction



# 800 Series In-Line Helical Gear Drives

To properly select a gear drive, the following application information should be known.

1. Service Factor or AGMA Service class.
2. Output Horsepower or Torque
3. Output RPM or Ratio  
(Maximum Input Speed 4500 RPM)

Consult Engineering for mounting positions: M2, M3, M4, M6, M7, and M9

## Non-Motorized Gear Drives

1. Determine application service factor from the service factor chart on this page, or from Application Classifications on pages 348-349.
2. Determine design Horsepower or Torque.  
- Design HP = Application HP x S.F.  
- Design Torque = Application Torque x S.F.
3. Select a Gear drive that satisfies output RPM, service class and/or output torque requirement.  
Reference rating tables pages 176-185.
4. Overhung shaft load should be checked when belt or chain drives are used, to prevent premature shaft or bearing failure. Reference page 157 for calculations.

## Example

Select an In-line 800 Series Gear Drive for a continuous duty concrete mixer requiring 700 lb-in. of torque at approx. 1000 RPM, to operate up to 8 hrs/day. The Gear Drive will be driven at 1450 input RPM.

1. Application Service Factor = 1.25
2. Design Torque =  $700 \times 1.25 = 875$  LB-IN.
3. Select at speed and torque level of 875 LB-IN. or greater.
4. Order 862B1.5K.

**NOTE:** The use of an auxiliary drive between the gear drive and the driven machine reduces the torque required at the output shaft in direct proportion to the auxiliary drive ratio.

A 3:1 chain ratio would reduce the torque requirement at the output shaft of the gear drive to one-third, resulting in a smaller unit size selection.

## SERVICE FACTOR CHART

| AGMA CLASS OF SERVICE | SERVICE FACTOR | OPERATING CONDITIONS                                                                               |
|-----------------------|----------------|----------------------------------------------------------------------------------------------------|
| I                     | 1.00           | Moderate Shock-not more than 15 minutes in 2 hours<br>Uniform Load-not more than 10 hours per day. |
| II                    | 1.25           | Moderate Shock-not more than 10 hours per day.<br>Uniform Load-more than 10 hours per day.         |
|                       | 1.50           | Heavy Shock-not more than 15 minutes in 2 hours.<br>Moderate Shock-more than 10 hours per day.     |
| III                   | 1.75           | Heavy Shock-not more than 10 hours per day.                                                        |
|                       | 2.00           | Heavy Shock-more than 10 hours per day."                                                           |

For complete AGMA Service Factors and Load Classifications, see Engineering Pages 348-349.

# 800 Series In-Line Helical Ratings

## Non-Flanged; Input Speeds 1750, 1450 and 1160 RPM

### Service Factor 1.0

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 |                    |                              |                 |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|
|                | 1750 RPM           |                             |                 | 1450 RPM           |                             |                 | 1160 RPM           |                              |                 |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |
| 832B/BF1.5K    | 1170               | 288                         | 5.80            | 970                | 293                         | 4.82            | 773                | 293                          | 3.85            |
| 842B/BF1.5K    | 1170               | 479                         | 9.08            | 970                | 509                         | 8.00            | 773                | 549                          | 6.89            |
| 862B/BF1.5K    | 1170               | 830                         | 16.20           | 970                | 884                         | 14.30           | 773                | 950                          | 12.30           |
| 872B/BF1.5K    | 1170               | 1094                        | 21.20           | 970                | 1090                        | 17.50           | 773                | 1090                         | 14.00           |

# 800 Series In-Line Helical Mounting Positions

## Foot Mounted Horizontal

STANDARD

M1

M2

M3

M4

## Foot Mounted Vertical

M5

M6

## Output Flange Mounted

STANDARD

M7

M8

M9

Positions M1 & M8 are standard and will be supplied with oil for this position unless otherwise specified.

**CAUTION - Mounting of gear drives in overhead positions may be hazardous. Use of external guides or supports is strongly recommended for overhead mounting.**

**Avoiding those positions where the high speed oil seal is immersed in oil will provide greater security against high speed input seal wear.**

**Note:** The above drawings will serve to represent both flanged and non-flanged styles

# 800 Series In-Line Helical Gear Drives

## Lubricants

### Lubricant and Quantity

Klubersynth Synthetic UH1 6-460 is recommended for the 800 Series gear drives and, at all times, the lubricant must remain free from contamination. Normal operating temperatures range between 150°F - 170°F. During the initial break-in of the gear drive, higher than normal operating temperatures may result.

All gear drives are supplied filled with UH1 6-460 synthetic oil and with the quantity listed below for standard mounting position M1 or M8 or to mounting specified at time of order.

- Sizes 832/833B and 842/843B do not require a vent plug.
- Sizes 862/863B and 872/873B will require an oil change after 20,000 hours of operation. More frequent changes may be required when operating in high temperature ranges or unusually contaminated environments.
- Satisfactory performance may be obtained in some applications with non-synthetic oils and will require more frequent changes.

| Recommended Lubricant | ISO Viscosity Grade No. | Viscosity Range SUS @100°F | Boston Gear Item Code |
|-----------------------|-------------------------|----------------------------|-----------------------|
|                       |                         |                            | Quart                 |
| Klubersynth UH1 6-460 | 460                     | 1950/2500                  | 65159                 |
| Mobile SHC634         | 320 / 460               | 1950/2500                  | 51493                 |

Ambient temperature range of -20F to +125F is suitable for standard configured products and ratings. Contact technical support for operating conditions beyond this range.

## OIL CAPACITIES (PINTS)

| UNIT | MOUNTING POSITIONS |      |      |      |      |      |                       |      |      |
|------|--------------------|------|------|------|------|------|-----------------------|------|------|
|      | M1                 | M2   | M3   | M4   | M5   | M6   | M7                    | M8   | M9   |
| SIZE | Foot Mounted       |      |      |      |      |      | Output Flange Mounted |      |      |
| 832B | 1.3                | 1.3  | 2.3  | 1.7  | 2.1  | 2.1  | 1.3                   | 2.0  | 2.2  |
| 833B | 2.8                | 1.7  | 3.0  | 2.6  | 3.6  | 3.2  | 1.7                   | 3.0  | 3.3  |
| 842B | 1.8                | 2.0  | 2.6  | 2.4  | 3.0  | 3.0  | 2.0                   | 3.4  | 3.4  |
| 843B | 3.4                | 3.0  | 3.4  | 3.4  | 4.4  | 3.8  | 3.4                   | 4.8  | 4.8  |
| 862B | 4.0                | 4.6  | 6.0  | 7.0  | 8.0  | 8.0  | 4.6                   | 8.6  | 9.4  |
| 863B | 9.0                | 5.8  | 8.0  | 8.8  | 11.0 | 11.0 | 5.8                   | 11.0 | 11.0 |
| 872B | 8.0                | 8.6  | 12.0 | 12.0 | 14.4 | 14.4 | 8.6                   | 16.4 | 16.0 |
| 873B | 16.0               | 11.0 | 14.0 | 14.0 | 19.0 | 19.0 | 11.0                  | 19.0 | 19.0 |

Refer to mounting positions on page 155.

# 800 Series In-Line Helical Gear Drives

## Overhung Loads

### OVERHUNG LOADS (LBS) & AXIAL THRUST (LBS) CAPACITIES ON OUTPUT SHAFT

| OUTPUT RPM | 832 / 833 OHL | 842 / 843 OHL | 862 / 863 OHL | 872 / 873 OHL |
|------------|---------------|---------------|---------------|---------------|
| 1000       | 270           | 425           | 715           | 950           |
| 500        | 300           | 455           | 805           | 1065          |
| 350        | 340           | 465           | 830           | 1065          |
| 250        | 360           | 485           | 880           | 1065          |
| 200        | 385           | 505           | 900           | 1065          |
| 150        | 385           | 525           | 945           | 1090          |
| 100        | 385           | 620           | 1010          | 1275          |
| 50         | 385           | 770           | 1360          | 1720          |
| 25 & under | 385           | 770           | 1600          | 2090          |

| THRUST | 390 | 635 | 1200 | 1580 |
|--------|-----|-----|------|------|
|--------|-----|-----|------|------|

Overhung loads are calculated at the center of the shaft extension and with no thrust load. For combined loading consult factory.

### OVERHUNG LOADS (LBS) ON INPUT SHAFT AT 1750 RPM

| SIZE | 832 | 833 | 842 | 843 | 862 | 863 | 872 | 873 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|
| OHL  | 344 | 390 | 314 | 373 | 310 | 315 | 402 | 371 |

Overhung loads are calculated at the center of the shaft extension and with no thrust load.

# 800 Series In-Line Helical Gear Drives

## Weights

APPROXIMATE WEIGHTS (LBS)

| NON-FLANGE |     | FLANGE |               |          |          |           |
|------------|-----|--------|---------------|----------|----------|-----------|
| SIZE       | LBS | SIZE   | NEMA MOUNTING |          |          |           |
|            |     |        | 56C B5        | 140TC B7 | 180TC B9 | 210TC B11 |
| 832B       | 19  | F832B  | 22            | 22       | 25       | —         |
| 832BF      | 21  | F832BF | 24            | 24       | 27       | —         |
| 842B       | 25  | F842B  | 29            | 29       | 32       | —         |
| 842BF      | 29  | F842BF | 33            | 33       | 36       | —         |
| 862B       | 48  | F862B  | 49            | 49       | 63       | 63        |
| 862BF      | 50  | F862BF | 51            | 51       | 66       | 66        |
| 872B       | 86  | F872B  | 92            | 92       | 99       | 99        |
| 872BF      | 92  | F872BF | 99            | 99       | 105      | 105       |
| 833B       | 26  | F833B  | 30            | —        | —        | —         |
| 833BF      | 29  | F833BF | 32            | —        | —        | —         |
| 843B       | 33  | F843B  | 37            | —        | —        | —         |
| 843BF      | 37  | F843BF | 41            | —        | —        | —         |
| 863B       | 57  | F863B  | 61            | 61       | —        | —         |
| 863BF      | 59  | F863BF | 63            | 63       | —        | —         |
| 873B       | 106 | F873B  | 107           | 107      | 121      | —         |
| 873BF      | 113 | F873BF | 114           | 114      | 128      | —         |

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# 800 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors) |                              |            |                               |                                |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|----------------------|------------------------------|------------|-------------------------------|--------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings              |                              |            | Non-Flange O/P                | Output Flange                  |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | S.C.**     | Catalog No.<br>(Item Code)    | Catalog No.<br>(Item Code)     |
| 1170                     | 1.5    | 288                          | 5.80        | 832B-1.5K<br>(F00103)      | 832BF-1.5K-M8<br>(F00136)  | 5<br>3               | 251<br>149                   | I<br>II    | F832B-1.5K-B9-M1<br>(F00591)  | F832BF-1.5K-B9-M8<br>(F00653)  |
|                          |        |                              |             |                            |                            | 2                    | 98                           | III        | F832B-1.5K-B7-M1<br>(F00590)  | F832BF-1.5K-B7-M8<br>(F00652)  |
|                          |        | 479                          | 9.08        | 842B-1.5K<br>(F00205)      | 842BF-1.5K-M8<br>(F00238)  | 5<br>3               | 248<br>146                   | II<br>III  | F842B-1.5K-B9-M1<br>(F00728)  | F842BF-1.5K-B9-M8<br>(F00787)  |
|                          |        | 830                          | 16.20       | 862B-1.5K<br>(F00307)      | 862BF-1.5K-M8<br>(F00341)  | 10<br>7.5            | 500<br>380                   | II<br>III  | F862B-1.5K-B11-M1<br>(F00871) | F862BF-1.5K-B11-M8<br>(F00935) |
|                          |        | 1094                         | 21.20       | 872B-1.5K<br>(F00411)      | 872BF-1.5K-M8<br>(F00444)  | 10                   | 510                          | III        | F872B-1.5K-B11-M1<br>(F01044) | F872BF-1.5K-B11-M8<br>(F01090) |
| 922                      | 1.9    | 325                          | 4.77        | 832B-1.9K<br>(F00104)      | 832BF-1.9K-M8<br>(F00137)  | 3                    | 200                          | II         | F832B-1.9K-B9-M1<br>(F00593)  | F832BF-1.9K-B9-M8<br>(F00655)  |
|                          |        |                              |             |                            |                            | 2                    | 133                          | III        | F832B-1.9K-B7-M1<br>(F00592)  | F832BF-1.9K-B7-M8<br>(F00654)  |
|                          |        | 643                          | 8.69        | 842B-1.9K<br>(F00206)      | 842BF-1.9K-M8<br>(F00239)  | 5<br>3               | 343<br>209                   | II<br>III  | F842B-1.9K-B9-M1<br>(F00729)  | F842BF-1.9K-B9-M8<br>(F00788)  |
|                          |        | 1100                         | 15.40       | 862B-1.9K<br>(F00308)      | 862BF-1.9K-M8<br>(F00342)  | 10<br>7.5            | 710<br>535                   | II<br>III  | F862B-1.9K-B11-M1<br>(F00872) | F862BF-1.9K-B11-M8<br>(F00936) |
|                          |        | 1492                         | 21.20       | 872B-1.9K<br>(F00412)      | 872BF-1.9K-M8<br>(F00445)  | 10<br>7.5            | 695<br>521                   | III<br>III | F872B-1.9K-B11-M1<br>(F01045) | F872BF-1.9K-B11-M8<br>(F01091) |
| 760                      | 2.3    | 333                          | 4.29        | 832B-2.3K<br>(F00111)      | 832BF-2.3K-M8<br>(F00144)  | 3                    | 234                          | I          | F832B-2.3K-B9-M1<br>(F00604)  | F832BF-2.3K-B9-M8<br>(F00664)  |
|                          |        |                              |             |                            |                            | 2                    | 156                          | III        | F832B-2.3K-B7-M1<br>(F00603)  | F832BF-2.3K-B7-M8<br>(F00663)  |
|                          |        | 695                          | 8.52        | 842B-2.3K<br>(F00213)      | 842BF-2.3K-M8<br>(F00246)  | 5<br>3               | 378<br>226                   | II<br>III  | F842B-2.3K-B9-M1<br>(F00742)  | F842BF-2.3K-B9-M8<br>(F00801)  |
|                          |        | 1217                         | 15.00       | 862B-2.3K<br>(F00315)      | 862BF-2.3K-M8<br>(F00349)  | 10<br>7.5            | 800<br>600                   | II<br>III  | F862B-2.3K-B11-M1<br>(F00884) | F862BF-2.3K-B11-M8<br>(F00946) |
|                          |        | 1680                         | 21.20       | 872B-2.3K<br>(F00419)      | 872BF-2.3K-M8<br>(F00452)  | 10                   | 780                          | III        | F872B-2.3K-B11-M1<br>(F01055) | F872BF-2.3K-B11-M8<br>(F01101) |
| 673<br>(CONT.)           | 2.6    | 350                          | 3.98        | 832B-2.6K-M1<br>(F00112)   | 832BF-2.6K-M8<br>(F00145)  | 3                    | 257                          | I          | F832B-2.6K-B9-M1<br>(F00606)  | F832BF-2.6K-B9-M8<br>(F00666)  |
|                          |        |                              |             |                            |                            | 2                    | 171                          | III        | F832B-2.6K-B7-M1<br>(F00605)  | F832BF-2.6K-B7-M8<br>(F00665)  |
|                          |        | 715                          | 7.95        | 842B-2.6K-M1<br>(F00214)   | 842BF-2.6K-M8<br>(F00247)  | 5<br>3               | 416<br>250                   | II<br>III  | F842B-2.6K-B9-M1<br>(F00743)  | F842BF-2.6K-B9-M8<br>(F00802)  |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 157.

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# 800 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors) |                              |           |                               |                                |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|----------------------|------------------------------|-----------|-------------------------------|--------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings              |                              |           | Non-Flange O/P                | Output Flange                  |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | S.C.**    | Catalog No.<br>(Item Code)    | Catalog No.<br>(Item Code)     |
| 673<br>(CONT.)           | 2.6    | 1320                         | 14.50       | 862B-2.6K-M1<br>(F00316)   | 862BF-2.6K-M8<br>(F00350)  | 10<br>7.5            | 900<br>676                   | II<br>III | F862B-2.6K-B11-M1<br>(F00885) | F862BF-2.6K-B11-M8<br>(F00947) |
|                          |        | 1800                         | 21.20       | 872B-2.6K-M1<br>(F00420)   | 872BF-2.6K-M8<br>(F00453)  | 10                   | 840                          | III       | F872B-2.6K-B11-M1<br>(F01056) | F872BF-2.6K-B11-M8<br>(F01102) |
| 605                      | 2.9    | 533                          | 5.18        | 832B-2.9K-M1<br>(F00113)   | 832BF-2.9K-M8<br>(F00146)  | 5<br>3               | 508<br>305                   | I<br>III  | F832B-2.9K-B9-M1<br>(F00607)  | F832BF-2.9K-B9-M8<br>(F00667)  |
|                          |        | 840                          | 8.34        | 842B-2.9K-M1<br>(F00215)   | 842BF-2.9K-M8<br>(F00248)  | 5<br>3               | 500<br>300                   | II<br>III | F842B-2.9K-B9-M1<br>(F00744)  | F842BF-2.9K-B9-M8<br>(F00803)  |
|                          |        | 1560                         | 15.90       | 862B-2.9K-M1<br>(F00317)   | 862BF-2.9K-M8<br>(F00351)  | 10<br>7.5            | 972<br>730                   | II<br>III | F862B-2.9K-B11-M1<br>(F00886) | F862BF-2.9K-B11-M8<br>(F00948) |
|                          |        | 2135                         | 21.20       | 872B-2.9K-M1<br>(F00421)   | 872BF-2.9K-M8<br>(F00454)  | 10                   | 998                          | III       | F872B-2.9K-B11-M1<br>(F01057) | F872BF-2.9K-B11-M8<br>(F01103) |
| 530                      | 3.3    | 370                          | 3.24        | 832B-3.3K-M1<br>(F00118)   | 832BF-3.3K-M8<br>(F00151)  | 3                    | 338                          | I         | F832B-3.3K-B9-M1<br>(F00615)  | F832BF-3.3K-B9-M8<br>(F00673)  |
|                          |        |                              |             |                            |                            | 2<br>1.5             | 226<br>169                   | II<br>III | F832B-3.3K-B7-M1<br>(F00613)  | F832BF-3.3K-B7-M8<br>(F00672)  |
|                          |        | 775                          | 7.03        | 842B-3.3K-M1<br>(F00220)   | 842BF-3.3K-M8<br>(F00253)  | 5<br>3               | 510<br>306                   | I<br>III  | F842B-3.3K-B9-M1<br>(F00757)  | F842BF-3.3K-B9-M8<br>(F00812)  |
|                          |        | 1550                         | 13.40       | 862B-3.3K-M1<br>(F00323)   | 862BF-3.3K-M8<br>(F00356)  | 10<br>7.5            | 1145<br>858                  | I<br>II   | F862B-3.3K-B11-M1<br>(F00898) | F862BF-3.3K-B11-M8<br>(F00957) |
|                          |        |                              |             |                            |                            | 5                    | 572                          | III       | F862B-3.3K-B9-M1<br>(F00899)  | F862BF-3.3K-B9-M8<br>(F00958)  |
|                          |        | 2398                         | 21.20       | 872B-3.3K-M1<br>(F00426)   | 872BF-3.3K-M8<br>(F00459)  | 10                   | 1120                         | III       | F872B-3.3K-B11-M1<br>(F01064) | F872BF-3.3K-B11-M8<br>(F01110) |
| 500                      | 3.5    | 376                          | 3.11        | 832B-3.5K-M1<br>(F00119)   | 832BF-3.5K-M8<br>(F00152)  | 3                    | 358                          | I         | F832B-3.5K-B9-M1<br>(F00617)  | F832BF-3.5K-B9-M8<br>(F00675)  |
|                          |        |                              |             |                            |                            | 2<br>1.5             | 241<br>180                   | II<br>III | F832B-3.5K-B7-M1<br>(F00616)  | F832BF-3.5K-B7-M8<br>(F00674)  |
|                          |        | 858                          | 6.46        | 842B-3.5K-M1<br>(F00221)   | 842BF-3.5K-M8<br>(F00254)  | 5<br>3               | 600<br>358                   | I<br>III  | F842B-3.5K-B9-M1<br>(F00758)  | F842BF-3.5K-B9-M8<br>(F00813)  |
|                          |        | 1665                         | 12.70       | 862B-3.5K-M1<br>(F00324)   | 862BF-3.5K-M8<br>(F00357)  | 10<br>7.5            | 1298<br>974                  | I<br>II   | F862B-3.5K-B11-M1<br>(F00900) | F862BF-3.5K-B11-M8<br>(F00959) |
|                          |        |                              |             |                            |                            | 5                    | 680                          | III       | F862B-3.5K-B9-M1<br>(F00901)  | F862BF-3.5K-B9-M8<br>(F00960)  |
|                          |        | 2704                         | 21.00       | 872B-3.5K-M1<br>(F00427)   | 872BF-3.5K-M8<br>(F00460)  | 10                   | 1275                         | III       | F872B-3.5K-B11-M1<br>(F01065) | F872BF-3.5K-B11-M8<br>(F01111) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 157.



# 800 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors) |                              |        |                               |                                |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|----------------------|------------------------------|--------|-------------------------------|--------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings              |                              |        | Non-Flange O/P                | Output Flange                  |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | S.C.** | Catalog No.<br>(Item Code)    | Catalog No.<br>(Item Code)     |
| 448                      | 3.9    | 552                          | 3.97        | 832B-3.9K-M1<br>(F00120)   | 832BF-3.9K-M8<br>(F00153)  | 3                    | 412                          | I      | F832B-3.9K-B9-M1<br>(F00619)  | F832BF-3.9K-B9-M8<br>(F00677)  |
|                          |        |                              |             |                            |                            | 2                    | 275                          | III    | F832B-3.9K-B7-M1<br>(F00618)  | F832BF-3.9K-B7-M8<br>(F00676)  |
|                          |        | 959                          | 6.96        | 842B-3.9K-M1<br>(F00222)   | 842BF-3.9K-M8<br>(F00255)  | 5                    | 700                          | I      | F842B-3.9K-B9-M1<br>(F00759)  | F842BF-3.9K-B9-M8<br>(F00814)  |
|                          |        |                              |             |                            |                            | 3                    | 420                          | III    |                               |                                |
|                          |        | 1835                         | 13.30       | 862B-3.9K-M1<br>(F00325)   | 862BF-3.9K-M8<br>(F00358)  | 10                   | 1366                         | I      | F862B-3.9K-B11-M1<br>(F00902) | F862BF-3.9K-B11-M8<br>(F00961) |
|                          |        |                              |             |                            |                            | 7.5                  | 1024                         | II     |                               |                                |
| 400                      | 4.4    | 572                          | 3.54        | 832B-4.4K-M1<br>(F00123)   | 832BF-4.4K-M8<br>(F00156)  | 3                    | 480                          | I      | F832B-4.4K-B9-M1<br>(F00625)  | F832BF-4.4K-B9-M8<br>(F00681)  |
|                          |        |                              |             |                            |                            | 2                    | 320                          | II     | F832B-4.4K-B7-M1<br>(F00624)  | F832BF-4.4K-B7-M8<br>(F00680)  |
|                          |        | 1000                         | 6.59        | 842B-4.4K-M1<br>(F00225)   | 842BF-4.4K-M8<br>(F00258)  | 5                    | 773                          | I      | F842B-4.4K-B9-M1<br>(F00764)  | F842BF-4.4K-B9-M8<br>(F00817)  |
|                          |        |                              |             |                            |                            | 3                    | 464                          | III    |                               |                                |
|                          |        | 1933                         | 12.50       | 862B-4.4K-M1<br>(F00328)   | 862BF-4.4K-M8<br>(F00361)  | 10                   | 1531                         | I      | F862B-4.4K-B11-M1<br>(F00909) | F862BF-4.4K-B11-M8<br>(F00967) |
|                          |        |                              |             |                            |                            | 7.5                  | 1148                         | II     |                               |                                |
| 340                      | 5.1    | 592                          | 3.31        | 832B-5.1K-M1<br>(F00126)   | 832BF-5.1K-M8<br>(F00159)  | 3                    | 531                          | I      | F832B-5.1K-B9-M1<br>(F00634)  | F832BF-5.1K-B9-M8<br>(F00686)  |
|                          |        |                              |             |                            |                            | 2                    | 354                          | II     | F832B-5.1K-B7-M1<br>(F00631)  | F832BF-5.1K-B7-M8<br>(F00684)  |
|                          |        | 1065                         | 5.96        | 842B-5.1K-M1<br>(F00228)   | 842BF-5.1K-M8<br>(F00261)  | 5                    | 840                          | I      | F842B-5.1K-B9-M1<br>(F00769)  | F842BF-5.1K-B9-M8<br>(F00820)  |
|                          |        |                              |             |                            |                            | 3                    | 504                          | III    |                               |                                |
|                          |        | 2042                         | 11.60       | 862B-5.1K-M1<br>(F00331)   | 862BF-5.1K-M8<br>(F00365)  | 10                   | 1742                         | I      | F862B-5.1K-B11-M1<br>(F00915) | F862BF-5.1K-B11-M8<br>(F00973) |
|                          |        |                              |             |                            |                            | 7.5                  | 1306                         | II     |                               |                                |
|                          |        | 3698                         | 21.20       | 872B-5.1K-M1<br>(F00434)   | 872BF-5.1K-M8<br>(F00467)  | 5                    | 870                          | III    | F862B-5.1K-B9-M1<br>(F00916)  | F862BF-5.1K-B9-M8<br>(F00974)  |
|                          |        |                              |             |                            |                            | 10                   | 1726                         | III    | F872B-5.1K-B11-M1<br>(F01076) | F872BF-5.1K-B11-M8<br>(F01122) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 157.

G

# 800 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors) |                              |         |                               |                                |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|----------------------|------------------------------|---------|-------------------------------|--------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings              |                              |         | Non-Flange O/P                | Output Flange                  |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | S.C.**  | Catalog No.<br>(Item Code)    | Catalog No.<br>(Item Code)     |
| 307                      | 5.7    | 563                          | 2.91        | 832B-5.7K-M1<br>(F00127)   | 832BF-5.7K-M8<br>(F00160)  | 2<br>1.5             | 383<br>287                   | I<br>II | F832B-5.7K-B7-M1<br>(F00636)  | F832BF-5.7K-B7-M8<br>(F00688)  |
|                          |        |                              |             |                            |                            | 1                    | 191                          | III     | F832B-5.7K-B5-M1<br>(F00635)  | F832BF-5.7K-B5-M8<br>(F00687)  |
|                          |        | 1110                         | 5.64        | 842B-5.7K-M1<br>(F00229)   | 842BF-5.7K-M8<br>(F00262)  | 5<br>3               | 925<br>555                   | I<br>II | F842B-5.7K-B9-M1<br>(F00771)  | F842BF-5.7K-B9-M8<br>(F00822)  |
|                          |        |                              |             |                            |                            | 2                    | 370                          | III     | F842B-5.7K-B7-M1<br>(F00770)  | F842BF-5.7K-B7-M8<br>(F00821)  |
|                          |        | 2140                         | 10.80       | 862B-5.7K-M1<br>(F00332)   | 862BF-5.7K-M8<br>(F00366)  | 10<br>7.5            | 1891<br>1464                 | I<br>II | F862B-5.7K-B11-M1<br>(F00918) | F862BF-5.7K-B11-M8<br>(F00975) |
|                          |        |                              |             |                            |                            | 5                    | 976                          | III     | F862B-5.7K-B9-M1<br>(F00919)  | F862BF-5.7K-B9-M8<br>(F00976)  |
|                          |        | 4160                         | 21.20       | 872B-5.7K-M1<br>(F00435)   | 872BF-5.7K-M8<br>(F00468)  | 10                   | 1942                         | III     | F872B-5.7K-B11-M1<br>(F01077) | F872BF-5.7K-B11-M8<br>(F01123) |
| 273                      | 6.4    | 588                          | 2.52        | 832B-6.4K-M1<br>(F00130)   | 832BF-6.4K-M8<br>(F00163)  | 2<br>1.5             | 462<br>346                   | I<br>II | F832B-6.4K-B7-M1<br>(F00642)  | F832BF-6.4K-B7-M8<br>(F00692)  |
|                          |        |                              |             |                            |                            | 1                    | 230                          | III     | F832B-6.4K-B5-M1<br>(F00641)  | F832BF-6.4K-B5-M8<br>(F00691)  |
|                          |        | 1095                         | 5.34        | 842B-6.4K-M1<br>(F00232)   | 842BF-6.4K-M8<br>(F00265)  | 5<br>3               | 1014<br>608                  | I<br>II | F842B-6.4K-B9-M1<br>(F00777)  | F842BF-6.4K-B9-M8<br>(F00826)  |
|                          |        |                              |             |                            |                            | 2                    | 406                          | III     | F842B-6.4K-B7-M1<br>(F00776)  | F842BF-6.4K-B7-M8<br>(F00825)  |
|                          |        | 2248                         | 10.20       | 862B-6.4K-M1<br>(F00335)   | 862BF-6.4K-M8<br>(F00369)  | 10<br>7.5            | 2182<br>1636                 | I<br>II | F862B-6.4K-B11-M1<br>(F00924) | F862BF-6.4K-B11-M8<br>(F00980) |
|                          |        |                              |             |                            |                            | 5                    | 1091                         | III     | F862B-6.4K-B9-M1<br>(F00925)  | F862BF-6.4K-B9-M8<br>(F00981)  |
|                          |        | 4623                         | 20.90       | 872B-6.4K-M1<br>(F00438)   | 872BF-6.4K-M8<br>(F00471)  | 10                   | 2189                         | III     | F872B-6.4K-B11-M1<br>(F01082) | F872BF-6.4K-B11-M8<br>(F01128) |
| 246                      | 7.2    | 576                          | 2.34        | 832B-7.2K-M1<br>(F00132)   | 832BF-7.2K-M8<br>(F00165)  | 2<br>1.5             | 488<br>366                   | I<br>II | F832B-7.2K-B7-M1<br>(F00646)  | F832BF-7.2K-B7-M8<br>(F00695)  |
|                          |        |                              |             |                            |                            | 1                    | 244                          | III     | F832B-7.2K-B5-M1<br>(F00644)  | F832BF-7.2K-B5-M8<br>(F00694)  |
|                          |        | 1171                         | 4.88        | 842B-7.2K-M1<br>(F00234)   | 842BF-7.2K-M8<br>(F00267)  | 5<br>3               | 1171<br>713                  | I<br>II | F842B-7.2K-B9-M1<br>(F00781)  | F842BF-7.2K-B9-M8<br>(F00829)  |
|                          |        |                              |             |                            |                            | 2                    | 475                          | III     | F842B-7.2K-B7-M1<br>(F00780)  | F842BF-7.2K-B7-M8<br>(F00828)  |
|                          |        | 2380                         | 9.49        | 862B-7.2K-M1<br>(F00337)   | 862BF-7.2K-M8<br>(F00371)  | 7.5                  | 1855                         | I       | F862B-7.2K-B11-M1<br>(F00928) | F862BF-7.2K-B11-M8<br>(F00984) |
|                          |        |                              |             |                            |                            | 5                    | 1237                         | III     | F862B-7.2K-B9-M1<br>(F00929)  | F862BF-7.2K-B9-M8<br>(F00985)  |
|                          |        | 4859                         | 19.30       | 872B-7.2K-M1<br>(F00440)   | 872BF-7.2K-M8<br>(F00473)  | 10                   | 2492                         | III     | F872B-7.2K-B11-M1<br>(F01085) | F872BF-7.2K-B11-M8<br>(F01131) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 157.

# 800 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors) |                              |           |                              |                               |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|----------------------|------------------------------|-----------|------------------------------|-------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings              |                              |           | Non-Flange O/P               | Output Flange                 |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | S.C.**    | Catalog No.<br>(Item Code)   | Catalog No.<br>(Item Code)    |
| 218                      | 8      | 560                          | 2.01        | 832B-8K-M1<br>(F00134)     | 832BF-8K-M8<br>(F00167)    | 2<br>1.5             | 560<br>415                   | I<br>II   | F832B-8K-B7-M1<br>(F00649)   | F832BF-8K-B7-M8<br>(F00698)   |
|                          |        |                              |             |                            |                            | 1                    | 276                          | III       | F832B-8K-B5-M1<br>(F00648)   | F832BF-8K-B5-M8<br>(F00697)   |
|                          |        | 1206                         | 4.54        | 842B-8K-M1<br>(F00236)     | 842BF-8K-M8<br>(F00269)    | 3                    | 797                          | I         | F842B-8K-B9-M1<br>(F00784)   | F842BF-8K-B9-M8<br>(F00832)   |
|                          |        |                              |             |                            |                            | 2                    | 526                          | III       | F842B-8K-B7-M1<br>(F00783)   | F842BF-8K-B7-M8<br>(F00831)   |
|                          |        | 2480                         | 8.82        | 862B-8K-M1<br>(F00339)     | 862BF-8K-M8<br>(F00373)    | 7.5                  | 2087                         | I         | F862B-8K-B11-M1<br>(F00931)  | F862BF-8K-B11-M8<br>(F00987)  |
|                          |        |                              |             |                            |                            | 5<br>3               | 1391<br>835                  | II<br>III | F862B-8K-B9-M1<br>(F00932)   | F862BF-8K-B9-M8<br>(F00988)   |
|                          |        | 5074                         | 18.00       | 872B-8K-M1<br>(F00442)     | 872BF-8K-M8<br>(F00475)    | 10<br>7.5            | 2790<br>2092                 | II<br>III | F872B-8K-B11-M1<br>(F01088)  | F872BF-8K-B11-M8<br>(F01134)  |
|                          |        |                              |             |                            |                            |                      |                              |           |                              |                               |
|                          |        | 636                          | 1.86        | 832B-9K-M1<br>(F00135)     | 832BF-9K-M8<br>(F00168)    | 1.5                  | 508                          | I         | F832B-9K-B7-M1<br>(F00651)   | F832BF-9K-B7-M8<br>(F00700)   |
|                          |        |                              |             |                            |                            | 1<br>.75             | 338<br>253                   | II<br>III | F832B-9K-B5-M1<br>(F00650)   | F832BF-9K-B5-M8<br>(F00699)   |
| 194                      | 9      | 1275                         | 4.14        | 842B-9K-M1<br>(F00237)     | 842BF-9K-M8<br>(F00270)    | 3                    | 924                          | I         | F842B-9K-B9-M1<br>(F00786)   | F842BF-9K-B9-M8<br>(F00834)   |
|                          |        |                              |             |                            |                            | 2                    | 616                          | III       | F842B-9K-B7-M1<br>(F00785)   | F842BF-9K-B7-M8<br>(F00833)   |
|                          |        | 2608                         | 8.18        | 862B-9K-M1<br>(F00340)     | 862BF-9K-M8<br>(F00374)    | 7.5                  | 2366                         | I         | F862B-9K-B11-M1<br>(F00933)  | F862BF-9K-B11-M8<br>(F00989)  |
|                          |        |                              |             |                            |                            | 5<br>3               | 1577<br>946                  | II<br>III | F862B-9K-B9-M1<br>(F00934)   | F862BF-9K-B9-M8<br>(F00990)   |
|                          |        | 5358                         | 16.70       | 872B-9K-M1<br>(F00443)     | 872BF-9K-M8<br>(F00476)    | 10<br>7.5            | 3175<br>2381                 | II<br>III | F872B-9K-B11-M1<br>(F01089)  | F872BF-9K-B11-M8<br>(F01135)  |
|                          |        |                              |             |                            |                            |                      |                              |           |                              |                               |
|                          |        | 576                          | 1.63        | 832B-10K-M1<br>(F00105)    | 832BF-10K-M8<br>(F00138)   | 1.5                  | 524                          | I         | F832B-10K-B7-M1<br>(F00595)  | F832BF-10K-B7-M8<br>(F00657)  |
|                          |        |                              |             |                            |                            | 1<br>.75             | 349<br>262                   | II<br>III | F832B-10K-B5-M1<br>(F00594)  | F832BF-10K-B5-M8<br>(F00656)  |
|                          |        | 1295                         | 3.82        | 842B-10K-M1<br>(F00207)    | 842BF-10K-M8<br>(F00240)   | 3                    | 1006                         | I         | F842B-10K-B9-M1<br>(F00732)  | F842BF-10K-B9-M8<br>(F00791)  |
|                          |        |                              |             |                            |                            | 2<br>1.5             | 670<br>503                   | II<br>III | F842B-10K-B7-M1<br>(F00730)  | F842BF-10K-B7-M8<br>(F00790)  |
| 175                      | 10     | 2600                         | 7.56        | 862B-10K-M1<br>(F00309)    | 862BF-10K-M8<br>(F00343)   | 7.5                  | 2548                         | I         | F862B-10K-B11-M1<br>(F00873) | F862BF-10K-B11-M8<br>(F00937) |
|                          |        |                              |             |                            |                            | 5<br>3               | 1700<br>1019                 | II<br>III | F862B-10K-B9-M1<br>(F00874)  | F862BF-10K-B9-M8<br>(F00938)  |
|                          |        | 5360                         | 15.70       | 872B-10K-M1<br>(F00413)    | 872BF-10K-M8<br>(F00446)   | 10<br>7.5            | 3278<br>2458                 | II<br>III | F872B-10K-B11-M1<br>(F01046) | F872BF-10K-B11-M8<br>(F01092) |
|                          |        |                              |             |                            |                            |                      |                              |           |                              |                               |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 157.

# 800 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors) |                              |                |                                                             |                                                               |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|----------------------|------------------------------|----------------|-------------------------------------------------------------|---------------------------------------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings              |                              |                | Non-Flange O/P                                              | Output Flange                                                 |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | S.C.**         | Catalog No.<br>(Item Code)                                  | Catalog No.<br>(Item Code)                                    |
| 159                      | 11     | 576                          | 1.43        | 832B-11K-M1<br>(F00106)    | 832BF-11K-M8<br>(F00139)   | 1<br>.75<br>.50      | 400<br>300<br>200            | I<br>II<br>III | F832B-11K-B5-M1<br>(F00596)                                 | F832BF-11K-B5-M8<br>(F00658)                                  |
|                          |        | 1330                         | 3.45        | 842B-11K-M1<br>(F00208)    | 842BF-11K-M8<br>(F00241)   | 3<br>2<br>1.5        | 1144<br>827<br>572           | I<br>II<br>III | F842B-11K-B9-M1<br>(F00734)<br>F842B-11K-B7-M1<br>(F00733)  | F842BF-11K-B9-M8<br>(F00793)<br>F842BF-11K-B7-M8<br>(F00792)  |
|                          |        | 2680                         | 6.70        | 862B-11K-M1<br>(F00310)    | 862BF-11K-M8<br>(F00344)   | 5<br>3               | 1975<br>1186                 | I<br>III       | F862B-11K-B9-M1<br>(F00875)                                 | F862BF-11K-B9-M8<br>(F00939)                                  |
|                          |        | 5291                         | 13.70       | 872B-11K-M1<br>(F00414)    | 872BF-11K-M8<br>(F00447)   | 10<br>7.5            | 3822<br>2866                 | I<br>II        | F872B-11K-B11-M1<br>(F01047)                                | F872BF-11K-B11-M8<br>(F01093)                                 |
| 145                      | 12     | 550                          | 1.30        | 832B-12K-M1<br>(F00107)    | 832BF-12K-M8<br>(F00140)   | 1<br>.75<br>.50      | 418<br>314<br>210            | I<br>II<br>III | F832B-12K-B5-M1<br>(F00597)                                 | F832BF-12K-B5-M8<br>(F00659)                                  |
|                          |        | 1419                         | 3.23        | 842B-12K-M1<br>(F00209)    | 842BF-12K-M8<br>(F00242)   | 3<br>2<br>1.5        | 1304<br>870<br>652           | I<br>II<br>III | F842B-12K-B9-M1<br>(F00736)<br>F842B-12K-B7-M1<br>(F00735)  | F842BF-12K-B9-M8<br>(F00795)<br>F842BF-12K-B7-M8<br>(F00794)  |
|                          |        | 2840                         | 6.49        | 862B-12K-M1<br>(F00311)    | 862BF-12K-M8<br>(F00345)   | 5<br>3               | 2167<br>1300                 | I<br>III       | F862B-12K-B9-M1<br>(F00876)                                 | F862BF-12K-B9-M8<br>(F00940)                                  |
|                          |        | 5439                         | 12.50       | 872B-12K-M1<br>(F00415)    | 872BF-12K-M8<br>(F00448)   | 10<br>7.5            | 4177<br>3132                 | I<br>II        | F872B-12K-B11-M1<br>(F01048)                                | F872BF-12K-B11-M8<br>(F01094)                                 |
| 125                      | 14     | 550                          | 1.14        | 832B-14K-M1<br>(F00108)    | 832BF-14K-M8<br>(F00141)   | 1<br>.75<br>.50      | 478<br>358<br>239            | I<br>II<br>III | F832B-14K-B5-M1<br>(F00598)                                 | F832BF-14K-B5-M8<br>(F00660)                                  |
|                          |        | 1443                         | 2.89        | 842B-14K-M1<br>(F00210)    | 842BF-14K-M8<br>(F00243)   | 2<br>1.5             | 988<br>741                   | II<br>III      | F842B-14K-B7-M1<br>(F00737)                                 | F842BF-14K-B7-M8<br>(F00796)                                  |
|                          |        | 2910                         | 5.72        | 862B-14K-M1<br>(F00312)    | 862BF-14K-M8<br>(F00346)   | 5<br>3               | 2519<br>1512                 | I<br>III       | F862B-14K-B9-M1<br>(F00877)                                 | F862BF-14K-B9-M8<br>(F00941)                                  |
|                          |        | 5364                         | 10.90       | 872B-14K-M1<br>(F00416)    | 872BF-14K-M8<br>(F00449)   | 10<br>7.5<br>5       | 4870<br>3653<br>2435         | I<br>II<br>III | F872B-14K-B11-M1<br>(F01049)<br>F872B-14K-B9-M1<br>(F01050) | F872BF-14K-B11-M8<br>(F01095)<br>F872BF-14K-B9-M8<br>(F01096) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 157.

# 800 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors) |                              |                |                              |                               |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|----------------------|------------------------------|----------------|------------------------------|-------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings              |                              |                | Non-Flange O/P               | Output Flange                 |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | S.C.**         | Catalog No.<br>(Item Code)   | Catalog No.<br>(Item Code)    |
| 109                      | 16     | 576                          | 1.06        | 832B-16K-M1<br>(F00109)    | 832BF-16K-M8<br>(F00142)   | 1<br>.75<br>.50      | 539<br>404<br>270            | I<br>II<br>III | F832B-16K-B5-M1<br>(F00599)  | F832BF-16K-B5-M8<br>(F00661)  |
|                          |        | 1380                         | 2.49        | 842B-16K-M1<br>(F00211)    | 842BF-16K-M8<br>(F00244)   | 2<br>1.5             | 1097<br>823                  | II<br>II       | F842B-16K-B7-M1<br>(F00739)  | F842BF-16K-B7-M8<br>(F00798)  |
|                          |        |                              |             |                            |                            | 1                    | 548                          | III            | F842B-16K-B5-M1<br>(F00738)  | F842BF-16K-B5-M8<br>(F00797)  |
|                          |        | 2900                         | 5.12        | 862B-16K-M1<br>(F00313)    | 862BF-16K-M8<br>(F00347)   | 5<br>3               | 2792<br>1675                 | I<br>II        | F862B-16K-B9-M1<br>(F00881)  | F862BF-16K-B9-M8<br>(F00943)  |
|                          |        |                              |             |                            |                            | 2                    | 1117                         | III            | F862B-16K-B7-M1<br>(F00880)  | F862BF-16K-B7-M8<br>(F00942)  |
|                          |        | 5245                         | 9.60        | 872B-16K-M1<br>(F00417)    | 872BF-16K-M8<br>(F00450)   | 7.5                  | 4055                         | I              | F872B-16K-B11-M1<br>(F01051) | F872BF-16K-B11-M8<br>(F01097) |
|                          |        |                              |             |                            |                            | 5<br>3               | 2703<br>1639                 | II<br>III      | F872B-16K-B9-M1<br>(F01052)  | F872BF-16K-B9-M8<br>(F01098)  |
|                          |        |                              |             |                            |                            |                      |                              |                |                              |                               |
| 97                       | 18     | 590                          | 0.91        | 832B-18K-M1<br>(F00110)    | 832BF-18K-M8<br>(F00143)   | .75<br>.50<br>.33    | 483<br>322<br>210            | I<br>II<br>III | F832B-18K-B5-M1<br>(F00600)  | F832BF-18K-B5-M8<br>(F00662)  |
|                          |        | 1420                         | 2.35        | 842B-18K-M1<br>(F00212)    | 842BF-18K-M8<br>(F00245)   | 2<br>1.5             | 1192<br>894                  | I<br>II        | F842B-18K-B7-M1<br>(F00741)  | F842BF-18K-B7-M8<br>(F00800)  |
|                          |        |                              |             |                            |                            | 1                    | 596                          | III            | F842B-18K-B5-M1<br>(F00740)  | F842BF-18K-B5-M8<br>(F00799)  |
|                          |        | 2940                         | 4.88        | 862B-18K-M1<br>(F00314)    | 862BF-18K-M8<br>(F00348)   | 3                    | 1788                         | II             | F862B-18K-B9-M1<br>(F00883)  | F862BF-18K-B9-M8<br>(F00945)  |
|                          |        |                              |             |                            |                            | 2                    | 1192                         | III            | F862B-18K-B7-M1<br>(F00882)  | F862BF-18K-B7-M8<br>(F00944)  |
|                          |        | 5320                         | 8.50        | 872B-18K-M1<br>(F00418)    | 872BF-18K-M8<br>(F00451)   | 7.5                  | 4645                         | I              | F872B-18K-B11-M1<br>(F01053) | F872BF-18K-B11-M8<br>(F01099) |
|                          |        |                              |             |                            |                            | 5<br>3               | 3096<br>1858                 | II<br>III      | F872B-18K-B9-M1<br>(F01054)  | F872BF-18K-B9-M8<br>(F01100)  |
|                          |        |                              |             |                            |                            |                      |                              |                |                              |                               |
| 87<br>(CONT.)            | 20     | 590                          | 0.85        | 832B-20K-M1<br>(F00114)    | 832BF-20K-M8<br>(F00147)   | .75<br>.50<br>.33    | 526<br>350<br>232            | I<br>II<br>III | F832B-20K-B5-M1<br>(F00608)  | F832BF-20K-B5-M8<br>(F00668)  |
|                          |        | 1442                         | 2.01        | 842B-20K-M1<br>(F00216)    | 842BF-20K-M8<br>(F00249)   | 2<br>1.5             | 1420<br>1065                 | I<br>II        | F842B-20K-B7-M1<br>(F00748)  | F842BF-20K-B7-M8<br>(F00805)  |
|                          |        |                              |             |                            |                            | .75                  | 533                          | III            | F842B-20K-B5-M1<br>(F00745)  | F842BF-20K-B5-M8<br>(F00804)  |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.  
\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)  
Actual Output RPM = Input Speed ÷ Actual Ratio.  
For Overhung Load Ratings refer to Page 157.

G

# 800 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors) |                              |                |                              |                               |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|----------------------|------------------------------|----------------|------------------------------|-------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings              |                              |                | Non-Flange O/P               | Output Flange                 |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | S.C.**         | Catalog No.<br>(Item Code)   | Catalog No.<br>(Item Code)    |
| 87<br>(CONT.)            | 20     | 3014                         | 4.19        | 862B-20K-M1<br>(F00318)    | 862BF-20K-M8<br>(F00352)   | 3                    | 2137                         | I              | F862B-20K-B9-M1<br>(F00888)  | F862BF-20K-B9-M8<br>(F00950)  |
|                          |        |                              |             |                            |                            | 2                    | 1425                         | III            | F862B-20K-B7-M1<br>(F00887)  | F862BF-20K-B7-M8<br>(F00949)  |
|                          |        | 5319                         | 7.64        | 872B-20K-M1<br>(F00422)    | 872BF-20K-M8<br>(F00455)   | 7.5                  | 5319                         | I              | F872B-20K-B11-M1<br>(F01058) | F872BF-20K-B11-M8<br>(F01104) |
|                          |        |                              |             |                            |                            | 5<br>3               | 3444<br>2066                 | II<br>III      | F872B-20K-B9-M1<br>(F01059)  | F872BF-20K-B9-M8<br>(F01105)  |
| 79                       | 22     | 574                          | 0.72        | 832B-22K-M1<br>(F00115)    | 832BF-22K-M8<br>(F00148)   | .75<br>.50<br>.33    | 574<br>395<br>260            | I<br>II<br>III | F832B-22K-B5-M1<br>(F00610)  | F832BF-22K-B5-M8<br>(F00669)  |
|                          |        | 1443                         | 1.85        | 842B-22K-M1<br>(F00217)    | 842BF-22K-M8<br>(F00250)   | 1.5                  | 1158                         | I              | F842B-22K-B7-M1<br>(F00751)  | F842BF-22K-B7-M8<br>(F00807)  |
|                          |        |                              |             |                            |                            | 1<br>.75             | 772<br>579                   | II<br>III      | F842B-22K-B5-M1<br>(F00750)  | F842BF-22K-B5-M8<br>(F00806)  |
|                          |        | 3030                         | 3.95        | 862B-22K-M1<br>(F00319)    | 862BF-22K-M8<br>(F00353)   | 3                    | 2281                         | I              | F862B-22K-B9-M1<br>(F00891)  | F862BF-22K-B9-M8<br>(F00952)  |
|                          |        |                              |             |                            |                            | 2                    | 1520                         | III            | F862B-22K-B7-M1<br>(F00889)  | F862BF-22K-B7-M8<br>(F00951)  |
|                          |        | 5398                         | 6.77        | 872B-22K-M1<br>(F00423)    | 872BF-22K-M8<br>(F00456)   | 5<br>3               | 3946<br>2367                 | I<br>III       | F872B-22K-B9-M1<br>(F01060)  | F872BF-22K-B9-M8<br>(F01106)  |
| 70                       | 25     | 580                          | 0.65        | 832B-25K-M1<br>(F00116)    | 832BF-25K-M8<br>(F00149)   | .50<br>.33           | 442<br>294                   | I<br>III       | F832B-25K-B5-M1<br>(F00611)  | F832BF-25K-B5-M8<br>(F00670)  |
|                          |        | 1312                         | 1.64        | 842B-25K-M1<br>(F00218)    | 842BF-25K-M8<br>(F00251)   | 1.5                  | 1187                         | I              | F842B-25K-B7-M1<br>(F00753)  | F842BF-25K-B7-M8<br>(F00809)  |
|                          |        |                              |             |                            |                            | 1<br>.75             | 791<br>593                   | II<br>III      | F842B-25K-B5-M1<br>(F00752)  | F842BF-25K-B5-M8<br>(F00808)  |
|                          |        | 3070                         | 3.49        | 862B-25K-M1<br>(F00320)    | 862BF-25K-M8<br>(F00354)   | 3                    | 2618                         | I              | F862B-25K-B9-M1<br>(F00893)  | F862BF-25K-B9-M8<br>(F00954)  |
|                          |        |                              |             |                            |                            | 2<br>1.5             | 1745<br>1309                 | II<br>III      | F862B-25K-B7-M1<br>(F00892)  | F862BF-25K-B7-M8<br>(F00953)  |
|                          |        | 5279                         | 6.17        | 872B-25K-M1<br>(F00424)    | 872BF-25K-M8<br>(F00457)   | 5<br>3               | 4236<br>2540                 | I<br>III       | F872B-25K-B9-M1<br>(F01061)  | F872BF-25K-B9-M8<br>(F01107)  |
| 62<br>(CONT.)            | 28     | 580                          | 0.59        | 832B-28K-M1<br>(F00117)    | 832BF-28K-M8<br>(F00150)   | .50<br>.33<br>.25    | 491<br>327<br>245            | I<br>II<br>III | F832B-28K-B5-M1<br>(F00612)  | F832BF-28K-B5-M8<br>(F00671)  |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 157.

# 800 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors)     |                              |                     |                             |                              |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|--------------------------|------------------------------|---------------------|-----------------------------|------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings                  |                              |                     | Non-Flange O/P              | Output Flange                |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP              | Output<br>Torque<br>(LB-IN.) | S.C.**              | Catalog No.<br>(Item Code)  | Catalog No.<br>(Item Code)   |
| 62<br>(CONT.)            | 28     | 1467                         | 1.46        | 842B-28K-M1<br>(F00219)    | 842BF-28K-M8<br>(F00252)   | 1.5                      | 1467                         | I                   | F842B-28K-B7-M1<br>(F00755) | F842BF-28K-B7-M8<br>(F00811) |
|                          |        |                              |             |                            |                            | 1<br>.75                 | 994<br>746                   | II<br>III           | F842B-28K-B5-M1<br>(F00754) | F842BF-28K-B5-M8<br>(F00810) |
|                          |        | 3070                         | 3.19        | 862B-28K-M1<br>(F00321)    | 862BF-28K-M8<br>(F00355)   | 3                        | 2867                         | I                   | F862B-28K-B9-M1<br>(F00896) | F862BF-28K-B9-M8<br>(F00956) |
|                          |        |                              |             |                            |                            | 2<br>1.5                 | 1910<br>1433                 | II<br>III           | F862B-28K-B7-M1<br>(F00895) | F862BF-28K-B7-M8<br>(F00955) |
|                          |        | 5287                         | 5.64        | 872B-28K-M1<br>(F00425)    | 872BF-28K-M8<br>(F00458)   | 5<br>3                   | 4639<br>2783                 | I<br>II             | F872B-28K-B9-M1<br>(F01063) | F872BF-28K-B9-M8<br>(F01109) |
|                          |        |                              |             |                            |                            | 2                        | 1855                         | III                 | F872B-28K-B7-M1<br>(F01062) | F872BF-28K-B7-M8<br>(F01108) |
| 54                       | 32     | 555                          | 0.52        | 832B-32K-M1<br>(F00121)    | 832BF-32K-M8<br>(F00154)   | .50<br>.33<br>.25        | 528<br>370<br>264            | I<br>II<br>III      | F832B-32K-B5-M1<br>(F00620) | F832BF-32K-B5-M8<br>(F00678) |
|                          |        |                              |             |                            |                            | 1<br>.75<br>.50          | 1026<br>770<br>513           | I<br>II<br>III      | F842B-32K-B5-M1<br>(F00760) | F842BF-32K-B5-M8<br>(F00815) |
|                          |        | 3120                         | 2.79        | 862B-32K-M1<br>(F00326)    | 862BF-32K-M8<br>(F00359)   | 2<br>1.5                 | 2225<br>1669                 | II<br>II            | F862B-32K-B7-M1<br>(F00905) | F862BF-32K-B7-M8<br>(F00964) |
|                          |        |                              |             |                            |                            | 1                        | 1159                         | III                 | F862B-32K-B5-M1<br>(F00904) | F862BF-32K-B5-M8<br>(F00963) |
|                          |        | 5342                         | 4.90        | 872B-32K-M1<br>(F00429)    | 872BF-32K-M8<br>(F00462)   | 5<br>3                   | 5342<br>3236                 | I<br>II             | F872B-32K-B9-M1<br>(F01068) | F872BF-32K-B9-M8<br>(F01114) |
|                          |        |                              |             |                            |                            | 2                        | 2158                         | III                 | F872B-32K-B7-M1<br>(F01067) | F872BF-32K-B7-M8<br>(F01113) |
| 48<br>(CONT.)            | 36     | 557                          | 0.47        | 832B-36K-M1<br>(F00122)    | 832BF-36K-M8<br>(F00155)   | .50<br>.33<br>.25<br>.16 | 557<br>391<br>294<br>196     | I<br>I<br>II<br>III | F832B-36K-B5-M1<br>(F00622) | F832BF-36K-B5-M8<br>(F00679) |
|                          |        |                              |             |                            |                            | .50<br>.33<br>.25<br>.16 | 562<br>400<br>299<br>200     | I<br>I<br>II<br>III | F833B-36K-B5-M1<br>(F00705) | F833BF-36K-B5-M8<br>(F00718) |
|                          |        | 1457                         | 1.15        | 842B-36K-M1<br>(F00224)    | 842BF-36K-M8<br>(F00257)   | 1<br>.75<br>.50          | 1254<br>940<br>627           | I<br>II<br>III      | F842B-36K-B5-M1<br>(F00763) | F842BF-36K-B5-M8<br>(F00816) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 157.

□ Indicates Triple Reduction

G



# 800 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors) |                              |                |                             |                              |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|----------------------|------------------------------|----------------|-----------------------------|------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings              |                              |                | Non-Flange O/P              | Output Flange                |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | S.C.**         | Catalog No.<br>(Item Code)  | Catalog No.<br>(Item Code)   |
| 48<br>(CONT.)            | 36     | 1390                         | 1.17        | 843B-36K-M1<br>(F00280)    | 843BF-36K-M8<br>(F00298)   | 1<br>.75<br>.50      | 1190<br>893<br>595           | I<br>II<br>III | F843B-36K-B5-M1<br>(F00844) | F843BF-36K-B5-M8<br>(F00862) |
|                          |        | 3120                         | 2.55        | 862B-36K-M1<br>(F00327)    | 862BF-36K-M8<br>(F00360)   | 2<br>1.5             | 2436<br>1827                 | I<br>II        | F862B-36K-B7-M1<br>(F00908) | F862BF-36K-B7-M8<br>(F00966) |
|                          |        |                              |             |                            |                            | 1                    | 1218                         | III            | F862B-36K-B5-M1<br>(F00907) | F862BF-36K-B5-M8<br>(F00965) |
|                          |        | 2978                         | 2.51        | 863B-36K-M1<br>(F00384)    | 863BF-36K-M8<br>(F00402)   | 2<br>1.5             | 2372<br>1779                 | I<br>II        | F863B-36K-B7-M1<br>(F01001) | F863BF-36K-B7-M8<br>(F01025) |
|                          |        |                              |             |                            |                            | 1                    | 1186                         | III            | F863B-36K-B5-M1<br>(F01000) | F863BF-36K-B5-M8<br>(F01024) |
|                          |        | 5296                         | 4.48        | 872B-36K-M1<br>(F00430)    | 872BF-36K-M8<br>(F00463)   | 5<br>3               | 5296<br>3546                 | I<br>II        | F872B-36K-B9-M1<br>(F01070) | F872BF-36K-B9-M8<br>(F01116) |
|                          |        |                              |             |                            |                            | 2                    | 2364                         | III            | F872B-36K-B7-M1<br>(F01069) | F872BF-36K-B7-M8<br>(F01115) |
|                          |        | 5225                         | 4.42        | 873B-36K-M1<br>(F00486)    | 873BF-36K-M8<br>(F00504)   | 5<br>3               | 5225<br>3546                 | I<br>II        | F873B-36K-B9-M1<br>(F01148) | F873BF-36K-B9-M8<br>(F01176) |
|                          |        |                              |             |                            |                            | 2                    | 2364                         | III            | F873B-36K-B7-M1<br>(F01147) | F873BF-36K-B7-M8<br>(F01175) |
| 43<br>(CONT.)            | 40     | 466                          | 0.36        | 832B-40K-M1<br>(F00124)    | 832BF-40K-M8<br>(F00157)   | .33<br>.25<br>.16    | 431<br>323<br>216            | I<br>I<br>III  | F832B-40K-B5-M1<br>(F00626) | F832BF-40K-B5-M8<br>(F00682) |
|                          |        | 560                          | 0.41        | 833B-40K-M1<br>(F00179)    | 833BF-40K-M8<br>(F00197)   | .33<br>.25<br>.16    | 456<br>342<br>228            | I<br>II<br>III | F833B-40K-B5-M1<br>(F00706) | F833BF-40K-B5-M8<br>(F00719) |
|                          |        | 1375                         | 1.00        | 842B-40K-M1<br>(F00226)    | 842BF-40K-M8<br>(F00259)   | 1<br>.75<br>.50      | 1254<br>940<br>627           | I<br>II<br>III | F842B-40K-B5-M1<br>(F00765) | F842BF-40K-B5-M8<br>(F00818) |
|                          |        | 1390                         | 1.02        | 843B-40K-M1<br>(F00281)    | 843BF-40K-M8<br>(F00299)   | 1<br>.75<br>.50      | 1360<br>1020<br>680          | I<br>I<br>III  | F843B-40K-B5-M1<br>(F00845) | F843BF-40K-B5-M8<br>(F00863) |
|                          |        | 2992                         | 2.18        | 862B-40K-M1<br>(F00329)    | 862BF-40K-M8<br>(F00362)   | 2<br>1.5             | 2678<br>2008                 | I<br>II        | F862B-40K-B7-M1<br>(F00912) | F862BF-40K-B7-M8<br>(F00970) |
|                          |        |                              |             |                            |                            | 1                    | 1339                         | III            | F862B-40K-B5-M1<br>(F00911) | F862BF-40K-B5-M8<br>(F00969) |
|                          |        | 2978                         | 2.21        | 863B-40K-M1<br>(F00385)    | 863BF-40K-M8<br>(F00403)   | 2<br>1.5             | 2695<br>2022                 | I<br>II        | F863B-40K-B7-M1<br>(F01003) | F863BF-40K-B7-M8<br>(F01027) |
|                          |        |                              |             |                            |                            | 1                    | 1348                         | III            | F863B-40K-B5-M1<br>(F01002) | F863BF-40K-B5-M8<br>(F01026) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.  
\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)  
Actual Output RPM = Input Speed ÷ Actual Ratio.  
For Overhung Load Ratings refer to Page 157.  
□ Indicates Triple Reduction

# 800 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors) |                              |                |                             |                              |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|----------------------|------------------------------|----------------|-----------------------------|------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings              |                              |                | Non-Flange O/P              | Output Flange                |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | S.C.**         | Catalog No.<br>(Item Code)  | Catalog No.<br>(Item Code)   |
| 43<br>(CONT.)            | 40     | 5050                         | 3.83        | 872B-40K-M1<br>(F00432)    | 872BF-40K-M8<br>(F00465)   | 3                    | 3955                         | I              | F872B-40K-B9-M1<br>(F01073) | F872BF-40K-B9-M8<br>(F01119) |
|                          |        |                              |             |                            |                            | 2                    | 2636                         | III            | F872B-40K-B7-M1<br>(F01072) | F872BF-40K-B7-M8<br>(F01118) |
|                          |        | 5225                         | 3.80        | 873B-40K-M1<br>(F00487)    | 873BF-40K-M8<br>(F00505)   | 3                    | 4125                         | I              | F873B-40K-B9-M1<br>(F01150) | F873BF-40K-B9-M8<br>(F01178) |
|                          |        |                              |             |                            |                            | 2                    | 2750                         | II             | F873B-40K-B7-M1<br>(F01149) | F873BF-40K-B7-M8<br>(F01177) |
| 38                       | 45     | 480                          | 0.33        | 832B-45K-M1<br>(F00125)    | 832BF-45K-M8<br>(F00158)   | .33<br>.25<br>.16    | 480<br>359<br>239            | I<br>I<br>III  | F832B-45K-B5-M1<br>(F00628) | F832BF-45K-B5-M8<br>(F00683) |
|                          |        | 544                          | 0.38        | 833B-45K-M1<br>(F00180)    | 833BF-45K-M8<br>(F00198)   | .33<br>.25<br>.16    | 478<br>358<br>239            | I<br>I<br>III  | F833B-45K-B5-M1<br>(F00707) | F833BF-45K-B5-M8<br>(F00720) |
|                          |        | 1410                         | 0.90        | 842B-45K-M1<br>(F00227)    | 842BF-45K-M8<br>(F00260)   | .75<br>.50<br>.33    | 1180<br>788<br>525           | I<br>II<br>III | F842B-45K-B5-M1<br>(F00767) | F842BF-45K-B5-M8<br>(F00819) |
|                          |        | 1420                         | 0.92        | 843B-45K-M1<br>(F00282)    | 843BF-45K-M8<br>(F00300)   | .75<br>.50<br>.33    | 1158<br>772<br>515           | I<br>II<br>III | F843B-45K-B5-M1<br>(F00846) | F843BF-45K-B5-M8<br>(F00864) |
|                          |        | 2950                         | 2.01        | 862B-45K-M1<br>(F00330)    | 862BF-45K-M8<br>(F00364)   | 2<br>1.5             | 2932<br>2199                 | I<br>I         | F862B-45K-B7-M1<br>(F00914) | F862BF-45K-B7-M8<br>(F00972) |
|                          |        |                              |             |                            |                            | 1                    | 1466                         | III            | F862B-45K-B5-M1<br>(F00913) | F862BF-45K-B5-M8<br>(F00971) |
|                          |        | 3040                         | 2.01        | 863B-45K-M1<br>(F00386)    | 863BF-45K-M8<br>(F00404)   | 2<br>1.5             | 3025<br>2269                 | I<br>I         | F863B-45K-B7-M1<br>(F01005) | F863BF-45K-B7-M8<br>(F01029) |
|                          |        |                              |             |                            |                            | 1                    | 1512                         | III            | F863B-45K-B5-M1<br>(F01004) | F863BF-45K-B5-M8<br>(F01028) |
|                          |        | 5167                         | 3.54        | 872B-45K-M1<br>(F00433)    | 872BF-45K-M8<br>(F00466)   | 3                    | 4334                         | I              | F872B-45K-B9-M1<br>(F01075) | F872BF-45K-B9-M8<br>(F01121) |
|                          |        |                              |             |                            |                            | 2<br>1.5             | 3010<br>2167                 | II<br>III      | F872B-45K-B7-M1<br>(F01074) | F872BF-45K-B7-M8<br>(F01120) |
|                          |        | 5300                         | 3.52        | 873B-45K-M1<br>(F00488)    | 873BF-45K-M8<br>(F00506)   | 3                    | 4526                         | I              | F873B-45K-B9-M1<br>(F01152) | F873BF-45K-B9-M8<br>(F01180) |
|                          |        |                              |             |                            |                            | 2<br>1.5             | 3013<br>2404                 | II<br>III      | F873B-45K-B7-M1<br>(F01151) | F873BF-45K-B7-M8<br>(F01179) |
| 35<br>(CONT.)            | 50     | 555                          | 0.34        | 832B-50K-M1<br>(F00128)    | 832BF-50K-M8<br>(F00161)   | .33<br>.25<br>.16    | 540<br>405<br>270            | I<br>I<br>III  | F832B-50K-B5-M1<br>(F00637) | F832BF-50K-B5-M8<br>(F00689) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 157.

□ Indicates Triple Reduction

G

# 800 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors) |                              |                |                             |                              |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|----------------------|------------------------------|----------------|-----------------------------|------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings              |                              |                | Non-Flange O/P              | Output Flange                |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | S.C.**         | Catalog No.<br>(Item Code)  | Catalog No.<br>(Item Code)   |
| 35<br>(CONT.)            | 50     | 540                          | 0.33        | 833B-50K-M1<br>(F00181)    | 833BF-50K-M8<br>(F00199)   | .33<br>.25<br>.16    | 540<br>409<br>273            | I<br>I<br>III  | F833B-50K-B5-M1<br>(F00708) | F833BF-50K-B5-M8<br>(F00721) |
|                          |        | 1500                         | 0.87        | 842B-50K-M1<br>(F00230)    | 842BF-50K-M8<br>(F00263)   | .75<br>.50<br>.33    | 1280<br>854<br>592           | I<br>II<br>III | F842B-50K-B5-M1<br>(F00772) | F842BF-50K-B5-M8<br>(F00823) |
|                          |        | 1429                         | 0.81        | 843B-50K-M1<br>(F00283)    | 843BF-50K-M8<br>(F00301)   | .75<br>.50<br>.33    | 1323<br>882<br>588           | I<br>II<br>III | F843B-50K-B5-M1<br>(F00847) | F843BF-50K-B5-M8<br>(F00865) |
|                          |        | 3150                         | 1.86        | 862B-50K-M1<br>(F00333)    | 862BF-50K-M8<br>(F00367)   | 1.5                  | 2514                         | I              | F862B-50K-B7-M1<br>(F00921) | F862BF-50K-B7-M8<br>(F00978) |
|                          |        |                              |             |                            |                            | 1<br>.75             | 1676<br>1257                 | II<br>III      | F862B-50K-B5-M1<br>(F00920) | F862BF-50K-B5-M8<br>(F00977) |
|                          |        | 3040                         | 1.77        | 863B-50K-M1<br>(F00387)    | 863BF-50K-M8<br>(F00405)   | 1.5                  | 2578                         | I              | F863B-50K-B7-M1<br>(F01007) | F863BF-50K-B7-M8<br>(F01031) |
|                          |        |                              |             |                            |                            | 1<br>.75             | 1718<br>1289                 | II<br>III      | F863B-50K-B5-M1<br>(F01006) | F863BF-50K-B5-M8<br>(F01030) |
|                          |        | 5216                         | 3.16        | 872B-50K-M1<br>(F00436)    | 872BF-50K-M8<br>(F00469)   | 3                    | 4900                         | I              | F872B-50K-B9-M1<br>(F01079) | F872BF-50K-B9-M8<br>(F01125) |
|                          |        |                              |             |                            |                            | 2<br>1.5             | 3268<br>2552                 | II<br>III      | F872B-50K-B7-M1<br>(F01078) | F872BF-50K-B7-M8<br>(F01124) |
|                          |        | 5290                         | 3.02        | 873B-50K-M1<br>(F00489)    | 873BF-50K-M8<br>(F00507)   | 3                    | 5256                         | I              | F873B-50K-B9-M1<br>(F01154) | F873BF-50K-B9-M8<br>(F01182) |
|                          |        |                              |             |                            |                            | 2<br>1.5             | 3504<br>2628                 | II<br>II       | F873B-50K-B7-M1<br>(F01153) | F873BF-50K-B7-M8<br>(F01181) |
| 31<br>(CONT.)            | 56     | 540                          | 0.29        | 832B-56K-M1<br>(F00129)    | 832BF-56K-M8<br>(F00162)   | .25<br>.16           | 460<br>308                   | I<br>II        | F832B-56K-B5-M1<br>(F00639) | F832BF-56K-B5-M8<br>(F00690) |
|                          |        | 554                          | 0.30        | 833B-56K-M1<br>(F00182)    | 833BF-56K-M8<br>(F00200)   | .25<br>.16           | 462<br>308                   | I<br>II        | F833B-56K-B5-M1<br>(F00709) | F833BF-56K-B5-M8<br>(F00722) |
|                          |        | 1392                         | 0.71        | 842B-56K-M1<br>(F00231)    | 842BF-56K-M8<br>(F00264)   | .5<br>.33            | 970<br>647                   | I<br>III       | F842B-56K-B5-M1<br>(F00775) | F842BF-56K-B5-M8<br>(F00824) |
|                          |        | 1396                         | 0.76        | 843B-56K-M1<br>(F00284)    | 843BF-56K-M8<br>(F00302)   | .75<br>.50<br>.33    | 1378<br>918<br>612           | I<br>II<br>III | F843B-56K-B5-M1<br>(F00848) | F843BF-56K-B5-M8<br>(F00866) |
|                          |        | 2460                         | 1.28        | 862B-56K-M1<br>(F00334)    | 862BF-56K-M8<br>(F00368)   | 1<br>.75<br>.50      | 2018<br>1513<br>1000         | I<br>II<br>III | F862B-56K-B5-M1<br>(F00923) | F862BF-56K-B5-M8<br>(F00979) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 157.

□ Indicates Triple Reduction

# 800 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors) |                              |                |                             |                              |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|----------------------|------------------------------|----------------|-----------------------------|------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings              |                              |                | Non-Flange O/P              | Output Flange                |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | S.C.**         | Catalog No.<br>(Item Code)  | Catalog No.<br>(Item Code)   |
| 31<br>(CONT.)            | 56     | 2887                         | 1.54        | 863B-56K-M1<br>(F00388)    | 863BF-56K-M8<br>(F00406)   | 1.5                  | 2887                         | I              | F863B-56K-B7-M1<br>(F01009) | F863BF-56K-B7-M8<br>(F01033) |
|                          |        |                              |             |                            |                            | 1<br>.75             | 1939<br>1459                 | II<br>III      | F863B-56K-B5-M1<br>(F01008) | F863BF-56K-B5-M8<br>(F01032) |
|                          |        | 4629                         | 2.50        | 872B-56K-M1<br>(F00437)    | 872BF-56K-M8<br>(F00470)   | 2<br>1.5             | 3665<br>2749                 | I<br>II        | F872B-56K-B7-M1<br>(F01081) | F872BF-56K-B7-M8<br>(F01127) |
|                          |        |                              |             |                            |                            | 1                    | 1832                         | III            | F872B-56K-B5-M1<br>(F01080) | F872BF-56K-B5-M8<br>(F01126) |
|                          |        | 5227                         | 2.69        | 873B-56K-M1<br>(F00490)    | 873BF-56K-M8<br>(F00508)   | 2<br>1.5             | 3886<br>2915                 | I<br>II        | F873B-56K-B7-M1<br>(F01156) | F873BF-56K-B7-M8<br>(F01184) |
|                          |        |                              |             |                            |                            | 1                    | 1941                         | III            | F873B-56K-B5-M1<br>(F01155) | F873BF-56K-B5-M8<br>(F01183) |
| 27                       | 63     | 500                          | 0.25        | 832B-63K-M1<br>(F00131)    | 832BF-63K-M8<br>(F00164)   | .25<br>.16           | 500<br>330                   | I<br>II        | F832B-63K-B5-M1<br>(F00643) | F832BF-63K-B5-M8<br>(F00693) |
|                          |        | 522                          | 0.25        | 833B-63K-M1<br>(F00183)    | 833BF-63K-M8<br>(F00201)   | .25<br>.16           | 502<br>335                   | I<br>II        | F833B-63K-B5-M1<br>(F00710) | F833BF-63K-B5-M8<br>(F00723) |
|                          |        | 1475                         | 0.70        | 842B-63K-M1<br>(F00233)    | 842BF-63K-M8<br>(F00266)   | .50<br>.33           | 1000<br>666                  | I<br>III       | F842B-63K-B5-M1<br>(F00778) | F842BF-63K-B5-M8<br>(F00827) |
|                          |        | 1300                         | 0.65        | 843B-63K-M1<br>(F00285)    | 843BF-63K-M8<br>(F00303)   | .50<br>.33           | 1044<br>696                  | I<br>III       | F843B-63K-B5-M1<br>(F00849) | F843BF-63K-B5-M8<br>(F00867) |
|                          |        | 3098                         | 1.52        | 862B-63K-M1<br>(F00336)    | 862BF-63K-M8<br>(F00370)   | 1.5                  | 3027                         | I              | F862B-63K-B7-M1<br>(F00927) | F862BF-63K-B7-M8<br>(F00983) |
|                          |        |                              |             |                            |                            | 1<br>.75             | 2018<br>1576                 | II<br>III      | F862B-63K-B5-M1<br>(F00926) | F862BF-63K-B5-M8<br>(F00982) |
|                          |        | 2973                         | 1.41        | 863B-63K-M1<br>(F00389)    | 863BF-63K-M8<br>(F00407)   | 1.5                  | 2973                         | I              | F863B-63K-B7-M1<br>(F01011) | F863BF-63K-B7-M8<br>(F01035) |
|                          |        |                              |             |                            |                            | 1<br>.75<br>.50      | 2109<br>1582<br>1054         | I<br>II<br>III | F863B-63K-B5-M1<br>(F01010) | F863BF-63K-B5-M8<br>(F01034) |
|                          |        |                              |             |                            |                            | 2<br>1.5             | 3993<br>2995                 | I<br>II        | F872B-63K-B7-M1<br>(F01084) | F872BF-63K-B7-M8<br>(F01130) |
|                          |        | 5300                         | 2.64        | 872B-63K-M1<br>(F00439)    | 872BF-63K-M8<br>(F00472)   | 1                    | 2080                         | III            | F872B-63K-B5-M1<br>(F01083) | F872BF-63K-B5-M8<br>(F01129) |
|                          |        |                              |             |                            |                            | 2<br>1.5             | 4149<br>3112                 | I<br>II        | F873B-63K-B7-M1<br>(F01158) | F873BF-63K-B7-M8<br>(F01186) |
|                          |        | 5226                         | 2.52        | 873B-63K-M1<br>(F00491)    | 873BF-63K-M8<br>(F00509)   | 1                    | 2075                         | III            | F873B-63K-B5-M1<br>(F01157) | F873BF-63K-B5-M8<br>(F01185) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 157.

□ Indicates Triple Reduction

G

# 800 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors) |                              |                |                             |                              |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|----------------------|------------------------------|----------------|-----------------------------|------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings              |                              |                | Non-Flange O/P              | Output Flange                |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | S.C.**         | Catalog No.<br>(Item Code)  | Catalog No.<br>(Item Code)   |
| 24                       | 71     | 500                          | 0.22        | 832B-71K-M1<br>(F00133)    | 832BF-71K-M8<br>(F00166)   | .25<br>.16           | 500<br>375                   | I<br>I         | F832B-71K-B5-M1<br>(F00647) | F832BF-71K-B5-M8<br>(F00696) |
|                          |        | 577                          | 0.24        | 833B-71K-M1<br>(F00184)    | 833BF-71K-M8<br>(F00202)   | .25<br>.16           | 577<br>400                   | I<br>I         | F833B-71K-B5-M1<br>(F00711) | F833BF-71K-B5-M8<br>(F00724) |
|                          |        | 1485                         | 0.62        | 842B-71K-M1<br>(F00235)    | 842BF-71K-M8<br>(F00268)   | .50<br>.33<br>.25    | 1186<br>709<br>592           | I<br>II<br>III | F842B-71K-B5-M1<br>(F00782) | F842BF-71K-B5-M8<br>(F00830) |
|                          |        | 1427                         | 0.60        | 843B-71K-M1<br>(F00286)    | 843BF-71K-M8<br>(F00304)   | .50<br>.33<br>.25    | 1189<br>793<br>594           | I<br>II<br>III | F843B-71K-B5-M1<br>(F00850) | F843BF-71K-B5-M8<br>(F00868) |
|                          |        | 2966                         | 1.28        | 862B-71K-M1<br>(F00338)    | 862BF-71K-M8<br>(F00372)   | 1<br>.75<br>.50      | 2303<br>1720<br>1457         | I<br>II<br>III | F862B-71K-B5-M1<br>(F00930) | F862BF-71K-B5-M8<br>(F00986) |
|                          |        | 3040                         | 1.23        | 863B-71K-M1<br>(F00390)    | 863BF-71K-M8<br>(F00408)   | 1<br>.75<br>.50      | 2473<br>1855<br>1236         | I<br>II<br>III | F863B-71K-B5-M1<br>(F01012) | F863BF-71K-B5-M8<br>(F01036) |
|                          |        | 5385                         | 2.38        | 872B-71K-M1<br>(F00441)    | 872BF-71K-M8<br>(F00474)   | 2<br>1.5             | 4479<br>3359                 | I<br>II        | F872B-71K-B7-M1<br>(F01087) | F872BF-71K-B7-M8<br>(F01133) |
|                          |        |                              |             |                            |                            | 1                    | 2239                         | III            | F872B-71K-B5-M1<br>(F01086) | F872BF-71K-B5-M8<br>(F01132) |
|                          |        | 5298                         | 2.14        | 873B-71K-M1<br>(F00492)    | 873BF-71K-M8<br>(F00510)   | 2<br>1.5             | 4952<br>3714                 | I<br>II        | F873B-71K-B7-M1<br>(F01160) | F873BF-71K-B7-M8<br>(F01188) |
|                          |        |                              |             |                            |                            | 1                    | 2476                         | III            | F873B-71K-B5-M1<br>(F01159) | F873BF-71K-B5-M8<br>(F01187) |
| 21                       | 80     | 565                          | 0.21        | 833B-80K-M1<br>(F00185)    | 833BF-80K-M8<br>(F00203)   | .25<br>.16           | 565<br>448                   | I<br>I         | F833B-80K-B5-M1<br>(F00712) | F833BF-80K-B5-M8<br>(F00725) |
|                          |        | 1320                         | 0.51        | 843B-80K-M1<br>(F00287)    | 843BF-80K-M8<br>(F00305)   | .50<br>.33<br>.25    | 1294<br>862<br>647           | I<br>II<br>III | F843B-80K-B5-M1<br>(F00851) | F843BF-80K-B5-M8<br>(F00869) |
|                          |        | 3038                         | 1.13        | 863B-80K-M1<br>(F00391)    | 863BF-80K-M8<br>(F00409)   | 1<br>.75<br>.50      | 2689<br>2016<br>1344         | I<br>II<br>III | F863B-80K-B5-M1<br>(F01013) | F863BF-80K-B5-M8<br>(F01037) |
|                          |        | 5315                         | 2.01        | 873B-80K-M1<br>(F00493)    | 873BF-80K-M8<br>(F00511)   | 2<br>1.5             | 5288<br>3966                 | I<br>I         | F873B-80K-B7-M1<br>(F01162) | F873BF-80K-B7-M8<br>(F01190) |
|                          |        |                              |             |                            |                            | 1                    | 2644                         | III            | F873B-80K-B5-M1<br>(F01161) | F873BF-80K-B5-M8<br>(F01189) |
|                          |        |                              |             |                            |                            |                      |                              |                |                             |                              |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 157.

□ Indicates Triple Reduction

# 800 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors)     |                              |                     |                                                              |                                                                |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|--------------------------|------------------------------|---------------------|--------------------------------------------------------------|----------------------------------------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings                  |                              |                     | Non-Flange O/P                                               | Output Flange                                                  |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP              | Output<br>Torque<br>(LB-IN.) | S.C.**              | Catalog No.<br>(Item Code)                                   | Catalog No.<br>(Item Code)                                     |
| 19                       | 90     | 575                          | 0.19        | 833B-90K-M1<br>(F00186)    | 833BF-90K-M8<br>(F00204)   | .16                      | 504                          | I                   | F833B-90K-B5-M1<br>(F00713)                                  | F833BF-90K-B5-M8<br>(F00726)                                   |
|                          |        | 1395                         | 0.47        | 843B-90K-M1<br>(F00288)    | 843BF-90K-M8<br>(F00306)   | .50<br>.33<br>.25<br>.16 | 1398<br>989<br>741<br>494    | I<br>I<br>II<br>III | F843B-90K-B5-M1<br>(F00852)                                  | F843BF-90K-B5-M8<br>(F00870)                                   |
|                          |        | 2745                         | 0.98        | 863B-90K-M1<br>(F00392)    | 863BF-90K-M8<br>(F00410)   | .75<br>.50               | 2100<br>1400                 | I<br>III            | F863B-90K-B5-M1<br>(F01014)                                  | F863BF-90K-B5-M8<br>(F01038)                                   |
|                          |        | 5252                         | 1.73        | 873B-90K-M1<br>(F00494)    | 873BF-90K-M8<br>(F00512)   | 1.5<br>1<br>.75          | 4554<br>3035<br>2277         | I<br>II<br>III      | F873B-90K-B7-M1<br>(F01164)<br>F873B-90K-B5-M1<br>(F01163)   | F873BF-90K-B7-M8<br>(F01192)<br>F873BF-90K-B5-M8<br>(F01191)   |
| 17                       | 100    | 570                          | 0.17        | 833B-100K-M1<br>(F00169)   | 833BF-100K-M8<br>(F00187)  | .16                      | 560                          | I                   | F833B-100K-B5-M1<br>(F00701)                                 | F833BF-100K-B5-M8<br>(F00714)                                  |
|                          |        | 1400                         | 0.42        | 843B-100K-M1<br>(F00271)   | 843BF-100K-M8<br>(F00289)  | .33<br>.25<br>.16        | 1115<br>836<br>557           | I<br>II<br>III      | F843B-100K-B5-M1<br>(F00835)                                 | F843BF-100K-B5-M8<br>(F00853)                                  |
|                          |        | 3095                         | 0.88        | 863B-100K-M1<br>(F00375)   | 863BF-100K-M8<br>(F00393)  | .75<br>.50<br>.33        | 2638<br>1759<br>1172         | I<br>II<br>III      | F863B-100K-B5-M1<br>(F00991)                                 | F863BF-100K-B5-M8<br>(F01015)                                  |
|                          |        | 5252                         | 1.58        | 873B-100K-M1<br>(F00477)   | 873BF-100K-M8<br>(F00495)  | 1.5<br>1<br>.75          | 4986<br>3324<br>2498         | I<br>II<br>III      | F873B-100K-B7-M1<br>(F01137)<br>F873B-100K-B5-M1<br>(F01136) | F873BF-100K-B7-M8<br>(F01166)<br>F873BF-100K-B5-M8<br>(F01165) |
| 15                       | 112    | 543                          | 0.15        | 833B-112K-M1<br>(F00170)   | 833BF-112K-M8<br>(F00188)  | .16                      | 543                          | I                   | F833B-112K-B5-M1<br>(F00702)                                 | F833BF-112K-B5-M8<br>(F00715)                                  |
|                          |        | 1340                         | 0.37        | 843B-112K-M1<br>(F00272)   | 843BF-112K-M8<br>(F00290)  | .33<br>.25<br>.16        | 1282<br>962<br>641           | I<br>II<br>III      | F843B-112K-B5-M1<br>(F00836)                                 | F843BF-112K-B5-M8<br>(F00854)                                  |
|                          |        | 2820                         | 0.79        | 863B-112K-M1<br>(F00376)   | 863BF-112K-M8<br>(F00394)  | .75<br>.50<br>.33        | 2678<br>1786<br>1190         | I<br>II<br>III      | F863B-112K-B5-M1<br>(F00992)                                 | F863BF-112K-B5-M8<br>(F01016)                                  |
|                          |        | 5300                         | 1.37        | 873B-112K-M1<br>(F00478)   | 873BF-112K-M8<br>(F00496)  | 1<br>.75<br>.50          | 3868<br>2900<br>1934         | I<br>II<br>III      | F873B-112K-B5-M1<br>(F01139)                                 | F873BF-112K-B5-M8<br>(F01167)                                  |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 157.

□ Indicates Triple Reduction

G

# 800 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors) |                              |                |                              |                               |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|----------------------|------------------------------|----------------|------------------------------|-------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings              |                              |                | Non-Flange O/P               | Output Flange                 |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | S.C.**         | Catalog No.<br>(Item Code)   | Catalog No.<br>(Item Code)    |
| 14                       | 125    | 523                          | 0.13        | 833B-125K-M1<br>(F00171)   | 833BF-125K-M8<br>(F00189)  | .16                  | 523                          | I              | F833B-125K-B5-M1<br>(F00703) | F833BF-125K-B5-M8<br>(F00716) |
|                          |        | 1430                         | 0.33        | 843B-125K-M1<br>(F00273)   | 843BF-125K-M8<br>(F00291)  | .33<br>.25<br>.16    | 1430<br>1083<br>722          | I<br>I<br>III  | F843B-125K-B5-M1<br>(F00837) | F843BF-125K-B5-M8<br>(F00855) |
|                          |        | 3000                         | 0.70        | 863B-125K-M1<br>(F00377)   | 863BF-125K-M8<br>(F00395)  | .50<br>.33           | 2150<br>1433                 | I<br>III       | F863B-125K-B5-M1<br>(F00993) | F863BF-125K-B5-M8<br>(F01017) |
|                          |        | 5337                         | 1.26        | 873B-125K-M1<br>(F00479)   | 873BF-125K-M8<br>(F00497)  | 1<br>.75<br>.50      | 4236<br>3177<br>2118         | I<br>II<br>III | F873B-125K-B5-M1<br>(F01140) | F873BF-125K-B5-M8<br>(F01168) |
| 12                       | 140    | 487                          | 0.11        | 833B-140K-M1<br>(F00172)   | 833BF-140K-M8<br>(F00190)  | .16                  | 487                          | I              | F833B-140K-B5-M1<br>(F00704) | F833BF-140K-B5-M8<br>(F00717) |
|                          |        | 1360                         | 0.29        | 843B-140K-M1<br>(F00274)   | 843BF-140K-M8<br>(F00292)  | .25<br>.16           | 1175<br>783                  | I<br>II        | F843B-140K-B5-M1<br>(F00838) | F843BF-140K-B5-M8<br>(F00856) |
|                          |        | 2916                         | 0.65        | 863B-140K-M1<br>(F00378)   | 863BF-140K-M8<br>(F00396)  | .50<br>.33           | 2443<br>1495                 | I<br>III       | F863B-140K-B5-M1<br>(F00994) | F863BF-140K-B5-M8<br>(F01018) |
|                          |        | 5247                         | 1.11        | 873B-140K-M1<br>(F00480)   | 873BF-140K-M8<br>(F00498)  | 1<br>.75<br>.50      | 4727<br>3545<br>2363         | I<br>II<br>III | F873B-140K-B5-M1<br>(F01141) | F873BF-140K-B5-M8<br>(F01169) |
| 10                       | 160    | 490                          | 0.10        | 833B-160K-M1<br>(F00173)   | 833BF-160K-M8<br>(F00191)  | —                    | —                            | —              | —                            | —                             |
|                          |        | 1410                         | 0.27        | 843B-160K-M1<br>(F00275)   | 843BF-160K-M8<br>(F00293)  | .25<br>.16           | 1325<br>883                  | I<br>II        | F843B-160K-B5-M1<br>(F00839) | F843BF-160K-B5-M8<br>(F00857) |
|                          |        | 3130                         | 0.58        | 863B-160K-M1<br>(F00379)   | 863BF-160K-M8<br>(F00397)  | .50<br>.33<br>.25    | 2700<br>1800<br>1350         | I<br>II<br>III | F863B-160K-B5-M1<br>(F00995) | F863BF-160K-B5-M8<br>(F01019) |
|                          |        | 5280                         | 1.02        | 873B-160K-M1<br>(F00481)   | 873BF-160K-M8<br>(F00499)  | 1<br>.75<br>.50      | 5176<br>3882<br>2588         | I<br>I<br>III  | F873B-160K-B5-M1<br>(F01142) | F873BF-160K-B5-M8<br>(F01170) |
| 9.7<br>(CONT.)           | 180    | 555                          | 0.10        | 833B-180K-M1<br>(F00174)   | 833BF-180K-M8<br>(F00192)  | —                    | —                            | —              | —                            | —                             |
|                          |        | 1436                         | 0.24        | 843B-180K-M1<br>(F00276)   | 843BF-180K-M8<br>(F00294)  | .25<br>.16           | 1436<br>997                  | I<br>I         | F843B-180K-B5-M1<br>(F00840) | F843BF-180K-B5-M8<br>(F00858) |
|                          |        | 3146                         | 0.53        | 863B-180K-M1<br>(F00380)   | 863BF-180K-M8<br>(F00398)  | .50<br>.33           | 2975<br>1980                 | I<br>II        | F863B-180K-B5-M1<br>(F00996) | F863BF-180K-B5-M8<br>(F01020) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 157.

□ Indicates Triple Reduction



# 800 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 176-185.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            |                            | Flanged (Gearmotors) |                              |                |                              |                               |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------------|----------------------|------------------------------|----------------|------------------------------|-------------------------------|
|                          |        | Gear Capacity                |             | Non-Flange O/P             | Output Flange              | Ratings              |                              |                | Non-Flange O/P               | Output Flange                 |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP | Catalog No.<br>(Item Code) | Catalog No.<br>(Item Code) | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | S.C.**         | Catalog No.<br>(Item Code)   | Catalog No.<br>(Item Code)    |
| 9.7<br>(CONT.)           | 180    | 5362                         | 0.92        | 873B-180K-M1<br>(F00482)   | 873BF-180K-M8<br>(F00500)  | .75<br>.50<br>.33    | 4371<br>2914<br>1942         | I<br>II<br>III | F873B-180K-B5-M1<br>(F01143) | F873BF-180K-B5-M8<br>(F01171) |
| 8.8                      | 200    | 568                          | 0.09        | 833B-200K-M1<br>(F00175)   | 833BF-200K-M8<br>(F00193)  | —                    | —                            | —              | —                            | —                             |
|                          |        | 1428                         | 0.21        | 843B-200K-M1<br>(F00277)   | 843BF-200K-M8<br>(F00295)  | .25<br>.16           | 1428<br>1133                 | I<br>I         | F843B-200K-B5-M1<br>(F00841) | F843BF-200K-B5-M8<br>(F00859) |
|                          |        | 3173                         | 0.47        | 863B-200K-M1<br>(F00381)   | 863BF-200K-M8<br>(F00399)  | .33<br>.25<br>.16    | 2250<br>1688<br>1125         | I<br>II<br>III | F863B-200K-B5-M1<br>(F00997) | F863BF-200K-B5-M8<br>(F01021) |
|                          |        | 5432                         | 0.82        | 873B-200K-M1<br>(F00483)   | 873BF-200K-M8<br>(F00501)  | .75<br>.50<br>.33    | 4968<br>3216<br>2208         | I<br>II<br>III | F873B-200K-B5-M1<br>(F01144) | F873BF-200K-B5-M8<br>(F01172) |
| 7.8                      | 225    | 544                          | 0.08        | 833B-225K-M1<br>(F00176)   | 833BF-225K-M8<br>(F00194)  | —                    | —                            | —              | —                            | —                             |
|                          |        | 1410                         | 0.19        | 843B-225K-M1<br>(F00278)   | 843BF-225K-M8<br>(F00296)  | .16                  | 1219                         | I              | F843B-225K-B5-M1<br>(F00842) | F843BF-225K-B5-M8<br>(F00860) |
|                          |        | 3146                         | 0.44        | 863B-225K-M1<br>(F00382)   | 863BF-225K-M8<br>(F00400)  | .33<br>.25<br>.16    | 2383<br>1788<br>1192         | I<br>II<br>III | F863B-225K-B5-M1<br>(F00998) | F863BF-225K-B5-M8<br>(F01022) |
|                          |        | 5341                         | 0.75        | 873B-225K-M1<br>(F00484)   | 873BF-225K-M8<br>(F00502)  | .75<br>.50<br>.33    | 5341<br>3561<br>2375         | I<br>II<br>III | F873B-225K-B5-M1<br>(F01145) | F873BF-225K-B5-M8<br>(F01173) |
| 7.0                      | 250    | 540                          | 0.07        | 833B-250K-M1<br>(F00177)   | 833BF-250K-M8<br>(F00195)  | —                    | —                            | —              | —                            | —                             |
|                          |        | 1410                         | 0.17        | 843B-250K-M1<br>(F00279)   | 843BF-250K-M8<br>(F00297)  | .16                  | 1385                         | I              | F843B-250K-B5-M1<br>(F00843) | F843BF-250K-B5-M8<br>(F00861) |
|                          |        | 3110                         | 0.39        | 863B-250K-M1<br>(F00383)   | 863BF-250K-M8<br>(F00401)  | .33<br>.25<br>.16    | 2709<br>2032<br>1355         | I<br>II<br>III | F863B-250K-B5-M1<br>(F00999) | F863BF-250K-B5-M8<br>(F01023) |
|                          |        | 5423                         | 0.67        | 873B-250K-M1<br>(F00485)   | 873BF-250K-M8<br>(F00503)  | .50<br>.33           | 4047<br>2698                 | I<br>III       | F873B-250K-B5-M1<br>(F01146) | F873BF-250K-B5-M8<br>(F01174) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 176-185.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 157.

□ Indicates Triple Reduction

G

# 800 Series Ratio and Capacity Selection Tables

## Non-Flanged; Input Speeds 1750, 1450 and 1160 RPM

Service Factor 1.0\*

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 |                    |                              |                 |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|
|                | 1750 RPM           |                             |                 | 1450 RPM           |                             |                 | 1160 RPM           |                              |                 |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |
| 832B/BF1.5K    | 1170               | 288                         | 5.80            | 970                | 293                         | 4.82            | 773                | 293                          | 3.85            |
| 842B/BF1.5K    | 1170               | 479                         | 9.08            | 970                | 509                         | 8.00            | 773                | 549                          | 6.89            |
| 862B/BF1.5K    | 1170               | 830                         | 16.20           | 970                | 884                         | 14.30           | 773                | 950                          | 12.30           |
| 872B/BF1.5K    | 1170               | 1094                        | 21.20           | 970                | 1090                        | 17.50           | 773                | 1090                         | 14.00           |
| 832B/BF1.9K    | 922                | 325                         | 4.77            | 763                | 325                         | 3.95            | 610                | 325                          | 3.16            |
| 842B/BF1.9K    | 922                | 643                         | 8.69            | 763                | 685                         | 7.66            | 610                | 738                          | 6.60            |
| 862B/BF1.9K    | 922                | 1100                        | 15.40           | 763                | 1189                        | 13.60           | 610                | 1278                         | 11.70           |
| 872B/BF1.9K    | 922                | 1492                        | 21.20           | 763                | 1485                        | 17.50           | 610                | 1484                         | 14.00           |
| 832B/BF2.3K    | 760                | 333                         | 4.29            | 630                | 339                         | 3.56            | 504                | 339                          | 2.84            |
| 842B/BF2.3K    | 760                | 695                         | 8.52            | 630                | 739                         | 7.51            | 504                | 788                          | 6.40            |
| 862B/BF2.3K    | 760                | 1217                        | 15.00           | 630                | 1292                        | 13.20           | 504                | 1396                         | 11.40           |
| 872B/BF2.3K    | 760                | 1680                        | 21.20           | 630                | 1680                        | 17.50           | 504                | 1680                         | 14.00           |
| 832B/BF2.6K    | 673                | 350                         | 3.98            | 560                | 350                         | 3.30            | 446                | 350                          | 2.64            |
| 842B/BF2.6K    | 673                | 715                         | 7.95            | 560                | 762                         | 7.01            | 446                | 777                          | 5.72            |
| 862B/BF2.6K    | 673                | 1320                        | 14.50           | 560                | 1408                        | 12.80           | 446                | 1498                         | 10.90           |
| 872B/BF2.6K    | 673                | 1800                        | 21.20           | 560                | 1796                        | 17.50           | 446                | 1796                         | 14.00           |
| 832B/BF2.9K    | 605                | 533                         | 5.18            | 500                | 544                         | 4.38            | 400                | 559                          | 3.60            |
| 842B/BF2.9K    | 605                | 840                         | 8.34            | 500                | 872                         | 7.35            | 400                | 939                          | 6.33            |
| 862B/BF2.9K    | 605                | 1560                        | 15.90           | 500                | 1660                        | 14.00           | 400                | 1790                         | 12.10           |
| 872B/BF2.9K    | 605                | 2135                        | 21.20           | 500                | 2130                        | 17.50           | 400                | 2130                         | 14.00           |
| 832B/BF3.3K    | 530                | 370                         | 3.24            | 440                | 370                         | 2.69            | 350                | 370                          | 2.15            |
| 842B/BF3.3K    | 530                | 775                         | 7.03            | 440                | 775                         | 5.83            | 350                | 775                          | 4.66            |
| 862B/BF3.3K    | 530                | 1550                        | 13.40           | 440                | 1648                        | 11.80           | 350                | 1720                         | 9.85            |
| 872B/BF3.3K    | 530                | 2398                        | 21.20           | 440                | 2390                        | 17.50           | 350                | 2390                         | 14.00           |
| 832B/BF3.5K    | 500                | 376                         | 3.11            | 414                | 376                         | 2.57            | 331                | 376                          | 2.06            |
| 842B/BF3.5K    | 500                | 858                         | 6.46            | 414                | 832                         | 5.35            | 331                | 832                          | 4.28            |
| 862B/BF3.5K    | 500                | 1665                        | 12.70           | 414                | 1751                        | 11.10           | 331                | 1814                         | 9.16            |
| 872B/BF3.5K    | 500                | 2704                        | 21.00           | 414                | 2720                        | 17.50           | 331                | 2720                         | 14.00           |
| 832B/BF3.9K    | 448                | 552                         | 3.97            | 372                | 563                         | 3.36            | 297                | 576                          | 2.75            |
| 842B/BF3.9K    | 448                | 959                         | 6.96            | 372                | 1020                        | 6.13            | 297                | 1100                         | 5.28            |
| 862B/BF3.9K    | 448                | 1835                        | 13.30           | 372                | 1950                        | 11.70           | 297                | 2110                         | 10.10           |
| 872B/BF3.9K    | 448                | 2902                        | 21.20           | 372                | 2892                        | 17.50           | 297                | 2892                         | 14.00           |
| 832B/BF4.4K    | 400                | 572                         | 3.54            | 330                | 585                         | 3.00            | 264                | 588                          | 2.41            |
| 842B/BF4.4K    | 400                | 1000                        | 6.59            | 330                | 1066                        | 5.81            | 264                | 1146                         | 5.00            |
| 862B/BF4.4K    | 400                | 1933                        | 12.50           | 330                | 2050                        | 11.00           | 264                | 2215                         | 9.49            |
| 872B/BF4.4K    | 400                | 3265                        | 21.20           | 330                | 3254                        | 17.50           | 264                | 3254                         | 14.00           |
| 832B/BF5.1K    | 340                | 592                         | 3.31            | 285                | 592                         | 2.74            | 227                | 592                          | 2.19            |
| 842B/BF5.1K    | 340                | 1065                        | 5.96            | 285                | 1135                        | 5.26            | 227                | 1232                         | 4.53            |
| 862B/BF5.1K    | 340                | 2042                        | 11.60           | 285                | 2167                        | 10.20           | 227                | 2330                         | 8.78            |
| 872B/BF5.1K    | 340                | 3698                        | 21.20           | 285                | 3685                        | 17.50           | 227                | 3685                         | 14.00           |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 350-352.  
 Actual Output RPM = Input Speed ÷ Actual Ratio.  
 For Overhung Load Ratings refer to Page 153.

# 800 Series Ratio and Capacity Selection Tables

## Non-Flanged; Input Speeds 690 and 100 RPM

Service Factor 1.0\*

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 | Approx. Wt. (LB) | Actual Gear Ratio |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|------------------|-------------------|
|                | 690 RPM            |                             |                 | 100 RPM            |                             |                 |                  |                   |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) |                  |                   |
| 832B/BF1.5K    | 460                | 293                         | 2.29            | 67                 | 293                         | .33             | 21               | 1.440             |
| 842B/BF1.5K    | 460                | 580                         | 4.34            | 67                 | 580                         | .63             | 29               | 1.512             |
| 862B/BF1.5K    | 460                | 1054                        | 8.11            | 67                 | 1058                        | 1.18            | 51               | 1.475             |
| 872B/BF1.5K    | 460                | 1090                        | 8.30            | 67                 | 1090                        | 1.20            | 99               | 1.479             |
| 832B/BF1.9K    | 363                | 325                         | 1.87            | 53                 | 325                         | .27             | 21               | 1.945             |
| 842B/BF1.9K    | 363                | 767                         | 4.08            | 53                 | 767                         | .59             | 29               | 2.121             |
| 862B/BF1.9K    | 363                | 1384                        | 7.53            | 53                 | 1384                        | 1.09            | 51               | 2.074             |
| 872B/BF1.9K    | 363                | 1500                        | 8.32            | 53                 | 1500                        | 1.21            | 99               | 2.012             |
| 832B/BF2.3K    | 300                | 337                         | 1.68            | 43                 | 333                         | .24             | 21               | 2.263             |
| 842B/BF2.3K    | 300                | 787                         | 3.80            | 43                 | 787                         | .55             | 29               | 2.337             |
| 862B/BF2.3K    | 300                | 1494                        | 7.26            | 43                 | 1492                        | 1.05            | 51               | 2.324             |
| 872B/BF2.3K    | 300                | 1680                        | 8.30            | 43                 | 1680                        | 1.20            | 99               | 2.261             |
| 832B/BF2.6K    | 265                | 350                         | 1.56            | 38                 | 350                         | .23             | 21               | 2.506             |
| 842B/BF2.6K    | 265                | 775                         | 3.39            | 38                 | 775                         | .49             | 29               | 2.577             |
| 862B/BF2.6K    | 265                | 1495                        | 6.47            | 38                 | 1500                        | .94             | 51               | 2.609             |
| 872B/BF2.6K    | 265                | 1792                        | 8.31            | 38                 | 1785                        | 1.20            | 99               | 2.434             |
| 832B/BF2.9K    | 238                | 576                         | 2.18            | 34                 | 576                         | .32             | 21               | 2.945             |
| 842B/BF2.9K    | 238                | 1080                        | 4.33            | 34                 | 1080                        | .63             | 29               | 2.814             |
| 862B/BF2.9K    | 238                | 2018                        | 8.10            | 34                 | 2018                        | 1.17            | 51               | 2.813             |
| 872B/BF2.9K    | 238                | 2140                        | 8.30            | 34                 | 2140                        | 1.20            | 99               | 2.888             |
| 832B/BF3.3K    | 210                | 367                         | 1.27            | 30                 | 367                         | .18             | 21               | 3.268             |
| 842B/BF3.3K    | 210                | 772                         | 2.76            | 30                 | 772                         | .40             | 29               | 3.158             |
| 862B/BF3.3K    | 210                | 1788                        | 6.09            | 30                 | 1788                        | .88             | 51               | 3.313             |
| 872B/BF3.3K    | 210                | 2391                        | 8.33            | 30                 | 2391                        | 1.21            | 99               | 3.240             |
| 832B/BF3.5K    | 197                | 376                         | 1.22            | 28                 | 376                         | .18             | 21               | 3.455             |
| 842B/BF3.5K    | 197                | 830                         | 2.54            | 28                 | 830                         | .37             | 29               | 3.692             |
| 862B/BF3.5K    | 197                | 1911                        | 5.74            | 28                 | 1911                        | .83             | 51               | 3.758             |
| 872B/BF3.5K    | 197                | 2391                        | 7.32            | 28                 | 2390                        | 1.06            | 99               | 3.687             |
| 832B/BF3.9K    | 177                | 576                         | 1.62            | 26                 | 576                         | .23             | 21               | 3.978             |
| 842B/BF3.9K    | 177                | 1277                        | 3.65            | 26                 | 1277                        | .53             | 29               | 3.948             |
| 862B/BF3.9K    | 177                | 2540                        | 7.18            | 26                 | 2540                        | 1.04            | 51               | 3.952             |
| 872B/BF3.9K    | 177                | 2880                        | 8.29            | 26                 | 2880                        | 1.20            | 99               | 3.920             |
| 832B/BF4.4K    | 157                | 582                         | 1.42            | 23                 | 582                         | .21             | 21               | 4.630             |
| 842B/BF4.4K    | 157                | 1187                        | 3.08            | 23                 | 1187                        | .45             | 29               | 4.351             |
| 862B/BF4.4K    | 157                | 2374                        | 6.05            | 23                 | 2374                        | .88             | 51               | 4.429             |
| 872B/BF4.4K    | 157                | 3243                        | 8.30            | 23                 | 3243                        | 1.20            | 99               | 4.410             |
| 832B/BF5.1K    | 135                | 585                         | 1.29            | 20                 | 585                         | .19             | 21               | 5.126             |
| 842B/BF5.1K    | 135                | 1288                        | 2.84            | 20                 | 1288                        | .41             | 29               | 5.119             |
| 862B/BF5.1K    | 135                | 2570                        | 5.70            | 20                 | 2570                        | .83             | 51               | 5.040             |
| 872B/BF5.1K    | 135                | 3660                        | 8.27            | 20                 | 3660                        | 1.20            | 99               | 4.995             |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 350-352.  
 Actual Output RPM = Input Speed ÷ Actual Ratio.  
 For Overhung Load Ratings refer to Page 153.

# 800 Series Ratio and Capacity Selection Tables

## Non-Flanged; Input Speeds 1750, 1450 and 1160 RPM

Service Factor 1.0\*

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 |                    |                              |                 |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|
|                | 1750 RPM           |                             |                 | 1450 RPM           |                             |                 | 1160 RPM           |                              |                 |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |
| 832B/BF5.7K    | 307                | 563                         | 2.91            | 254                | 563                         | 2.41            | 203                | 563                          | 1.93            |
| 842B/BF5.7K    | 307                | 1110                        | 5.64            | 254                | 1182                        | 4.97            | 203                | 1272                         | 4.28            |
| 862B/BF5.7K    | 307                | 2140                        | 10.80           | 254                | 2280                        | 9.56            | 203                | 2450                         | 8.23            |
| 872B/BF5.7K    | 307                | 4160                        | 21.20           | 254                | 4146                        | 17.50           | 203                | 4146                         | 14.00           |
| 832B/BF6.4K    | 273                | 588                         | 2.52            | 226                | 588                         | 2.08            | 181                | 588                          | 1.67            |
| 842B/BF6.4K    | 273                | 1095                        | 5.34            | 226                | 1138                        | 4.60            | 181                | 1175                         | 3.80            |
| 862B/BF6.4K    | 273                | 2248                        | 10.20           | 226                | 2400                        | 9.01            | 181                | 2501                         | 7.52            |
| 872B/BF6.4K    | 273                | 4623                        | 20.90           | 226                | 4674                        | 17.50           | 181                | 4674                         | 14.00           |
| 832B/BF7.2K    | 243                | 576                         | 2.34            | 201                | 576                         | 1.93            | 161                | 576                          | 1.55            |
| 842B/BF7.2K    | 243                | 1171                        | 4.88            | 201                | 1206                        | 4.16            | 161                | 1246                         | 3.44            |
| 862B/BF7.2K    | 243                | 2380                        | 9.49            | 201                | 2500                        | 8.26            | 161                | 2590                         | 6.83            |
| 872B/BF7.2K    | 243                | 4859                        | 19.30           | 201                | 5168                        | 17.00           | 161                | 5282                         | 13.90           |
| 832B/BF8K      | 218                | 560                         | 2.01            | 181                | 560                         | 1.66            | 145                | 560                          | 1.33            |
| 842B/BF8K      | 218                | 1206                        | 4.54            | 181                | 1254                        | 3.91            | 145                | 1299                         | 3.24            |
| 862B/BF8K      | 218                | 2480                        | 8.82            | 181                | 2640                        | 7.77            | 145                | 2760                         | 6.49            |
| 872B/BF8K      | 218                | 5074                        | 18.00           | 181                | 5343                        | 15.70           | 145                | 5360                         | 12.60           |
| 832B/BF9K      | 194                | 636                         | 1.86            | 161                | 636                         | 1.54            | 128                | 636                          | 1.23            |
| 842B/BF9K      | 194                | 1275                        | 4.14            | 161                | 1326                        | 3.53            | 128                | 1414                         | 2.92            |
| 862B/BF9K      | 194                | 2608                        | 8.18            | 161                | 2737                        | 7.11            | 128                | 2830                         | 5.88            |
| 872B/BF9K      | 194                | 5358                        | 16.70           | 161                | 5384                        | 13.90           | 128                | 5375                         | 11.10           |
| 832B/BF10K     | 175                | 576                         | 1.63            | 145                | 576                         | 1.35            | 116                | 576                          | 1.08            |
| 842B/BF10K     | 175                | 1295                        | 3.82            | 145                | 1330                        | 3.26            | 116                | 1400                         | 2.73            |
| 862B/BF10K     | 175                | 2600                        | 7.56            | 145                | 2680                        | 6.44            | 116                | 2780                         | 5.36            |
| 872B/BF10K     | 175                | 5360                        | 15.70           | 145                | 5238                        | 13.10           | 116                | 5200                         | 10.40           |
| 832B/BF11K     | 159                | 576                         | 1.43            | 131                | 576                         | 1.18            | 105                | 576                          | 0.95            |
| 842B/BF11K     | 159                | 1330                        | 3.45            | 131                | 1380                        | 2.96            | 105                | 1420                         | 2.43            |
| 862B/BF11K     | 159                | 2680                        | 6.70            | 131                | 2760                        | 5.72            | 105                | 2900                         | 4.79            |
| 872B/BF11K     | 159                | 5291                        | 13.70           | 131                | 5315                        | 11.40           | 105                | 5304                         | 9.10            |
| 832B/BF12K     | 145                | 550                         | 1.30            | 120                | 550                         | 1.08            | 96                 | 550                          | 0.86            |
| 842B/BF12K     | 145                | 1419                        | 3.23            | 120                | 1488                        | 2.72            | 96                 | 1439                         | 2.17            |
| 862B/BF12K     | 145                | 2840                        | 6.49            | 120                | 2920                        | 5.53            | 96                 | 2990                         | 4.52            |
| 872B/BF12K     | 145                | 5439                        | 12.50           | 120                | 5300                        | 10.40           | 96                 | 5300                         | 8.31            |
| 832B/BF14K     | 125                | 550                         | 1.14            | 103                | 554                         | 0.95            | 82                 | 554                          | 0.76            |
| 842B/BF14K     | 125                | 1443                        | 2.89            | 103                | 1440                        | 2.39            | 82                 | 1440                         | 1.91            |
| 862B/BF14K     | 125                | 2910                        | 5.72            | 103                | 2970                        | 4.83            | 82                 | 3030                         | 3.95            |
| 872B/BF14K     | 125                | 5364                        | 10.90           | 103                | 5378                        | 9.05            | 82                 | 5378                         | 7.24            |
| 832B/BF16K     | 109                | 576                         | 1.06            | 90                 | 576                         | 0.88            | 72                 | 576                          | 0.70            |
| 842B/BF16K     | 109                | 1380                        | 2.49            | 90                 | 1380                        | 2.06            | 72                 | 1380                         | 1.65            |
| 862B/BF16K     | 109                | 2900                        | 5.12            | 90                 | 3010                        | 4.42            | 72                 | 3070                         | 3.60            |
| 872B/BF16K     | 109                | 5245                        | 9.60            | 90                 | 5250                        | 7.96            | 72                 | 5250                         | 6.37            |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 350-352.  
 Actual Output RPM = Input Speed ÷ Actual Ratio.  
 For Overhung Load Ratings refer to Page 153.

# 800 Series Ratio and Capacity Selection Tables

**Non-Flanged; Input Speeds 690 and 100 RPM**

**Service Factor 1.0\***

| Catalog<br>Number | Input Speed              |                                   |                       |                          |                                   |                    | Approx.<br>Wt.<br>(LB) | Actual<br>Gear<br>Ratio |
|-------------------|--------------------------|-----------------------------------|-----------------------|--------------------------|-----------------------------------|--------------------|------------------------|-------------------------|
|                   | 690 RPM                  |                                   |                       | 100 RPM                  |                                   |                    |                        |                         |
|                   | Approx.<br>Output<br>RPM | Output<br>Torque<br>(LB-IN)(Max.) | Input<br>HP<br>(Max.) | Approx.<br>Output<br>RPM | Output<br>Torque<br>(LB-IN)(Max.) | Input HP<br>(Max.) |                        |                         |
| 832B/BF5.7K       | 121                      | 555                               | 1.13                  | 18                       | 555                               | .16                | 21                     | 5.540                   |
| 842B/BF5.7K       | 121                      | 1320                              | 2.64                  | 18                       | 1320                              | .38                | 29                     | 5.641                   |
| 862B/BF5.7K       | 121                      | 2622                              | 5.24                  | 18                       | 2622                              | .76                | 51                     | 5.649                   |
| 872B/BF5.7K       | 121                      | 4112                              | 8.26                  | 18                       | 4112                              | 1.20               | 99                     | 5.620                   |
| 832B/BF6.4K       | 108                      | 588                               | 0.98                  | 16                       | 588                               | .14                | 21                     | 6.685                   |
| 842B/BF6.4K       | 108                      | 1222                              | 2.35                  | 16                       | 1222                              | .34                | 29                     | 5.970                   |
| 862B/BF6.4K       | 108                      | 2674                              | 4.78                  | 16                       | 2674                              | .69                | 51                     | 6.313                   |
| 872B/BF6.4K       | 108                      | 4653                              | 8.29                  | 16                       | 4653                              | 1.20               | 99                     | 6.335                   |
| 832B/BF7.2K       | 96                       | 576                               | 0.91                  | 14                       | 576                               | .13                | 21                     | 7.067                   |
| 842B/BF7.2K       | 96                       | 1315                              | 2.16                  | 14                       | 1315                              | .31                | 29                     | 6.874                   |
| 862B/BF7.2K       | 96                       | 2772                              | 4.37                  | 14                       | 2722                              | .63                | 51                     | 7.160                   |
| 872B/BF7.2K       | 96                       | 5276                              | 8.26                  | 14                       | 5276                              | 1.20               | 99                     | 7.210                   |
| 832B/BF8K         | 86                       | 560                               | 0.78                  | 12                       | 560                               | .11                | 21                     | 8.000                   |
| 842B/BF8K         | 86                       | 1328                              | 1.97                  | 12                       | 1328                              | .29                | 29                     | 7.610                   |
| 862B/BF8K         | 86                       | 2867                              | 4.02                  | 12                       | 2867                              | .58                | 51                     | 8.051                   |
| 872B/BF8K         | 86                       | 5322                              | 7.44                  | 12                       | 5322                              | 1.08               | 99                     | 8.073                   |
| 832B/BF9K         | 77                       | 633                               | 0.73                  | 11                       | 633                               | .11                | 21                     | 9.792                   |
| 842B/BF9K         | 77                       | 1366                              | 1.73                  | 11                       | 1366                              | .25                | 29                     | 8.913                   |
| 862B/BF9K         | 77                       | 2937                              | 3.63                  | 11                       | 2937                              | .53                | 51                     | 9.131                   |
| 872B/BF9K         | 77                       | 5324                              | 6.54                  | 11                       | 5324                              | .95                | 99                     | 9.188                   |
| 832B/BF10K        | 69                       | 576                               | 0.64                  | 10                       | 576                               | .09                | 21                     | 10.112                  |
| 842B/BF10K        | 69                       | 1402                              | 1.63                  | 10                       | 1402                              | .24                | 29                     | 9.706                   |
| 862B/BF10K        | 69                       | 2935                              | 3.37                  | 10                       | 2935                              | .49                | 51                     | 9.832                   |
| 872B/BF10K        | 69                       | 5194                              | 6.18                  | 10                       | 5194                              | .90                | 99                     | 9.485                   |
| 832B/BF11K        | 63                       | 576                               | 0.56                  | 9.1                      | 576                               | .08                | 21                     | 11.566                  |
| 842B/BF11K        | 63                       | 1420                              | 1.44                  | 9.1                      | 1420                              | .21                | 29                     | 11.025                  |
| 862B/BF11K        | 63                       | 2900                              | 3.00                  | 9.1                      | 2900                              | .43                | 51                     | 11.434                  |
| 872B/BF11K        | 63                       | 5272                              | 5.38                  | 9.1                      | 5272                              | .78                | 99                     | 11.060                  |
| 832B/BF12K        | 57                       | 550                               | 0.51                  | 8.3                      | 550                               | .07                | 21                     | 12.101                  |
| 842B/BF12K        | 57                       | 1416                              | 1.27                  | 8.3                      | 1416                              | .18                | 29                     | 12.584                  |
| 862B/BF12K        | 57                       | 3032                              | 2.73                  | 8.3                      | 3032                              | .40                | 51                     | 12.537                  |
| 872B/BF12K        | 57                       | 5247                              | 4.90                  | 8.3                      | 5247                              | .71                | 99                     | 12.087                  |
| 832B/BF14K        | 49                       | 539                               | 0.44                  | 7.1                      | 539                               | .06                | 21                     | 13.829                  |
| 842B/BF14K        | 49                       | 1418                              | 1.12                  | 7.1                      | 1418                              | .16                | 29                     | 14.295                  |
| 862B/BF14K        | 49                       | 3087                              | 2.39                  | 7.1                      | 3087                              | .35                | 51                     | 14.580                  |
| 872B/BF14K        | 49                       | 5320                              | 4.26                  | 7.1                      | 5320                              | .62                | 99                     | 14.094                  |
| 832B/BF16K        | 43                       | 576                               | 0.41                  | 6.2                      | 576                               | .06                | 21                     | 15.599                  |
| 842B/BF16K        | 43                       | 1363                              | 0.97                  | 6.2                      | 1363                              | .14                | 29                     | 15.866                  |
| 862B/BF16K        | 43                       | 3035                              | 2.12                  | 6.2                      | 3035                              | .31                | 51                     | 16.159                  |
| 872B/BF16K        | 43                       | 5212                              | 3.76                  | 6.2                      | 5212                              | .55                | 99                     | 15.645                  |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 350-352.  
 Actual Output RPM = Input Speed ÷ Actual Ratio.  
 For Overhung Load Ratings refer to Page 153.

# 800 Series Ratio and Capacity Selection Tables

## Non-Flanged; Input Speeds 1750, 1450 and 1160 RPM

Service Factor 1.0\*

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 |                    |                              |                 |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|
|                | 1750 RPM           |                             |                 | 1450 RPM           |                             |                 | 1160 RPM           |                              |                 |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |
| 832B/BF18K     | 97                 | 590                         | 0.91            | 80                 | 590                         | 0.75            | 64                 | 590                          | 0.60            |
| 842B/BF18K     | 97                 | 1420                        | 2.35            | 80                 | 1420                        | 1.95            | 64                 | 1420                         | 1.56            |
| 862B/BF18K     | 97                 | 2940                        | 4.88            | 80                 | 3060                        | 4.20            | 64                 | 3060                         | 3.37            |
| 872B/BF18K     | 97                 | 5320                        | 8.50            | 80                 | 5320                        | 7.05            | 64                 | 5320                         | 5.64            |
| 832B/BF20K     | 87                 | 590                         | 0.85            | 72                 | 590                         | 0.70            | 58                 | 590                          | 0.56            |
| 842B/BF20K     | 87                 | 1442                        | 2.01            | 72                 | 1442                        | 1.67            | 58                 | 1442                         | 1.33            |
| 862B/BF20K     | 87                 | 3014                        | 4.19            | 72                 | 3014                        | 3.54            | 58                 | 3014                         | 2.88            |
| 872B/BF20K     | 87                 | 5319                        | 7.64            | 72                 | 5266                        | 6.33            | 58                 | 5266                         | 5.06            |
| 832B/BF22K     | 79                 | 574                         | 0.72            | 65                 | 590                         | 0.60            | 52                 | 590                          | 0.48            |
| 842B/BF22K     | 79                 | 1443                        | 1.85            | 65                 | 1443                        | 1.53            | 52                 | 1443                         | 1.23            |
| 862B/BF22K     | 79                 | 3030                        | 3.95            | 65                 | 3090                        | 3.34            | 52                 | 3120                         | 2.70            |
| 872B/BF22K     | 79                 | 5398                        | 6.77            | 65                 | 5398                        | 5.61            | 52                 | 5398                         | 4.48            |
| 832B/BF25K     | 70                 | 580                         | 0.65            | 58                 | 580                         | 0.54            | 46                 | 580                          | 0.43            |
| 842B/BF25K     | 70                 | 1312                        | 1.64            | 58                 | 1312                        | 1.36            | 46                 | 1312                         | 1.09            |
| 862B/BF25K     | 70                 | 3070                        | 3.49            | 58                 | 3070                        | 2.89            | 46                 | 3070                         | 2.31            |
| 872B/BF25K     | 70                 | 5279                        | 6.17            | 58                 | 5279                        | 5.11            | 46                 | 5279                         | 4.09            |
| 832B/BF28K     | 62                 | 580                         | 0.59            | 51                 | 580                         | 0.49            | 41                 | 580                          | 0.39            |
| 842B/BF28K     | 62                 | 1467                        | 1.46            | 51                 | 1467                        | 1.21            | 41                 | 1467                         | 0.97            |
| 862B/BF28K     | 62                 | 3070                        | 3.19            | 51                 | 3070                        | 2.64            | 41                 | 3070                         | 2.11            |
| 872B/BF28K     | 62                 | 5287                        | 5.64            | 51                 | 5287                        | 4.67            | 41                 | 5287                         | 3.74            |
| 832B/BF32K     | 54                 | 555                         | 0.52            | 45                 | 555                         | 0.43            | 36                 | 555                          | 0.34            |
| 842B/BF32K     | 54                 | 1338                        | 1.29            | 45                 | 1338                        | 1.07            | 36                 | 1338                         | 0.85            |
| 862B/BF32K     | 54                 | 3120                        | 2.79            | 45                 | 3120                        | 2.31            | 36                 | 3120                         | 1.85            |
| 872B/BF32K     | 54                 | 5342                        | 4.90            | 45                 | 5342                        | 4.06            | 36                 | 5342                         | 3.25            |
| 832B/BF36K     | 48                 | 557                         | 0.47            | 40                 | 557                         | 0.39            | 32                 | 557                          | 0.31            |
| 842B/BF36K     | 48                 | 1457                        | 1.15            | 40                 | 1457                        | 0.95            | 32                 | 1457                         | 0.76            |
| 862B/BF36K     | 48                 | 3120                        | 2.55            | 40                 | 3120                        | 2.11            | 32                 | 3120                         | 1.69            |
| 872B/BF36K     | 48                 | 5296                        | 4.48            | 40                 | 5296                        | 3.71            | 32                 | 5296                         | 2.97            |
| 833B/BF36K     | 48                 | 562                         | 0.47            | 40                 | 562                         | 0.39            | 32                 | 562                          | 0.31            |
| 843B/BF36K     | 48                 | 1390                        | 1.17            | 40                 | 1390                        | 0.97            | 32                 | 1390                         | 0.77            |
| 863B/BF36K     | 48                 | 2978                        | 2.51            | 40                 | 2977                        | 2.08            | 32                 | 2977                         | 1.66            |
| 873B/BF36K     | 48                 | 5225                        | 4.42            | 40                 | 5225                        | 3.66            | 32                 | 5225                         | 2.93            |
| 832B/BF40K     | 43                 | 466                         | 0.36            | 36                 | 484                         | 0.31            | 29                 | 484                          | 0.25            |
| 842B/BF40K     | 43                 | 1375                        | 1.00            | 36                 | 1254                        | 0.85            | 29                 | 1254                         | 0.69            |
| 862B/BF40K     | 43                 | 2992                        | 2.18            | 36                 | 2930                        | 1.84            | 29                 | 2930                         | 1.51            |
| 872B/BF40K     | 43                 | 5050                        | 3.83            | 36                 | 5050                        | 3.24            | 29                 | 5050                         | 2.63            |
| 833B/BF40K     | 43                 | 560                         | 0.41            | 36                 | 562                         | 0.34            | 29                 | 562                          | 0.27            |
| 843B/BF40K     | 43                 | 1390                        | 1.02            | 36                 | 1390                        | 0.85            | 29                 | 1390                         | 0.68            |
| 863B/BF40K     | 43                 | 2978                        | 2.21            | 36                 | 2978                        | 1.83            | 29                 | 2978                         | 1.46            |
| 873B/BF40K     | 43                 | 5225                        | 3.80            | 36                 | 5225                        | 3.15            | 29                 | 5225                         | 2.52            |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 350-352.

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 153.

□ Indicates Triple Reduction

# 800 Series Ratio and Capacity Selection Tables

## Non-Flanged; Input Speeds 690 and 100 RPM

Service Factor 1.0\*

| Catalog<br>Number | Input Speed              |                                   |                       |                          |                                   |                       | Approx.<br>Wt.<br>(LB) | Actual<br>Gear<br>Ratio |
|-------------------|--------------------------|-----------------------------------|-----------------------|--------------------------|-----------------------------------|-----------------------|------------------------|-------------------------|
|                   | 690 RPM                  |                                   |                       | 100 RPM                  |                                   |                       |                        |                         |
|                   | Approx.<br>Output<br>RPM | Output<br>Torque<br>(LB-IN)(Max.) | Input<br>HP<br>(Max.) | Approx.<br>Output<br>RPM | Output<br>Torque<br>(LB-IN)(Max.) | Input<br>HP<br>(Max.) |                        |                         |
| 832B/BF18K        | 38                       | 590                               | .35                   | 5.5                      | 590                               | .05                   | 21                     | 18.667                  |
| 842B/BF18K        | 38                       | 1420                              | .92                   | 5.5                      | 1420                              | .13                   | 29                     | 17.252                  |
| 862B/BF18K        | 38                       | 3060                              | 1.99                  | 5.5                      | 3060                              | .29                   | 51                     | 17.253                  |
| 872B/BF18K        | 38                       | 5320                              | 3.33                  | 5.5                      | 5320                              | .48                   | 99                     | 17.920                  |
| 832B/BF20K        | 34                       | 590                               | .33                   | 5.0                      | 590                               | .05                   | 21                     | 20.308                  |
| 842B/BF20K        | 34                       | 1442                              | .78                   | 5.0                      | 1442                              | .11                   | 29                     | 20.548                  |
| 862B/BF20K        | 34                       | 3014                              | 1.69                  | 5.0                      | 3014                              | .25                   | 51                     | 20.606                  |
| 872B/BF20K        | 34                       | 5266                              | 2.98                  | 5.0                      | 5266                              | .43                   | 99                     | 19.936                  |
| 832B/BF22K        | 31                       | 590                               | .28                   | 4.5                      | 590                               | .04                   | 21                     | 22.848                  |
| 842B/BF22K        | 31                       | 1425                              | .72                   | 4.5                      | 1425                              | .10                   | 29                     | 22.343                  |
| 862B/BF22K        | 31                       | 3120                              | 1.58                  | 4.5                      | 3120                              | .23                   | 51                     | 22.001                  |
| 872B/BF22K        | 31                       | 5398                              | 2.63                  | 4.5                      | 5398                              | .38                   | 99                     | 22.835                  |
| 832B/BF25K        | 28                       | 580                               | .25                   | 4.0                      | 580                               | .04                   | 21                     | 25.560                  |
| 842B/BF25K        | 28                       | 1312                              | .64                   | 4.0                      | 1312                              | .09                   | 29                     | 22.908                  |
| 862B/BF25K        | 28                       | 3070                              | 1.36                  | 4.0                      | 3070                              | .20                   | 51                     | 25.246                  |
| 872B/BF25K        | 28                       | 5279                              | 2.41                  | 4.0                      | 5279                              | .35                   | 99                     | 24.500                  |
| 832B/BF28K        | 25                       | 580                               | .23                   | 3.6                      | 580                               | .03                   | 21                     | 28.400                  |
| 842B/BF28K        | 25                       | 1467                              | .57                   | 3.6                      | 1467                              | .08                   | 29                     | 28.777                  |
| 862B/BF28K        | 25                       | 3070                              | 1.24                  | 3.6                      | 3070                              | .18                   | 51                     | 27.643                  |
| 872B/BF28K        | 25                       | 5287                              | 2.20                  | 3.6                      | 5287                              | .32                   | 99                     | 26.845                  |
| 832B/BF32K        | 21                       | 555                               | .20                   | 3.1                      | 555                               | .03                   | 21                     | 30.587                  |
| 842B/BF32K        | 21                       | 1315                              | .50                   | 3.1                      | 1338                              | .07                   | 29                     | 29.701                  |
| 862B/BF32K        | 21                       | 3120                              | 1.08                  | 3.1                      | 3120                              | .16                   | 51                     | 32.193                  |
| 872B/BF32K        | 21                       | 5342                              | 1.91                  | 3.1                      | 5344                              | .28                   | 99                     | 31.220                  |
| 832B/BF36K        | 19                       | 557                               | .18                   | 2.8                      | 557                               | .03                   | 21                     | 33.986                  |
| 842B/BF36K        | 19                       | 1457                              | .44                   | 2.8                      | 1457                              | .06                   | 29                     | 36.292                  |
| 862B/BF36K        | 19                       | 3120                              | .99                   | 2.8                      | 3120                              | .14                   | 51                     | 35.249                  |
| 872B/BF36K        | 19                       | 5296                              | 1.74                  | 2.8                      | 5296                              | .25                   | 99                     | 34.208                  |
| 833B/BF36K        | 19                       | 562                               | .18                   | 2.8                      | 562                               | .03                   | 29                     | 35.393                  |
| 843B/BF36K        | 19                       | 1390                              | .45                   | 2.8                      | 1380                              | .07                   | 37                     | 35.193                  |
| 863B/BF36K        | 19                       | 2977                              | .97                   | 2.8                      | 2977                              | .14                   | 59                     | 35.059                  |
| 873B/BF36K        | 19                       | 5225                              | 1.71                  | 2.8                      | 5225                              | .25                   | 114                    | 34.934                  |
| 832B/BF40K        | 17                       | 485                               | .15                   | 2.5                      | 485                               | .02                   | 21                     | 37.438                  |
| 842B/BF40K        | 17                       | 1254                              | .40                   | 2.5                      | 1254                              | .06                   | 29                     | 36.292                  |
| 862B/BF40K        | 17                       | 2930                              | .89                   | 2.5                      | 2930                              | .13                   | 51                     | 38.753                  |
| 872B/BF40K        | 17                       | 5050                              | 1.54                  | 2.5                      | 5050                              | .22                   | 99                     | 38.150                  |
| 833B/BF40K        | 17                       | 562                               | .16                   | 2.5                      | 562                               | .02                   | 29                     | 40.446                  |
| 843B/BF40K        | 17                       | 1390                              | .39                   | 2.5                      | 1390                              | .06                   | 37                     | 40.216                  |
| 863B/BF40K        | 17                       | 2972                              | .85                   | 2.5                      | 2978                              | .12                   | 59                     | 39.830                  |
| 873B/BF40K        | 17                       | 5225                              | 1.47                  | 2.5                      | 5225                              | .22                   | 114                    | 40.631                  |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 350-352.  
 Actual Output RPM = Input Speed ÷ Actual Ratio.  
 For Overhung Load Ratings refer to Page 153.  
 □ Indicates Triple Reduction



# 800 Series Ratio and Capacity Selection Tables

## Non-Flanged; Input Speeds 1750, 1450 and 1160 RPM

Service Factor 1.0\*

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 |                    |                              |                 |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|
|                | 1750 RPM           |                             |                 | 1450 RPM           |                             |                 | 1160 RPM           |                              |                 |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |
| 832B/BF45K     | 38                 | 480                         | 0.33            | 32                 | 480                         | 0.28            | 25                 | 480                          | 0.23            |
| 842B/BF45K     | 38                 | 1410                        | 0.90            | 32                 | 1410                        | 0.76            | 25                 | 1450                         | 0.61            |
| 862B/BF45K     | 38                 | 2950                        | 2.01            | 32                 | 3010                        | 1.70            | 25                 | 3090                         | 1.39            |
| 872B/BF45K     | 38                 | 5167                        | 3.54            | 32                 | 5215                        | 2.99            | 25                 | 5254                         | 2.41            |
| 833B/BF45K     | 38                 | 544                         | 0.38            | 32                 | 540                         | 0.31            | 25                 | 540                          | 0.25            |
| 843B/BF45K     | 38                 | 1420                        | 0.92            | 32                 | 1420                        | 0.76            | 25                 | 1420                         | 0.61            |
| 863B/BF45K     | 38                 | 3040                        | 2.01            | 32                 | 3040                        | 1.66            | 25                 | 3040                         | 1.33            |
| 873B/BF45K     | 38                 | 5300                        | 3.52            | 32                 | 5300                        | 2.91            | 25                 | 5300                         | 2.33            |
| 832B/BF50K     | 35                 | 555                         | 0.34            | 29                 | 536                         | 0.28            | 23                 | 536                          | 0.22            |
| 842B/BF50K     | 35                 | 1500                        | 0.87            | 29                 | 1453                        | 0.72            | 23                 | 1500                         | 0.58            |
| 862B/BF50K     | 35                 | 3150                        | 1.86            | 29                 | 3150                        | 1.55            | 23                 | 3150                         | 1.24            |
| 872B/BF50K     | 35                 | 5216                        | 3.16            | 29                 | 5250                        | 2.66            | 23                 | 5250                         | 2.10            |
| 833B/BF50K     | 35                 | 540                         | 0.33            | 29                 | 540                         | 0.27            | 23                 | 540                          | 0.22            |
| 843B/BF50K     | 35                 | 1429                        | 0.81            | 29                 | 1429                        | 0.67            | 23                 | 1429                         | 0.54            |
| 863B/BF50K     | 35                 | 3040                        | 1.77            | 29                 | 3040                        | 1.46            | 23                 | 3040                         | 1.17            |
| 873B/BF50K     | 35                 | 5290                        | 3.02            | 29                 | 5290                        | 2.50            | 23                 | 5290                         | 2.00            |
| 832B/BF56K     | 31                 | 540                         | 0.29            | 25                 | 540                         | 0.25            | 20                 | 540                          | 0.20            |
| 842B/BF56K     | 31                 | 1392                        | 0.71            | 25                 | 1400                        | 0.60            | 20                 | 1400                         | 0.49            |
| 862B/BF56K     | 31                 | 2460                        | 1.28            | 25                 | 2460                        | 1.06            | 20                 | 2460                         | 0.85            |
| 872B/BF56K     | 31                 | 4629                        | 2.50            | 25                 | 4647                        | 2.10            | 20                 | 4700                         | 1.70            |
| 833B/BF56K     | 31                 | 554                         | 0.30            | 25                 | 540                         | 0.25            | 20                 | 540                          | 0.20            |
| 843B/BF56K     | 31                 | 1396                        | 0.76            | 25                 | 1396                        | 0.63            | 20                 | 1396                         | 0.50            |
| 863B/BF56K     | 31                 | 2887                        | 1.54            | 25                 | 2987                        | 1.27            | 20                 | 2987                         | 1.01            |
| 873B/BF56K     | 31                 | 5227                        | 2.69            | 25                 | 5227                        | 2.23            | 20                 | 5227                         | 1.78            |
| 832B/BF63K     | 27                 | 500                         | 0.25            | 23                 | 480                         | 0.20            | 18                 | 480                          | 0.16            |
| 842B/BF63K     | 27                 | 1475                        | 0.70            | 23                 | 1475                        | 0.58            | 18                 | 1425                         | 0.45            |
| 862B/BF63K     | 27                 | 3098                        | 1.52            | 23                 | 3120                        | 1.29            | 18                 | 3138                         | 1.02            |
| 872B/BF63K     | 27                 | 5300                        | 2.64            | 23                 | 5300                        | 2.18            | 18                 | 5300                         | 1.75            |
| 833B/BF63K     | 27                 | 522                         | 0.26            | 23                 | 530                         | 0.22            | 18                 | 530                          | 0.17            |
| 843B/BF63K     | 27                 | 1300                        | 0.65            | 23                 | 1300                        | 0.54            | 18                 | 1300                         | 0.43            |
| 863B/BF63K     | 27                 | 2973                        | 1.41            | 23                 | 2973                        | 1.17            | 18                 | 2973                         | 0.94            |
| 873B/BF63K     | 27                 | 5226                        | 2.52            | 23                 | 5228                        | 2.09            | 18                 | 5228                         | 1.67            |
| 832B/BF71K     | 24                 | 500                         | 0.22            | 20                 | 500                         | 0.18            | 16                 | 500                          | 0.15            |
| 842B/BF71K     | 24                 | 1485                        | 0.62            | 20                 | 1485                        | 0.51            | 16                 | 1485                         | 0.41            |
| 862B/BF71K     | 24                 | 2966                        | 1.28            | 20                 | 2966                        | 1.06            | 16                 | 2966                         | 0.85            |
| 872B/BF71K     | 24                 | 5385                        | 2.38            | 20                 | 5385                        | 1.97            | 16                 | 5385                         | 1.58            |
| 833B/BF71K     | 24                 | 577                         | 0.24            | 20                 | 577                         | 0.20            | 16                 | 577                          | 0.16            |
| 843B/BF71K     | 24                 | 1427                        | 0.60            | 20                 | 1427                        | 0.50            | 16                 | 1427                         | 0.40            |
| 863B/BF71K     | 24                 | 3040                        | 1.23            | 20                 | 3040                        | 1.02            | 16                 | 3040                         | 0.81            |
| 873B/BF71K     | 24                 | 5298                        | 2.14            | 20                 | 5298                        | 1.77            | 16                 | 5298                         | 1.42            |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 350-352.

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 153.

□ Indicates Triple Reduction

# 800 Series Ratio and Capacity Selection Tables

**Non-Flanged; Input Speeds 690 and 100 RPM**

**Service Factor 1.0\***

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 | Approx. Wt. (LB) | Actual Gear Ratio |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|------------------|-------------------|
|                | 690 RPM            |                             |                 | 100 RPM            |                             |                 |                  |                   |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) |                  |                   |
| 832B/BF45K     | 15                 | 480                         | .13             | 2.2                | 480                         | .02             | 21               | 41.599            |
| 842B/BF45K     | 15                 | 1450                        | .36             | 2.2                | 1450                        | .05             | 29               | 45.591            |
| 862B/BF45K     | 15                 | 3090                        | .82             | 2.2                | 3090                        | .12             | 51               | 42.431            |
| 872B/BF45K     | 15                 | 5254                        | 1.41            | 2.2                | 5254                        | .20             | 99               | 41.802            |
| 833B/BF45K     | 15                 | 580                         | .15             | 2.2                | 540                         | .02             | 29               | 42.354            |
| 843B/BF45K     | 15                 | 1420                        | .36             | 2.2                | 1420                        | .05             | 37               | 45.630            |
| 863B/BF45K     | 15                 | 3040                        | .78             | 2.2                | 3040                        | .12             | 59               | 44.706            |
| 873B/BF45K     | 15                 | 5300                        | 1.38            | 2.2                | 5300                        | .20             | 114              | 44.521            |
| 832B/BF50K     | 14                 | 536                         | .13             | 2.0                | 536                         | .02             | 21               | 46.910            |
| 842B/BF50K     | 14                 | 1500                        | .34             | 2.0                | 1500                        | .05             | 29               | 49.414            |
| 862B/BF50K     | 14                 | 3150                        | .73             | 2.0                | 3150                        | .10             | 51               | 48.501            |
| 872B/BF50K     | 14                 | 5250                        | 1.26            | 2.0                | 5250                        | .18             | 99               | 47.276            |
| 833B/BF50K     | 14                 | 540                         | .12             | 2.0                | 540                         | .02             | 29               | 48.400            |
| 843B/BF50K     | 14                 | 1429                        | .32             | 2.0                | 1429                        | .04             | 37               | 52.143            |
| 863B/BF50K     | 14                 | 3040                        | .70             | 2.0                | 3040                        | .10             | 59               | 50.789            |
| 873B/BF50K     | 14                 | 5290                        | 1.19            | 2.0                | 5290                        | .17             | 114              | 51.776            |
| 832B/BF56K     | 12                 | 540                         | .12             | 2.0                | 540                         | .02             | 21               | 53.312            |
| 842B/BF56K     | 12                 | 1400                        | .28             | 2.0                | 1400                        | .04             | 29               | 56.158            |
| 862B/BF56K     | 12                 | 2460                        | .50             | 2.0                | 2460                        | .07             | 51               | 55.125            |
| 872B/BF56K     | 12                 | 4700                        | 1.01            | 2.0                | 4700                        | .15             | 99               | 53.029            |
| 833B/BF56K     | 12                 | 540                         | .12             | 2.0                | 540                         | .02             | 29               | 54.596            |
| 843B/BF56K     | 12                 | 1396                        | .30             | 2.0                | 1396                        | .04             | 37               | 54.281            |
| 863B/BF56K     | 12                 | 2987                        | .59             | 2.0                | 2987                        | .09             | 59               | 57.321            |
| 873B/BF56K     | 12                 | 5227                        | 1.06            | 2.0                | 5227                        | .15             | 114              | 57.422            |
| 832B/BF63K     | 11                 | 480                         | .09             | 1.6                | 480                         | .01             | 21               | 57.390            |
| 842B/BF63K     | 11                 | 1475                        | .28             | 1.6                | 1475                        | .04             | 29               | 60.380            |
| 862B/BF63K     | 11                 | 3138                        | .61             | 1.6                | 3138                        | .09             | 51               | 58.384            |
| 872B/BF63K     | 11                 | 5300                        | 1.03            | 1.6                | 5300                        | .15             | 99               | 57.770            |
| 833B/BF63K     | 11                 | 570                         | .11             | 1.6                | 530                         | .01             | 29               | 59.396            |
| 843B/BF63K     | 11                 | 1300                        | .26             | 1.6                | 1300                        | .04             | 37               | 59.054            |
| 863B/BF63K     | 11                 | 2973                        | .54             | 1.6                | 2973                        | .08             | 59               | 62.319            |
| 873B/BF63K     | 11                 | 5226                        | .98             | 1.6                | 5228                        | .14             | 114              | 61.309            |
| 832B/BF71K     | 10                 | 500                         | .09             | 1.4                | 500                         | .01             | 21               | 65.190            |
| 842B/BF71K     | 10                 | 1485                        | .25             | 1.4                | 1485                        | .03             | 29               | 68.619            |
| 862B/BF71K     | 10                 | 2966                        | .50             | 1.4                | 2966                        | .07             | 51               | 66.358            |
| 872B/BF71K     | 10                 | 5385                        | .94             | 1.4                | 5385                        | .13             | 99               | 64.801            |
| 833B/BF71K     | 10                 | 577                         | .09             | 1.4                | 577                         | .01             | 29               | 71.078            |
| 843B/BF71K     | 10                 | 1427                        | .23             | 1.4                | 1427                        | .03             | 37               | 70.302            |
| 863B/BF71K     | 10                 | 3040                        | .47             | 1.4                | 3040                        | .07             | 59               | 73.093            |
| 873B/BF71K     | 10                 | 5298                        | .85             | 1.4                | 5298                        | .13             | 114              | 73.172            |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 350-352.

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 153.

□ Indicates Triple Reduction

G

# 800 Series Ratio and Capacity Selection Tables

## Non-Flanged; Input Speeds 1750, 1450 and 1160 RPM

Service Factor 1.0\*

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 |                    |                             |                 |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|
|                | 1750 RPM           |                             |                 | 1450 RPM           |                             |                 | 1160 RPM           |                             |                 |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) |
| 833B/BF80K     | 21                 | 565                         | 0.21            | 18                 | 565                         | 0.17            | 14                 | 565                         | 0.14            |
| 843B/BF80K     | 21                 | 1320                        | 0.51            | 18                 | 1320                        | 0.42            | 14                 | 1320                        | 0.34            |
| 863B/BF80K     | 21                 | 3038                        | 1.13            | 18                 | 3038                        | 0.94            | 14                 | 3038                        | 0.75            |
| 873B/BF80K     | 21                 | 5315                        | 2.01            | 18                 | 5315                        | 1.66            | 14                 | 5315                        | 1.33            |
| 833B/BF90K     | 19                 | 575                         | 0.19            | 16                 | 575                         | 0.15            | 12                 | 575                         | 0.12            |
| 843B/BF90K     | 19                 | 1395                        | 0.47            | 16                 | 1395                        | 0.39            | 12                 | 1395                        | 0.31            |
| 863B/BF90K     | 19                 | 2745                        | 0.98            | 16                 | 2745                        | 0.82            | 12                 | 2745                        | 0.65            |
| 873B/BF90K     | 19                 | 5252                        | 1.73            | 16                 | 5252                        | 1.43            | 12                 | 5252                        | 1.14            |
| 833B/BF100K    | 17                 | 570                         | 0.17            | 14                 | 575                         | 0.14            | 11                 | 575                         | 0.11            |
| 843B/BF100K    | 17                 | 1400                        | 0.42            | 14                 | 1400                        | 0.35            | 11                 | 1400                        | 0.28            |
| 863B/BF100K    | 17                 | 3095                        | 0.88            | 14                 | 3095                        | 0.72            | 11                 | 3095                        | 0.58            |
| 873B/BF100K    | 17                 | 5252                        | 1.58            | 14                 | 5252                        | 1.31            | 11                 | 5252                        | 1.05            |
| 833B/BF112K    | 15                 | 543                         | 0.15            | 12                 | 540                         | 0.12            | 10                 | 540                         | 0.10            |
| 843B/BF112K    | 15                 | 1340                        | 0.37            | 12                 | 1340                        | 0.30            | 10                 | 1340                        | 0.24            |
| 863B/BF112K    | 15                 | 2820                        | 0.79            | 12                 | 2820                        | 0.65            | 10                 | 2820                        | 0.52            |
| 873B/BF112K    | 15                 | 5300                        | 1.37            | 12                 | 5300                        | 1.14            | 10                 | 5300                        | 0.91            |
| 833B/BF125K    | 14                 | 523                         | 0.13            | 11                 | 520                         | 0.11            | 9.3                | 520                         | 0.09            |
| 843B/BF125K    | 14                 | 1430                        | 0.33            | 11                 | 1430                        | 0.27            | 9.3                | 1430                        | 0.22            |
| 863B/BF125K    | 14                 | 3000                        | 0.70            | 11                 | 3000                        | 0.58            | 9.3                | 3000                        | 0.46            |
| 873B/BF125K    | 14                 | 5337                        | 1.26            | 11                 | 5337                        | 1.04            | 9.3                | 5337                        | 0.83            |
| 833B/BF140K    | 12                 | 487                         | 0.11            | 10                 | 487                         | 0.09            | 8.3                | 467                         | 0.08            |
| 843B/BF140K    | 12                 | 1360                        | 0.29            | 10                 | 1360                        | 0.24            | 8.3                | 1360                        | 0.20            |
| 863B/BF140K    | 12                 | 2916                        | 0.65            | 10                 | 2916                        | 0.54            | 8.3                | 2916                        | 0.43            |
| 873B/BF140K    | 12                 | 5247                        | 1.11            | 10                 | 5247                        | 0.92            | 8.3                | 5247                        | 0.74            |
| 833B/BF160K    | 10                 | 490                         | 0.10            | 9.1                | 490                         | 0.09            | 7.2                | 490                         | 0.07            |
| 843B/BF160K    | 10                 | 1410                        | 0.27            | 9.1                | 1410                        | 0.22            | 7.2                | 1410                        | 0.18            |
| 863B/BF160K    | 10                 | 3130                        | 0.58            | 9.1                | 3130                        | 0.48            | 7.2                | 3130                        | 0.39            |
| 873B/BF160K    | 10                 | 5280                        | 1.02            | 9.1                | 5280                        | 0.84            | 7.2                | 5280                        | 0.67            |
| 833B/BF180K    | 9.7                | 555                         | 0.10            | 8.0                | 555                         | 0.08            | 6.4                | 555                         | 0.06            |
| 843B/BF180K    | 9.7                | 1436                        | 0.24            | 8.0                | 1436                        | 0.20            | 6.4                | 1436                        | 0.16            |
| 863B/BF180K    | 9.7                | 3146                        | 0.53            | 8.0                | 3148                        | 0.44            | 6.4                | 3148                        | 0.35            |
| 873B/BF180K    | 9.7                | 5362                        | 0.92            | 8.0                | 5362                        | 0.76            | 6.4                | 5362                        | 0.61            |
| 833B/BF200K    | 8.8                | 568                         | 0.09            | 7.3                | 555                         | 0.07            | 5.8                | 555                         | 0.06            |
| 843B/BF200K    | 8.8                | 1428                        | 0.21            | 7.3                | 1428                        | 0.17            | 5.8                | 1428                        | 0.14            |
| 863B/BF200K    | 8.8                | 3173                        | 0.47            | 7.3                | 3173                        | 0.39            | 5.8                | 3173                        | 0.31            |
| 873B/BF200K    | 8.8                | 5432                        | 0.82            | 7.3                | 5432                        | 0.68            | 5.8                | 5432                        | 0.55            |
| 833B/BF225K    | 7.8                | 544                         | 0.08            | 6.4                | 544                         | 0.07            | 5.2                | 544                         | 0.05            |
| 843B/BF225K    | 7.8                | 1410                        | 0.19            | 6.4                | 1410                        | 0.16            | 5.2                | 1410                        | 0.13            |
| 863B/BF225K    | 7.8                | 3146                        | 0.44            | 6.4                | 3146                        | 0.36            | 5.2                | 3146                        | 0.29            |
| 873B/BF225K    | 7.8                | 5341                        | 0.75            | 6.4                | 5341                        | 0.62            | 5.2                | 5341                        | 0.50            |
| 833B/BF250K    | 7.0                | 540                         | 0.07            | 5.8                | 540                         | 0.06            | 4.6                | 540                         | 0.05            |
| 843B/BF250K    | 7.0                | 1410                        | 0.17            | 5.8                | 1410                        | 0.14            | 4.6                | 1410                        | 0.11            |
| 863B/BF250K    | 7.0                | 3110                        | 0.39            | 5.8                | 3110                        | 0.32            | 4.6                | 3110                        | 0.26            |
| 873B/BF250K    | 7.0                | 5423                        | 0.67            | 5.8                | 5423                        | 0.56            | 4.6                | 5423                        | 0.45            |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 350-352.

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 153.

□ Indicates Triple Reduction

# 800 Series Ratio and Capacity Selection Tables

Non-Flanged; Input Speeds 690 and 100 RPM

Service Factor 1.0\*

| Catalog<br>Number | Input Speed              |                                   |                       |                          |                                   |                       | Approx.<br>Wt.<br>(LB) | Actual<br>Gear<br>Ratio |
|-------------------|--------------------------|-----------------------------------|-----------------------|--------------------------|-----------------------------------|-----------------------|------------------------|-------------------------|
|                   | 690 RPM                  |                                   |                       | 100 RPM                  |                                   |                       |                        |                         |
|                   | Approx.<br>Output<br>RPM | Output<br>Torque<br>(LB-IN)(Max.) | Input<br>HP<br>(Max.) | Approx.<br>Output<br>RPM | Output<br>Torque<br>(LB-IN)(Max.) | Input<br>HP<br>(Max.) |                        |                         |
| 833B/BF80K        | 8.6                      | 565                               | .08                   | 1.25                     | 565                               | .01                   | 29                     | 79.506                  |
| 843B/BF80K        | 8.6                      | 1320                              | .19                   | 1.25                     | 1320                              | .03                   | 37                     | 76.483                  |
| 863B/BF80K        | 8.6                      | 3038                              | .43                   | 1.25                     | 3038                              | .06                   | 59                     | 79.466                  |
| 873B/BF80K        | 8.6                      | 5315                              | .77                   | 1.25                     | 5315                              | .11                   | 114                    | 78.141                  |
| 833B/BF90K        | 7.7                      | 575                               | .07                   | 1.25                     | 575                               | .01                   | 29                     | 89.460                  |
| 843B/BF90K        | 7.7                      | 1395                              | .18                   | 1.25                     | 1395                              | .03                   | 37                     | 87.686                  |
| 863B/BF90K        | 7.7                      | 2745                              | .38                   | 1.25                     | 2745                              | .05                   | 59                     | 82.764                  |
| 873B/BF90K        | 7.7                      | 5252                              | .66                   | 1.25                     | 5252                              | .10                   | 114                    | 89.712                  |
| 833B/BF100K       | 6.9                      | 575                               | .06                   | 1.25                     | 575                               | .01                   | 29                     | 99.401                  |
| 843B/BF100K       | 6.9                      | 1400                              | .16                   | 1.25                     | 1400                              | .02                   | 37                     | 98.820                  |
| 863B/BF100K       | 6.9                      | 3095                              | .33                   | 1.25                     | 3095                              | .05                   | 59                     | 103.962                 |
| 873B/BF100K       | 6.9                      | 5252                              | .61                   | 1.25                     | 5252                              | .09                   | 114                    | 98.233                  |
| 833B/BF112K       | 6.2                      | 540                               | .06                   | .89                      | 540                               | .01                   | 29                     | 107.054                 |
| 843B/BF112K       | 6.2                      | 1340                              | .14                   | .89                      | 1340                              | .02                   | 37                     | 113.691                 |
| 863B/BF112K       | 6.2                      | 2820                              | .30                   | .89                      | 2820                              | .04                   | 59                     | 105.536                 |
| 873B/BF112K       | 6.2                      | 5300                              | .53                   | .89                      | 5300                              | .08                   | 114                    | 114.319                 |
| 833B/BF125K       | 5.5                      | 520                               | .05                   | .80                      | 520                               | .01                   | 29                     | 118.950                 |
| 843B/BF125K       | 5.5                      | 1430                              | .13                   | .80                      | 1430                              | .02                   | 37                     | 128.128                 |
| 863B/BF125K       | 5.5                      | 3000                              | .27                   | .80                      | 3000                              | .04                   | 59                     | 127.052                 |
| 873B/BF125K       | 5.5                      | 5337                              | .48                   | .80                      | 5337                              | .07                   | 114                    | 125.178                 |
| 833B/BF140K       | 5.0                      | 487                               | .05                   | .71                      | 487                               | .01                   | 29                     | 131.034                 |
| 843B/BF140K       | 5.0                      | 1360                              | .11                   | .71                      | 1360                              | .02                   | 37                     | 138.931                 |
| 863B/BF140K       | 5.0                      | 2916                              | .25                   | .71                      | 2916                              | .04                   | 59                     | 132.567                 |
| 873B/BF140K       | 5.0                      | 5247                              | .43                   | .71                      | 5247                              | .06                   | 114                    | 139.695                 |
| 833B/BF160K       | 4.3                      | 490                               | .04                   | .62                      | 490                               | .01                   | 29                     | 145.595                 |
| 843B/BF160K       | 4.3                      | 1410                              | .10                   | .62                      | 1410                              | .01                   | 37                     | 156.574                 |
| 863B/BF160K       | 4.3                      | 3130                              | .22                   | .62                      | 3130                              | .03                   | 59                     | 159.582                 |
| 873B/BF160K       | 4.3                      | 5280                              | .40                   | .62                      | 5280                              | .06                   | 114                    | 152.964                 |
| 833B/BF180K       | 3.8                      | 555                               | .04                   | .55                      | 555                               | .01                   | 29                     | 164.184                 |
| 843B/BF180K       | 3.8                      | 1436                              | .09                   | .55                      | 1436                              | .01                   | 37                     | 176.854                 |
| 863B/BF180K       | 3.8                      | 3148                              | .20                   | .55                      | 3148                              | .03                   | 59                     | 175.553                 |
| 873B/BF180K       | 3.8                      | 5362                              | .36                   | .55                      | 5362                              | .05                   | 114                    | 172.231                 |
| 833B/BF200K       | 3.4                      | 555                               | .03                   | .50                      | 555                               | .01                   | 29                     | 186.590                 |
| 843B/BF200K       | 3.4                      | 1428                              | .08                   | .50                      | 1428                              | .01                   | 37                     | 200.989                 |
| 863B/BF200K       | 3.4                      | 3173                              | .18                   | .50                      | 3173                              | .03                   | 59                     | 199.528                 |
| 873B/BF200K       | 3.4                      | 5432                              | .33                   | .50                      | 5432                              | .05                   | 114                    | 195.757                 |
| 833B/BF225K       | 3.1                      | 544                               | .03                   | .44                      | 544                               | .01                   | 29                     | 200.962                 |
| 843B/BF225K       | 3.1                      | 1410                              | .07                   | .44                      | 1410                              | .01                   | 37                     | 216.098                 |
| 863B/BF225K       | 3.1                      | 3146                              | .17                   | .44                      | 3146                              | .02                   | 59                     | 211.326                 |
| 873B/BF225K       | 3.1                      | 5341                              | .29                   | .44                      | 5341                              | .41                   | 114                    | 210.462                 |
| 833B/BF250K       | 2.76                     | 540                               | .03                   | .40                      | 540                               | .01                   | 29                     | 228.387                 |
| 843B/BF250K       | 2.76                     | 1410                              | .06                   | .40                      | 1410                              | .01                   | 37                     | 245.633                 |
| 863B/BF250K       | 2.76                     | 3110                              | .15                   | .40                      | 3110                              | .02                   | 59                     | 240.188                 |
| 873B/BF250K       | 2.76                     | 5423                              | .26                   | .40                      | 5423                              | .04                   | 114                    | 239.210                 |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 350-352.

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 153.

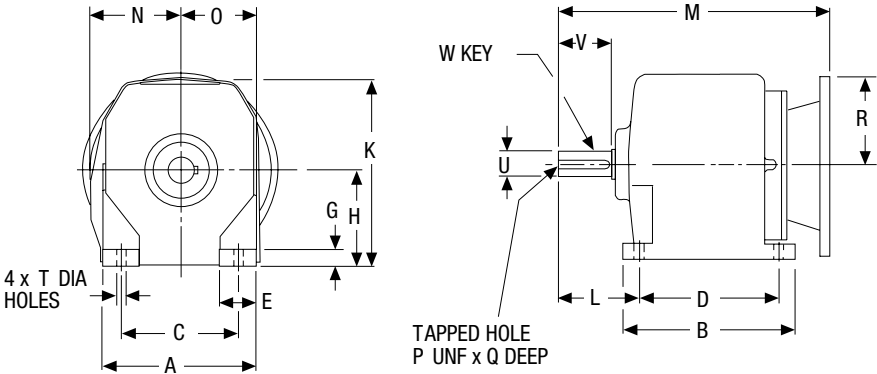
□ Indicates Triple Reduction

G

# 800 Series In-Line Helical Gear Drive Dimensions

## F800B Series Double Reduction; NEMA C-Face Input Foot Mounted

G



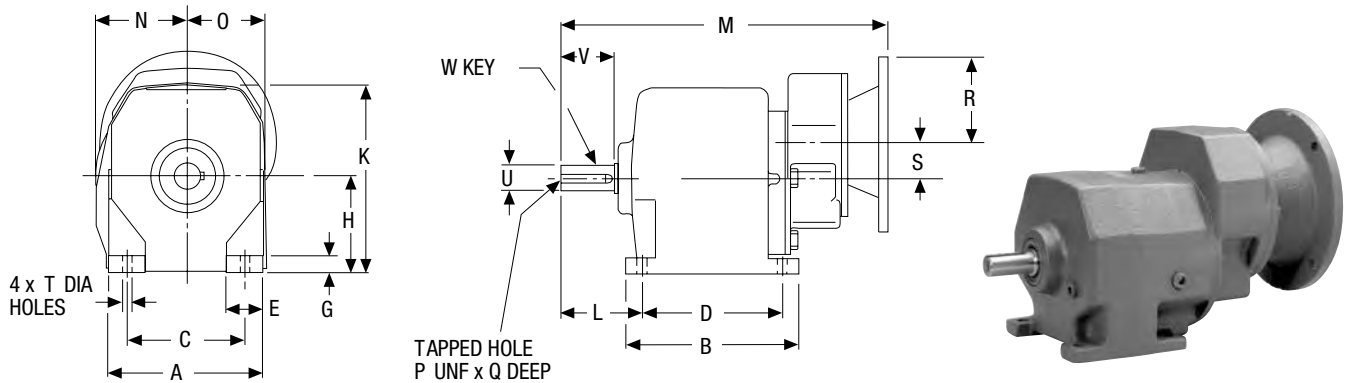
| Size  | A    | B    | C    | D    | E    | G    | H    | K     | L    | N    | O    | P   | Q    | T   |
|-------|------|------|------|------|------|------|------|-------|------|------|------|-----|------|-----|
| F832B | 5.44 | 4.33 | 4.33 | 3.35 | 1.05 | .48  | 2.95 | 5.79  | 2.28 | 3.16 | 2.84 | 1/4 | .63  | .39 |
| F842B | 5.71 | 6.30 | 4.33 | 5.12 | 1.48 | .67  | 3.54 | 6.99  | 2.95 | 3.31 | 2.95 | 1/4 | .63  | .39 |
| F862B | 7.48 | 7.87 | 5.31 | 6.50 | 2.19 | .81  | 4.53 | 9.06  | 3.54 | 4.13 | 3.87 | 3/8 | .87  | .59 |
| F872B | 9.06 | 9.65 | 6.69 | 8.07 | 2.64 | 1.03 | 5.51 | 10.83 | 4.53 | 5.12 | 4.69 | 5/8 | 1.38 | .75 |

| Size  | Low Speed Shaft     |      |       |       | M             |       |       |       | R             |       |       |       |
|-------|---------------------|------|-------|-------|---------------|-------|-------|-------|---------------|-------|-------|-------|
|       | U<br>+.000<br>-.001 | V    | W-Key |       | NEMA Mounting |       |       |       | NEMA Mounting |       |       |       |
|       |                     |      | Sq.   | Lgth. | 56C           | 140TC | 180TC | 210TC | 56C           | 140TC | 180TC | 210TC |
|       |                     |      |       |       | B5            | B7    | B9    | B11   | B5            | B7    | B9    | B11   |
| F832B | .750                | 1.57 | .19   | 1.28  | 9.82          | 9.82  | 10.65 | —     | 3.31          | 3.31  | 4.63  | —     |
| F842B | 1.000               | 1.97 | .25   | 1.75  | 10.73         | 10.73 | 11.55 | —     | 3.31          | 3.31  | 4.63  | —     |
| F862B | 1.250               | 2.36 | .25   | 2.00  | 12.26         | 12.26 | 14.61 | 14.61 | 3.31          | 3.31  | 4.63  | 4.63  |
| F872B | 1.625               | 3.15 | .38   | 2.37  | 15.15         | 15.15 | 16.76 | 16.76 | 3.31          | 3.31  | 4.63  | 4.63  |

Output shaft rotation, relative to input shaft rotation, is identical for double reduction and opposite for triple reduction.

# 800 Series In-Line Helical Gear Drives Dimensions

## F800B Series Triple Reduction; NEMA C-Face Input Foot Mounted



| Size  | A    | B    | C    | D    | E    | G    | H    | K     | L    | N    | O    | P   | Q    | S    |
|-------|------|------|------|------|------|------|------|-------|------|------|------|-----|------|------|
| F833B | 5.44 | 4.33 | 4.33 | 3.35 | 1.05 | .48  | 2.95 | 5.79  | 2.28 | 3.16 | 2.84 | 1/4 | .63  | 1.40 |
| F843B | 5.71 | 6.30 | 4.33 | 5.12 | 1.48 | .67  | 3.54 | 6.99  | 2.95 | 3.31 | 2.95 | 1/4 | .63  | 1.40 |
| F863B | 7.48 | 7.87 | 5.31 | 6.50 | 2.19 | .81  | 4.53 | 9.06  | 3.54 | 4.13 | 3.87 | 3/8 | .87  | 1.83 |
| F873B | 9.06 | 9.65 | 6.69 | 8.07 | 2.64 | 1.03 | 5.51 | 10.83 | 4.53 | 5.12 | 4.69 | 5/8 | 1.38 | 2.34 |

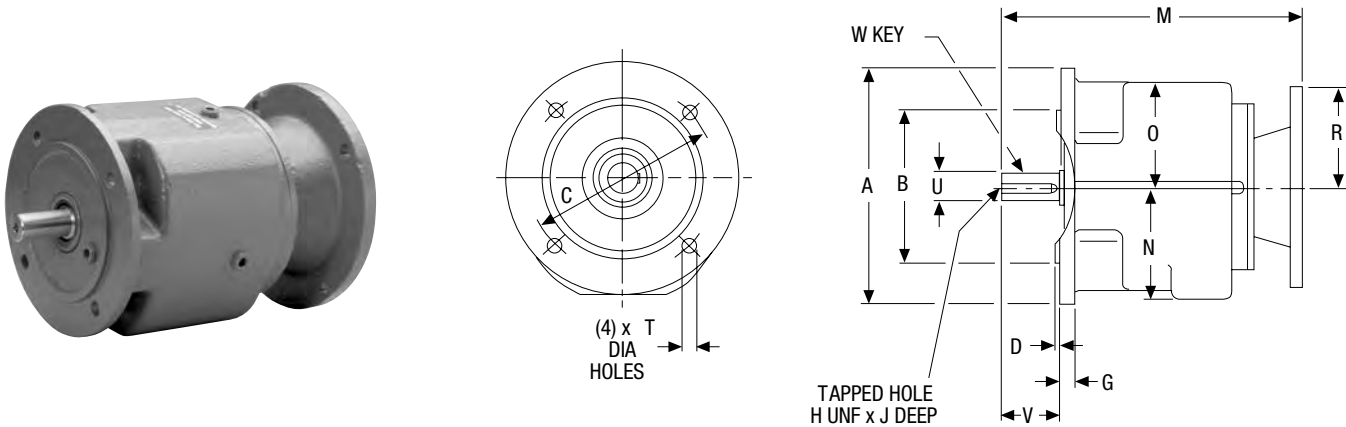
| Size  | T   | Low Speed Shaft     |      |       |       | M             |       |       | R             |       |       |
|-------|-----|---------------------|------|-------|-------|---------------|-------|-------|---------------|-------|-------|
|       |     | U<br>+.000<br>-.001 | V    | W-Key |       | NEMA Mounting |       |       | NEMA Mounting |       |       |
|       |     |                     |      | Sq.   | Lgth. | 56C           | 140TC | 180TC | 56C           | 140TC | 180TC |
|       |     |                     |      |       |       | B5            | B7    | B9    | B5            | B7    | B9    |
| F833B | .39 | .750                | 1.57 | .19   | 1.28  | 12.03         | —     | —     | 3.31          | —     | —     |
| F843B | .39 | 1.000               | 1.97 | .25   | 1.75  | 12.94         | —     | —     | 3.31          | —     | —     |
| F863B | .59 | 1.250               | 2.36 | .25   | 2.00  | 15.38         | 15.38 | —     | 3.31          | 3.31  | —     |
| F873B | .75 | 1.625               | 3.15 | .38   | 2.37  | 18.28         | 18.28 | 20.63 | 3.31          | 3.31  | 4.63  |

Output shaft rotation, relative to input shaft rotation, is identical for double reduction and opposite for triple reduction.

# 800 Series In-Line Helical Gear Drive Dimensions

## F800BF Series Double Reduction; NEMA C-Face Input Output Flange Mounted

G



| Size   | A     | B<br>+.000<br>-.003 | C     | D   | G   | H   | J    | N    | O    | T   |
|--------|-------|---------------------|-------|-----|-----|-----|------|------|------|-----|
| F832BF | 6.30  | 4.330               | 5.12  | .14 | .28 | 1/4 | .63  | 3.15 | 2.76 | .39 |
| F842BF | 7.87  | 5.118               | 6.50  | .14 | .47 | 1/4 | .63  | 3.74 | 3.46 | .47 |
| F862BF | 9.84  | 7.086               | 8.46  | .16 | .47 | 3/8 | .87  | 4.45 | 4.53 | .59 |
| F872BF | 11.81 | 9.055               | 10.43 | .16 | .55 | 5/8 | 1.38 | 5.43 | 5.43 | .59 |

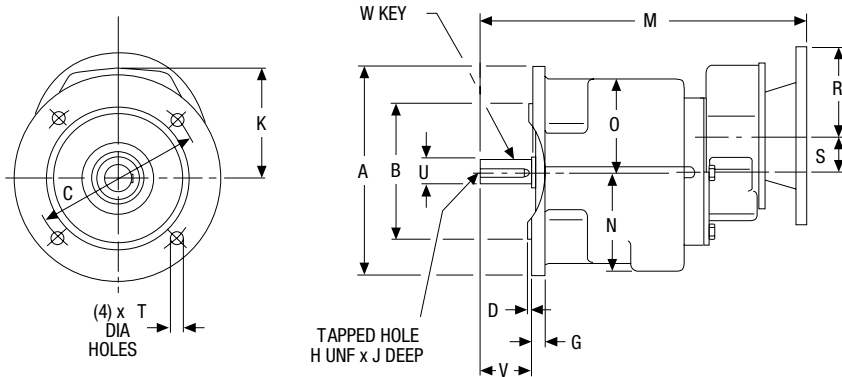
| Size   | Low Speed Shaft     |      |       |       | M             |       |       |       | R             |       |       |       |
|--------|---------------------|------|-------|-------|---------------|-------|-------|-------|---------------|-------|-------|-------|
|        | U<br>+.000<br>-.001 | V    | W-Key |       | NEMA Mounting |       |       |       | NEMA Mounting |       |       |       |
|        |                     |      | Sq.   | Lgth. | 56C           | 140TC | 180TC | 210TC | 56C           | 140TC | 180TC | 210TC |
|        |                     |      |       |       | B5            | B7    | B9    | B11   | B5            | B7    | B9    | B11   |
| F832BF | .750                | 1.57 | .19   | 1.28  | 9.82          | 9.82  | 10.65 | —     | 3.31          | 3.31  | 4.63  | —     |
| F842BF | 1.000               | 1.97 | .25   | 1.75  | 10.73         | 10.73 | 11.55 | —     | 3.31          | 3.31  | 4.63  | —     |
| F862BF | 1.250               | 2.36 | .25   | 2.00  | 12.26         | 12.26 | 14.61 | 14.61 | 3.31          | 3.31  | 4.63  | 4.63  |
| F872BF | 1.625               | 3.15 | .38   | 2.37  | 15.15         | 15.15 | 16.76 | 16.76 | 3.31          | 3.31  | 4.63  | 4.63  |

Output shaft rotation, relative to input shaft rotation, is identical for double reduction and opposite for triple reduction.



# 800 Series In-Line Helical Gear Drives Dimensions

## F800BF Series Triple Reduction; NEMA C-Face Input Output Flange Mounted



G

| Size   | A     | B<br>+.000<br>-.003 | C     | D   | G   | H   | J    | K    | N    | O    | S    |
|--------|-------|---------------------|-------|-----|-----|-----|------|------|------|------|------|
| F833BF | 6.30  | 4.330               | 5.12  | .14 | .28 | 1/4 | .63  | 4.17 | 3.15 | 2.76 | 1.40 |
| F843BF | 7.87  | 5.118               | 6.50  | .14 | .47 | 1/4 | .63  | 4.17 | 3.74 | 3.46 | 1.40 |
| F863BF | 9.84  | 7.086               | 8.46  | .16 | .47 | 3/8 | .87  | 4.45 | 4.45 | 4.53 | 1.83 |
| F873BF | 11.81 | 9.055               | 10.43 | .16 | .55 | 5/8 | 1.38 | 5.43 | 5.43 | 5.43 | 2.34 |

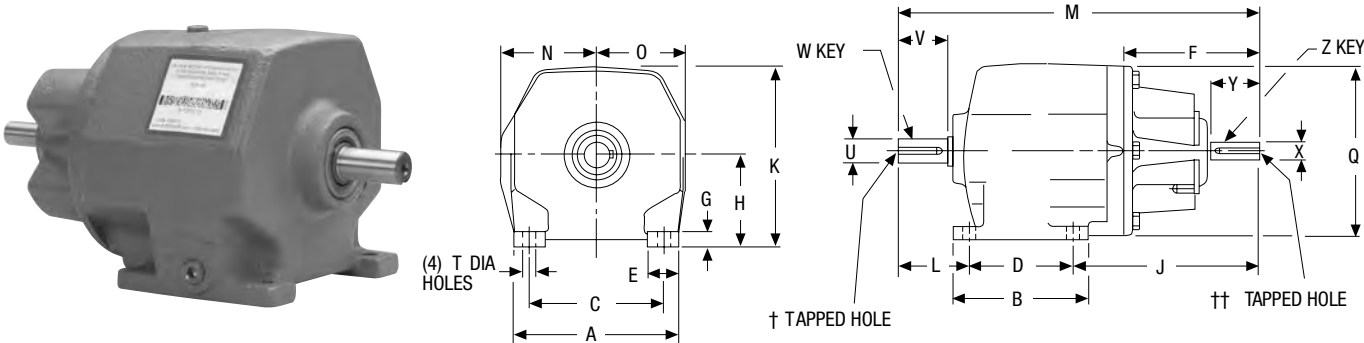
| Size   | T   | Low Speed Shaft     |      |       |       | M             |             |             | R             |             |             |
|--------|-----|---------------------|------|-------|-------|---------------|-------------|-------------|---------------|-------------|-------------|
|        |     | U<br>+.000<br>-.001 | V    | W-Key |       | NEMA Mounting |             |             | NEMA Mounting |             |             |
|        |     |                     |      | Sq.   | Lgth. | 56C<br>B5     | 140TC<br>B7 | 180TC<br>B9 | 56C<br>B5     | 140TC<br>B7 | 180TC<br>B9 |
| F833BF | .39 | .750                | 1.57 | .19   | 1.28  | 12.03         | —           | —           | 3.31          | —           | —           |
| F843BF | .47 | 1.000               | 1.97 | .25   | 1.75  | 12.94         | —           | —           | 3.31          | —           | —           |
| F863BF | .59 | 1.250               | 2.36 | .25   | 2.00  | 15.38         | 15.38       | —           | 3.31          | 3.31        | —           |
| F873BF | .59 | 1.625               | 3.15 | .38   | 2.37  | 18.28         | 18.28       | 20.63       | 3.31          | 3.31        | 4.63        |

Output shaft rotation, relative to input shaft rotation, is identical for double reduction and opposite for triple reduction.

# 800 Series In-Line Helical Gear Drive Dimensions

## 800B Series Double Reduction; Non-Flanged Foot Mounted

G



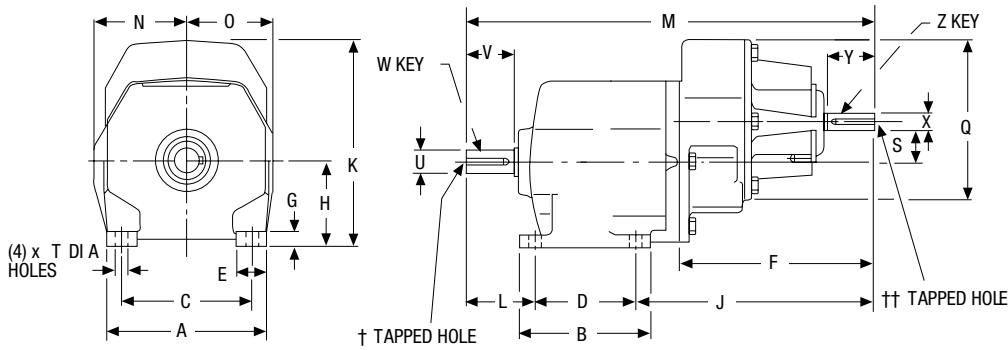
| Size | A    | B    | C    | D    | E    | F    | G    | H    | J    | K     | L    | M     | N    |
|------|------|------|------|------|------|------|------|------|------|-------|------|-------|------|
| 832B | 5.44 | 4.33 | 4.33 | 3.35 | 1.05 | 4.37 | .48  | 2.95 | 5.94 | 5.79  | 2.28 | 11.57 | 3.16 |
| 842B | 5.71 | 6.30 | 4.33 | 5.12 | 1.48 | 4.37 | .67  | 3.54 | 4.41 | 6.99  | 2.95 | 12.48 | 3.31 |
| 862B | 7.48 | 7.87 | 5.31 | 6.50 | 2.19 | 4.37 | .81  | 4.53 | 4.49 | 9.06  | 3.54 | 14.53 | 4.13 |
| 872B | 9.06 | 9.65 | 6.69 | 8.07 | 2.64 | 4.53 | 1.03 | 5.51 | 4.72 | 10.83 | 4.53 | 17.32 | 5.12 |

| Size | O    | Q    | T   | Low Speed Shaft     |      |       |       | High Speed Shaft    |      |       |       |
|------|------|------|-----|---------------------|------|-------|-------|---------------------|------|-------|-------|
|      |      |      |     | U<br>+.000<br>-.001 | V    | W-Key |       | X<br>+.000<br>-.001 | Y    | Z-Key |       |
|      |      |      |     |                     |      | Sq.   | Lgth. |                     |      | Sq.   | Lgth. |
| 832B | 2.84 | 5.51 | .39 | .750                | 1.57 | .19   | 1.28  | .625                | 1.57 | .19   | 1.28  |
| 842B | 2.95 | 5.51 | .39 | 1.000               | 1.97 | .25   | 1.75  | .625                | 1.57 | .19   | 1.28  |
| 862B | 3.87 | 7.09 | .59 | 1.250               | 2.36 | .25   | 2.00  | .750                | 1.57 | .19   | 1.28  |
| 872B | 4.69 | 8.46 | .75 | 1.625               | 3.15 | .38   | 2.37  | .875                | 1.97 | .19   | 1.28  |

Output shaft rotation, relative to input shaft rotation, is identical for double reduction and opposite for triple reduction.  
† 832B 1/4 UNF x 0.63 DP, 842B 1/4UNF x 0.63 DP. Size 862B 3/8 UNF x 0.87 DP. Size 872B 5/8 UNF x 1.38 DP.  
††832B 1/4 UNF x 0.49 DP, 842B 1/4 UNF x 0.49 DP. Size 862B 1/4 UNF x 0.63 DP. Size 872B 5/16 UNF x 0.63 DP.

# 800 Series In-Line Helical Gear Drives Dimensions

## 800B Series Triple Reduction; Non-Flanged Foot Mounted



G

| Size | A    | B    | C    | D    | E    | F    | G    | H    | J    | K     | L    | M     | N    |
|------|------|------|------|------|------|------|------|------|------|-------|------|-------|------|
| 833B | 5.44 | 4.33 | 4.33 | 3.35 | 1.05 | 6.57 | .48  | 2.95 | 8.15 | 7.13  | 2.28 | 13.78 | 3.16 |
| 843B | 5.71 | 6.30 | 4.33 | 5.12 | 1.48 | 6.57 | .67  | 3.54 | 6.61 | 7.72  | 2.95 | 14.69 | 3.31 |
| 863B | 7.48 | 7.87 | 5.31 | 6.50 | 2.19 | 6.97 | .81  | 4.53 | 7.09 | 9.13  | 3.54 | 17.13 | 4.13 |
| 873B | 9.06 | 9.65 | 6.69 | 8.07 | 2.64 | 7.76 | 1.03 | 5.51 | 7.95 | 11.42 | 4.53 | 20.55 | 5.12 |

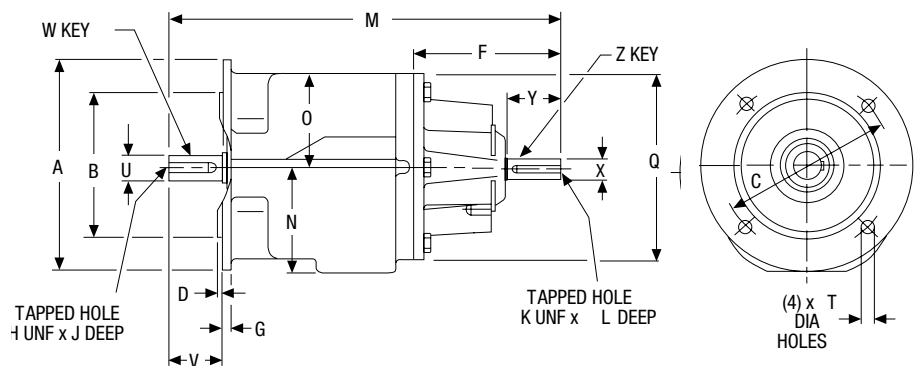
| Size | O    | Q    | S    | T   | Low Speed Shaft     |      |       |       | High Speed Shaft    |      |       |       |
|------|------|------|------|-----|---------------------|------|-------|-------|---------------------|------|-------|-------|
|      |      |      |      |     | U<br>+.000<br>-.001 | V    | W-Key |       | X<br>+.000<br>-.001 | Y    | Z-Key |       |
|      |      |      |      |     |                     |      | Sq.   | Lgth. |                     |      | Sq.   | Lgth. |
| 833B | 2.84 | 5.51 | 1.40 | .39 | .750                | 1.57 | .19   | 1.28  | .625                | 1.57 | .19   | 1.28  |
| 843B | 2.95 | 5.51 | 1.40 | .39 | 1.000               | 1.97 | .25   | 1.75  | .625                | 1.57 | .19   | 1.28  |
| 863B | 3.87 | 5.51 | 1.83 | .59 | 1.250               | 2.36 | .25   | 2.00  | .625                | 1.57 | .19   | 1.28  |
| 873B | 4.69 | 7.09 | 2.34 | .75 | 1.625               | 3.15 | .38   | 2.37  | .750                | 1.57 | .19   | 1.28  |

Output shaft rotation, relative to input shaft rotation, is identical for double reduction and opposite for triple reduction.

† Size 833B 1/4 UNF x 0.63 DP, 843 1/4 UNF x 0.63 DP, 863B 3/8 UNF x 0.87 DP. Size 873B 5/8 UNF x 1.38 DP.

†† Size 833B 1/4 UNF x 0.49 DP, 843 1/4 UNF x 0.49 DP, 863B 1/4 UNF x 0.63 DP. Size 873B 5/16 UNF x 0.63 DP.

**G**

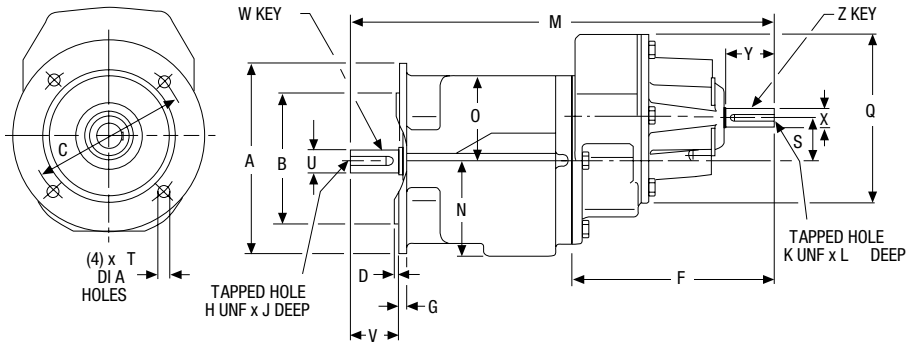


| Size  | O    | Q    | T   | Low Speed Shaft     |      |       |       | High Speed Shaft    |      |       |       |
|-------|------|------|-----|---------------------|------|-------|-------|---------------------|------|-------|-------|
|       |      |      |     | U<br>+.000<br>-.001 | V    | W-Key |       | X<br>+.000<br>-.001 | Y    | Z-Key |       |
|       |      |      |     |                     |      | Sq.   | Lgth. |                     |      | Sq.   | Lgth. |
| 832BF | 2.76 | 5.51 | .39 | .750                | 1.57 | .19   | 1.28  | .6250               | 1.57 | .19   | 1.28  |
| 842BF | 3.46 | 5.51 | .47 | 1.000               | 1.97 | .25   | 1.75  | .6250               | 1.57 | .19   | 1.28  |
| 862BF | 4.53 | 7.09 | .59 | 1.250               | 2.36 | .25   | 2.00  | .7500               | 1.57 | .19   | 1.28  |
| 872BF | 5.43 | 8.35 | .59 | 1.625               | 3.15 | .38   | 2.37  | .8750               | 1.97 | .19   | 1.28  |

192 [www.bostongear.com](http://www.bostongear.com)

# 800 Series In-Line Helical Gear Drives Dimensions

## 800BF Series Triple Reduction; Non-Flanged Output Flange Mounted



G

| Size  | A     | B<br>+.000<br>-.003 | C     | D   | F    | G   | H   | J    | K    | L   | M     | N    |
|-------|-------|---------------------|-------|-----|------|-----|-----|------|------|-----|-------|------|
| 833BF | 6.30  | 4.331               | 5.12  | .14 | 6.57 | .28 | 1/4 | .63  | 1/4  | .49 | 13.78 | 3.15 |
| 843BF | 7.87  | 5.118               | 6.50  | .14 | 6.57 | .47 | 1/4 | .63  | 1/4  | .49 | 14.69 | 3.74 |
| 863BF | 9.84  | 7.087               | 8.46  | .16 | 6.97 | .47 | 3/8 | .87  | 1/4  | .63 | 17.13 | 4.45 |
| 873BF | 11.81 | 9.055               | 10.43 | .16 | 7.76 | .55 | 5/8 | 1.38 | 5/16 | .63 | 20.55 | 5.43 |

| Size  | O    | Q    | S    | T   | Low Speed Shaft     |      |       |       | High Speed Shaft    |      |       |       |
|-------|------|------|------|-----|---------------------|------|-------|-------|---------------------|------|-------|-------|
|       |      |      |      |     | U<br>+.000<br>-.001 | V    | W-Key |       | X<br>+.000<br>-.001 | Y    | Z-Key |       |
|       |      |      |      |     |                     |      | Sq.   | Lgth. |                     |      | Sq.   | Lgth. |
| 833BF | 2.76 | 5.51 | 1.40 | .39 | .750                | 1.57 | .19   | 1.28  | .625                | 1.57 | .19   | 1.28  |
| 843BF | 3.46 | 5.51 | 1.40 | .47 | 1.000               | 1.97 | .25   | 1.75  | .625                | 1.57 | .19   | 1.28  |
| 863BF | 4.53 | 5.51 | 1.83 | .59 | 1.250               | 2.36 | .25   | 2.00  | .625                | 1.57 | .19   | 1.28  |
| 873BF | 5.43 | 7.09 | 2.34 | .59 | 1.625               | 3.15 | .38   | 2.37  | .750                | 1.57 | .19   | 1.28  |

Output shaft rotation, relative to input shaft rotation, is identical for double reduction and opposite for triple reduction.

# 800 Series Washdown Duty



Boston Gear's Bost-Kleen and Stainless Bost-Kleen reducers assure contamination-safe operation in the most stringent environmental conditions.

## White Bost-Kleen™

- Washable and Scrubbable
- Stainless Steel Output Shafts
- Exposed hardware made of stainless steel
- Corrosion Resistant
- Durable White Epoxy Finish
- Includes all the standard 800 features
- Limited Lifetime Warranty
- Cast Iron Housing
- Plated Pressure Relief Valves Standard
- Standard NEMA C-face or projecting input shaft configurations
- Single, Double and Triple reduction ratios from 1:5:1 to 250:1
- Indoor use only (Not UV rated)



### Available options on BK and SBK

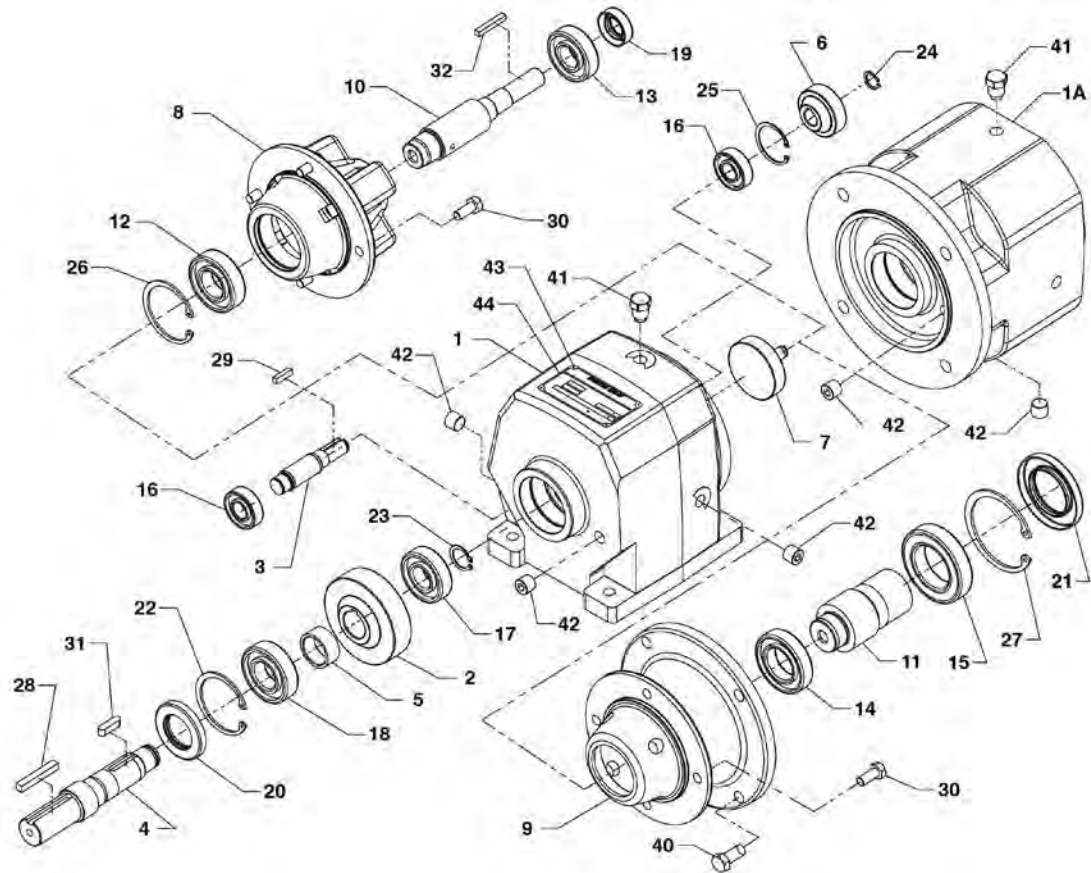
- Premounted Stainless Washdown Motors
- Prelubrication from the factory see page 16 for a complete list of lubrication options

## Stainless Bost-Kleen

- Includes all the features of the standard white Bost-Kleen reducers
- U.S.D.A. approved for use in food processing and handling industry where incidental food contact may occur
- Excluder seal on solid output shaft units
- Durable stainless steel epoxy coating system utilizes a unique #316L stainless steel leafing pigment. This catalyzed system creates a hard, non-toxic metallic finish



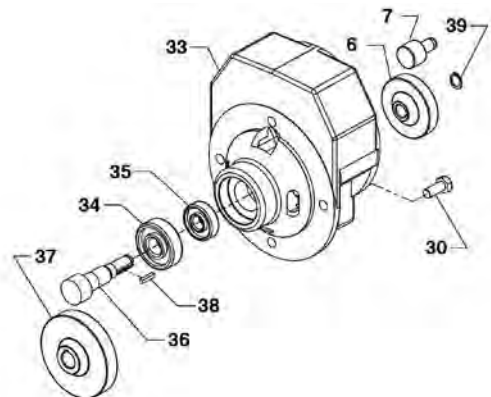
# 800 Series Parts List – In-Line Helical Gear Drives



G

| Item No. | Description of Part                 |
|----------|-------------------------------------|
| 1        | HOUSING, BASE MOUNT                 |
| 1A       | HOUSING, FLANGE MOUNT               |
| 2        | HELICAL GEAR OUTPUT                 |
| 3        | HELICAL PINION, OUTPUT              |
| 4        | OUTPUT SHAFT                        |
| 5        | OUTPUT SPACER                       |
| 6        | HELICAL GEAR, 1ST RED               |
| 7        | HELICAL PINION, 1ST RED             |
| 8        | INPUT BEARING CARRIER               |
| 9        | MOTOR FLANGE (B5/B7-B9/B11)         |
| 10       | INPUT REDUCER SHAFT                 |
| 11       | INPUT MOTOR SHAFT                   |
| 12       | BEARING, INPUT SHAFT (INBOARD)      |
| 13       | BEARING, INPUT SHAFT (OUTBOARD)     |
| 14       | BEARING, MOTOR SHAFT (INBOARD)      |
| 15       | BEARING, MOTOR SHAFT (OUTBOARD)     |
| 16       | BEARING, OUTPUT PINION              |
| 17       | BEARING, OUTPUT SHAFT (INBOARD)     |
| 18       | BEARING, OUTPUT SHAFT (OUTPUT)      |
| 19       | OIL SEAL, INPUT REDUCTOR SHAFT      |
| 20       | OIL SEAL, OUTPUT SHAFT              |
| 21       | OIL SEAL, INPUT MOTOR SHAFT         |
| 22       | RETAINING RING, OUTPUT (HOUSING)    |
| 23       | RETAINING RING, OUTPUT (SHAFT)      |
| 24       | RETAINING RING, OUTPUT PINION       |
| 25       | RETAINING RING, OUTPUT PINION BORE  |
| 26       | RETAINING RING, INPUT CARRIER       |
| 27       | RETAINING RING, B5/B7-B9/B11 FLANGE |
| 28       | KEY, OUTPUT SHAFT PROJECTION        |
| 29       | KEY, OUTPUT PINION                  |
| 30       | HEX HEAD CAP SCREWS                 |

## Triple Module

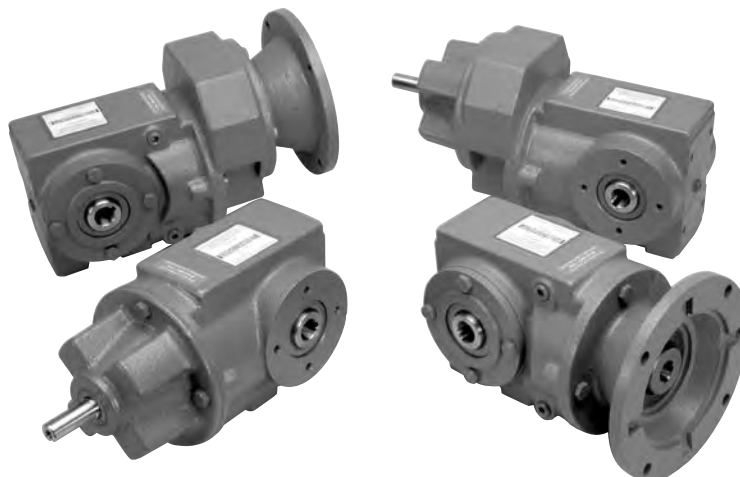


| Item No. | Description of Part          |
|----------|------------------------------|
| 31       | KEY, OUTPUT SHAFT            |
| 32       | KEY, INPUT REDUCTOR          |
| 33       | TRIPLE HOUSING ADAPTER       |
| 34       | BEARING                      |
| 35       | BEARING                      |
| 36       | HELICAL PINION, 2ND REDUCTOR |
| 37       | HELICAL GEAR, 2ND REDUCTOR   |
| 38       | KEY                          |
| 39       | RING                         |
| 40       | HEX HEAD CAP SCREW           |
| 41       | PLUG, OIL VENT               |
| 42       | PLUG, PIPE                   |
| 43       | NAMEPLATE TAPE               |
| 44       | NAMEPLATE                    |





# 800 Series Right Angle Helical Worm Gear Drives



## Easy to Select, Easy to Apply, Easy to Obtain

The Boston Gear 800BR Series contains a broad selection of compact, heavy-duty helical gear drives, with long life performance features and simplified maintenance. Models include double and triple reduction units in flanged or foot mounted arrangements. You can choose from a wide range of reduction ratios to suit specific applications and a variety of input shaft configurations for maximum positioning flexibility. All units are adaptable to floor, sidewall or ceiling mounting.

## Two Available USDA Approved Finishes

- Durable non-absorbent, non-toxic white (BK) or stainless epoxy finish (SBK)
- Washable & Scrubbable
- Includes all the standard 800BR features



## Section Contents

|                                                |                |
|------------------------------------------------|----------------|
| <b>Product Reference Guide</b> .....           | <b>198</b>     |
| <b>Interchange / How to Order</b> .....        | <b>199-201</b> |
| <b>Selection Procedure</b> .....               | <b>202-203</b> |
| <b>Overhung Load / Weights</b> .....           | <b>204</b>     |
| <b>Lubrication / Mounting</b> .....            | <b>205-206</b> |
| <b>Flanged Gear Drive Ratings</b> .....        | <b>207-221</b> |
| <b>Non-Flanged Gear Drive Ratings</b> .....    | <b>222-231</b> |
| <b>Flanged Gear Drive Dimensions</b> .....     | <b>232-233</b> |
| <b>Non-Flanged Gear Drive Dimensions</b> ..... | <b>234-235</b> |
| <b>Accessories / Parts List</b> .....          | <b>236-238</b> |

# Product Selection / Reference Guide

## 800 Series Helical Gear Drives

### SF800BR Series Right Angle Helical Worm Flanged



**Double Reduction  
Flange Input**  
Selection Pages 207-221  
Dimensions-Page 232



**Triple Reduction  
Flange Input**  
Selection Pages 207-221  
Dimensions-Page 233

### SF800BR Series Right Angle Helical Worm Non-Flanged



**Double Reduction**  
Selection Pages 207-221  
Dimensions-Page 234



**Triple Reduction**  
Selection Pages 207-221  
Dimensions-Page 235

### SF/S800BR Series Accessories and Options



**Output Flange Kits**  
Dimensions-Page 236



**Torque Arm Kits**  
Dimensions-Page 236



**Base Kits**  
Dimensions-Page 237



**Output Shaft Kits**  
Dimensions-Page 237

# 800 Series Right Angle Helical Worm Gear Drives

## The Inside Story

Available in USDA approved finish for washdown applications

Oil seal location provides easy, access for routine product maintenance. Additionally, all sizes can be double sealed on the high speed shaft for severe applications.

All units shipped prelubricated for your particular mounting position.

Available in both standard NEMA C-Face flanged and direct input non-flanged configurations. NEMA C-Face units allow for direct assembly of the reducer and motor.



Rugged housing of fine grained, gear quality cast iron provides maximum strength and durability.

The use of state of the art helical and worm gear combinations affords optimum performance fulfilling a wide variety of ratio requirements.

Available in both hollow and projecting output shaft styles.

Modular base allows dimensional interchangeability with major European manufacturers.

A wide range of available gear reduction ratios, from 8:1 to 900:1, allows the 800BR Series to fulfill a broad range of output speed requirements.

Super finished oil seal diameter on both input and output shafts provide extended life for double lipped seals.

**REDUCER  
EXPRESS  
SAME DAY  
GUARANTEED  
SHIPMENT**

See page 356 for conditions.

H

# 800 Series Right Angle Helical Worm Gear Drives

## Interchange Guide



**Base Mounted  
NEMA C-Face  
SF800BRB**



**Base Mounted  
S800BRB**



**Output Flange Mount  
NEMA C-Face  
SF800BRF**



**Output Flange Mount  
S800BRF**

Boston Gear 800BR Series Right Angle Helical-Worm Gear Drives are designed to be functionally interchangeable with these and many other manufacturer's drives. This chart is intended to be a guide only. Please see appropriate manufacturer's catalogs for exact details regarding ratings and dimensions.

| Manufacturers | Size | Base Mounted*<br>NEMA C-Face<br>SF800BRB | Base Mounted*<br>S800BRB | Output Flange Mount<br>NEMA C-Face<br>SF800BRF | Output Flange<br>Mount<br>S800BRF |
|---------------|------|------------------------------------------|--------------------------|------------------------------------------------|-----------------------------------|
| Boston        | 830  | SF832BRB/SF833BRB                        | S832BRB/S833BRB          | SF832BRF/SF833BRF                              | S832BRF/S833BRF                   |
| SEW Eurodrive | 32   | SA32LP                                   | SA32                     | SAF32LP                                        | SAF32                             |
| Falk          | 03   | UWCQ2(3)-A                               | UWCQ2(3)-N               | UWCQ2(3)-A                                     | UWCQ2(3)-N                        |
| David Brown   | C03  | C032(3)BAN                               | C032(3)BRN               | C032(3)BAF                                     | C032(3)BRF                        |
| Flender       | NA   | Not Available                            | Not Available            | Not Available                                  | Not Available                     |
| Stober        | S102 | S102VN-MR                                | S102VN-AW                | S102AF-MR                                      | S102AF-AW                         |
| Nord          | N/A  | Not Available                            | Not Available            | Not Available                                  | Not Available                     |
| Boston        | 840  | SF842BRB/SF843BRB                        | S842BRB/S843BRB          | SF842BRF/SF843BRF                              | S842BRF/S843BRF                   |
| SEW Eurodrive | 42   | SA42LP                                   | SA42                     | SAF42LP                                        | SAF42                             |
| Falk          | 04   | UWCQ2(3)-A                               | UWCQ2(3)-N               | UWCQ2(3)-A                                     | UWCQ2(3)-N                        |
| David Brown   | C04  | C042(3)BAN                               | C042(3)BRN               | C042(3)BAF                                     | C042(3)BRF                        |
| Flender       | 21   | CA21- (M,G, or A)                        | CA21A                    | CF21- (M, G or A)                              | CF21A                             |
| Stober        | S200 | S202/3VN-MR                              | S202/3VN-AW              | S202/3AF-MR                                    | S202/3AF-AW                       |
| Nord          | SK04 | SK02040A                                 | SK02040A                 | SK02040AF                                      | SK02040AF-W                       |
| Boston        | 850  | SF852BRB/SF853BRB                        | S852BRB/S853BRB          | SF852BRF/SF853BRF                              | S852BRF/S853BRF                   |
| SEW Eurodrive | 52   | SA52LP                                   | SA52                     | SAF52LP                                        | SAF52                             |
| Falk          | 05   | UWCQ2(3)-A                               | UWCQ2(3)-N               | UWCQ2(3)-A                                     | UWCQ2(3)-N                        |
| David Brown   | C05  | C052(3)BAN                               | C052(3)BRN               | C052(3)BAF                                     | C052(3)BRF                        |
| Flender       | 41   | CA41- (M,G, or A)                        | CA41A                    | CF41-(M, G or A)                               | CF41A                             |
| Stober        | S300 | S302/3VN-MR                              | S302/3VN-AW              | S302/3AF-MR                                    | S302/3AF-AW                       |
| Nord          | SK05 | SK02(13)050A                             | SK02(13)050A-W           | SK02(13)050AF                                  | SK02(13)050AF                     |
| Boston        | 860  | SF862BRB/SF863BRB                        | S862BRB/S863BRB          | SF862BRF/SF863BRF                              | S862BRF/S863BRF                   |
| SEW Eurodrive | 62   | SA62LP                                   | SA62                     | SAF62LP                                        | SAF62                             |
| Falk          | 06   | UWCQ2(3)-A                               | UWCQ2(3)-N               | UWCQ2(3)-A                                     | UWCQ2(3)-N                        |
| David Brown   | C06  | C062(3)BAN                               | C062(3)BRN               | C062(3)BAF                                     | C062(3)BRF                        |
| Flender       | 61   | CA61- (M,G or A)                         | CA61A                    | CF61-(M, G or A)                               | CF61A                             |
| Stober        | S400 | S402/3VN-MR                              | S402/3VN-AW              | S402/3AF-MR                                    | S402/3AF-AW                       |
| Nord          | SK06 | SK12(3)063A                              | SK12(3)063A-W            | SK23(3)063AF-W                                 | SK23(3)063AF-W                    |

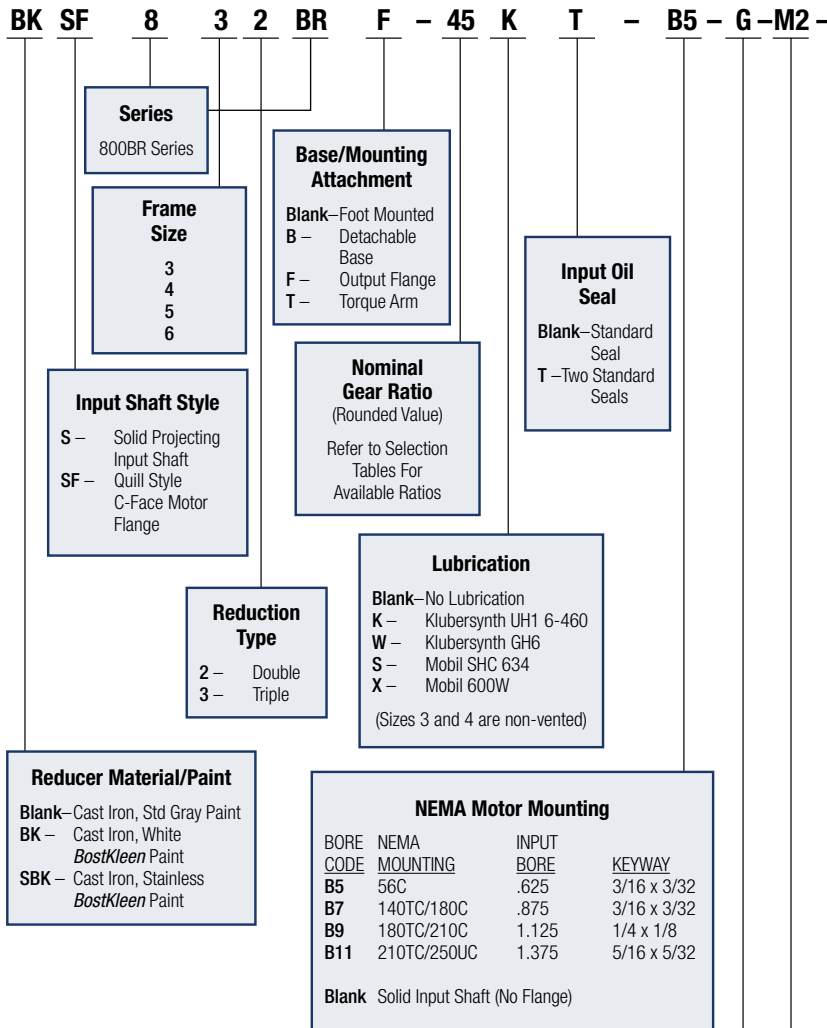
\* Detachable base kit required. See page 237.

If you require assistance with an interchange, please contact our interchange hotline at 1-888-999-9860 ext 5335.

# 800 Series Right Angle Helical Worm Selection Tables

## Numbering System / How to Order

### 800 Series Right Angle Helical Worm Gear Drives



### How to Order

#### EXAMPLE:

Required flange input, NEMA 56C, 3/4 HP, Class I, detachable base, 45:1 ratio, lubricated, with double output shaft and standard mounting position.

#### Order:

1 pc SF832BR-45K-B5  
or item code F01425

1 pc XS830BR-11K (Base Kit)  
or 5 digit item code 59610

1 pc XS830BR-3PBK (Output Shaft)  
or 5 digit item code 59609

If components are to be factory assembled specify as SF832BRB-45K B5 H.

#### Output Shaft Projection

Blank – Carbon Steel Hollow Shaft  
G – Carbon Steel Left Projection  
H – Carbon Steel Double Projection  
J – Carbon Steel Right Projection  
S – Stainless Hollow Shaft  
GS – Stainless Left Projection  
HS – Stainless Double Projection  
JS – Stainless Right Projection

#### Mounting Positions

Blank – No Lubrication  
M1-M6 – Lubrication per Mounting Positions in Catalog

### Clutch/Brake

### Motor

**CMBA56U-6 - HUTF5/8-IDB - 3**

| Common C-Face Brake Installed       |       |           |
|-------------------------------------|-------|-----------|
| 115/230 VAC 60hz                    | Ft-Lb | Bore Code |
| CMBA56R-3                           | 3     | B5        |
| CMBA56R-6                           | 6     | B5        |
| CMBA140TR-6                         | 6     | B7        |
| 208-230/460 VAC 60hz                | Ft-Lb | Bore Code |
| CMBA56U-3                           | 3     | B5        |
| CMBA56U-6                           | 6     | B5        |
| CMBA140TU-6                         | 6     | B7        |
| Other sizes available. See catalog. |       |           |

#### Motor Conduit Box Orientation

(When looking at fan end of motor)

0 – 12 O'clock  
3 – 3 O'clock  
6 – 6 O'clock  
9 – 9 O'clock

| Common C-Face Motors Installed |           |                  |                  |
|--------------------------------|-----------|------------------|------------------|
| HP Rating                      | Bore Code | AC Voltage       |                  |
|                                |           | 115/208-230-1-60 | 208-230/460-3-60 |
| 1/4 HP                         | B5        | DRTFB            | DUTFB            |
| 1/3 HP                         | B5        | ERTFB            | EUTFB            |
| 1/2 HP                         | B5        | FRTFB            | FUTFB            |
|                                | B5        |                  | FUT-SS           |
|                                | B5        |                  | FUTF-IDB         |
| 3/4 HP                         | B5        | GRTFB            | GUTFB            |
|                                | B5        |                  | GUT-SS           |
|                                | B5        |                  | GUTF-IDB         |
| 1 HP                           | B5        | HRTF-5/8B        | HUTF5/8B         |
|                                | B5        |                  | HUT5/8-SS        |
|                                | B5        |                  | HUTF5/8-IDB      |
|                                | B7        |                  | HUTFB            |
|                                | B7        |                  | HUT-SS           |
|                                | B7        |                  | HUTF-IDB         |
| 1.5 HP                         | B7        |                  | JUTFB            |
|                                | B7        |                  | JUTF-SS          |
|                                | B7        |                  | JUTF-IDB         |
| 2 HP                           | B5        |                  | KUTF5/8B         |
|                                | B7        |                  | KUTFB            |
|                                | B7        |                  | KUTF-SS          |
|                                | B7        |                  | KUTF-IDB         |
| 3 HP                           | B9        |                  | LUTFB            |
|                                | B9        |                  | LUTF-SS          |
|                                | B9        |                  | LUTF-IDB         |
| 5 HP                           | B9        |                  | MUTFB            |

Other motors available, please see catalog pages 333 to 342.

T – Totally enclosed non-ventilated  
TF – Totally enclosed fan cooled  
SS – Stainless  
IDB – Inverter Duty (10:1 turn down constant torque)  
B5 – 56C  
B7 – 140TC  
B9 – 180TC

# 800 Series Right Angle Helical Worm Gear Drives

## Motorized Gear Drives

1. Determine application service factor from page 203 or from Application Classifications on page 348-349.
2. Determine output speed required.
3. Determine HP or output torque requirement.
4. Select based on output speed and horsepower requirement for given service class.
5. Check overhung load Ref. calculation.

### Example

Select a right angle motorized helical-worm shaft mounted gear drive and motor to drive a uniformly loaded line conveyor 24 hours/day requiring 2 HP at 35 RPM.

#### Power Requirement

230/460 volt  
3 phase  
60 hertz

1. Select Service Factor Class from page 203.  
Service Class = II
2. Output RPM = 35
3. 2 HP
4. Select a 2 HP drive that will satisfy min. of II service class.
5. Order: 1 - SF862BR-50K-B7 (F01613) Ref. Page 201  
1 - KUTF Motor

## Overhung Load (Not Required for Example)

If the output shaft of a gear drive is connected to the driven machine by other than a flexible coupling, an overhung load is imposed on the shaft. This load may be calculated as follows:

$$OHL = \frac{2 TK}{D}$$

OHL = Overhung Load (LB.)  
T = Shaft Torque (LB.-INS.)  
D = PD of Sprocket, Pinion or Pulley (IN.)  
K = Load Connection Factor

## Load Connection Factor (K)

Sprocket or Timing Belt ..... 1.00  
Pinion and Gear Drive ..... 1.25  
Pulley and V-Belt Drive ..... 1.50  
Pulley and Flat Belt Drive ..... 2.50

An overhung load greater than permissible load value may be reduced to an acceptable value by the use of a sprocket, pinion or pulley of a larger PD. Relocation of the load closer to the center of gear drive will also increase OHL capacity.

Permissible Overhung Loads and Output Shaft Thrust Loads are listed for each gear drive in the Tables on Page 204.

# 800 Series Right Angle Helical-Worm Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS

| Approx.<br>Output<br>RPM | Nominal<br>Ratio* | NON-FLANGED      |             |                                  | FLANGED (GEARMOTORS) |                             |                    |                                                |
|--------------------------|-------------------|------------------|-------------|----------------------------------|----------------------|-----------------------------|--------------------|------------------------------------------------|
|                          |                   | GEAR Capacity    |             | Catalog<br>Number<br>(Item Code) | Motor<br>HP          | Ratings<br>Output<br>Torque | Service<br>Class** | Catalog Number<br>(Item Code)<br>Shaft Mounted |
|                          |                   | Output<br>Torque | HP<br>Input |                                  |                      |                             |                    |                                                |
| 35                       | 50                | 3248             | 2.24        | S852BR-50K<br>(F01304)           | 2                    | 2899                        | I                  | SF852BR-50K-B7<br>(F01547)                     |
|                          |                   |                  |             |                                  | 1.5                  | 2174                        | II                 |                                                |
|                          |                   | 5930             | 3.79        | S862BR-50K<br>(F01349)           | 1                    | 1499                        | III                | SF852BR-50K-B5<br>(F01546)                     |
|                          |                   |                  |             |                                  | 3                    | 4692                        | I                  | SF862BR-50K-B9<br>(F01614)                     |
|                          |                   |                  |             |                                  | 2                    | 3128                        | II                 | SF862BR-50K-B7<br>(F01613)                     |
|                          |                   |                  |             |                                  | 1.5                  | 2346                        | III                |                                                |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service Class III (S.F. = 2.00)

Overhung Load Ratings refer to Page 204.



# 800 Series Right Angle Helical Worm Gear Drives

To properly select a gear drive, the following application information should be known.

1. Service Factor or AGMA Service class.
2. Output Horsepower or Torque
3. Output RPM or Ratio  
(Maximum Input Speed 4500 RPM)

Consult Engineering for mounting positions: M2, M3, M4, and M6.

## Non-Motorized Gear Drives

1. Determine application service factor from the service factor chart on this page, or from Application Classifications on pages 348-349.
2. Determine design Horsepower or Torque.  
- Design HP = Application HP x S.F.  
- Design Torque = Application Torque x S.F.
3. Select a Gear drive that satisfies output RPM, service class and/or output torque requirement.
4. Overhung shaft load should be checked when belt or chain drives are used, to prevent premature shaft or bearing failure. Ref. page 204 for calculations.

## Example

Select a right angle 800BR Series Gear Drive for a continuous duty concrete mixer requiring 2800 lb-in. of torque at approx. 140 RPM, to operate up to 8 hrs/day. The Gear Drive will be driven at 1160 input RPM.

1. Application Service Factor = 1.25
2. Design Torque =  $2800 \times 1.25 = 3500$
3. Select at speed and torque level of 3500 lb-ins. or greater.
4. Order 862BR-8K.

Order solid projecting shaft, output mounting flange or reaction torque arms from available kits reference pages 236 and 237.

**NOTE:** The use of an auxiliary drive between the gear drive and the driven machine reduces the torque required at the output shaft in direct proportion to the auxiliary drive ratio.

A 3:1 chain ratio would reduce the torque requirement at the output shaft of the gear drive to one-third, resulting in a smaller unit size selection.

## SERVICE FACTOR CHART

| AGMA Class of Service | Service Factor | Operating Conditions                                                                               |
|-----------------------|----------------|----------------------------------------------------------------------------------------------------|
| I                     | 1              | Moderate Shock-not more than 15 minutes in 2 hours<br>Uniform Load-not more than 10 hours per day. |
| II                    | 1.25           | Moderate Shock-not more than 10 hours per day.<br>Uniform Load-more than 10 hours per day.         |
|                       | 1.5            | Heavy Shock-not more than 15 minutes in 2 hours.<br>Moderate Shock-more than 10 hours per day.     |
| III                   | 1.75           | Heavy Shock-not more than 10 hours per day.                                                        |
|                       | 2.00           | Heavy Shock-more than 10 hours per day.                                                            |

For complete AGMA Service Factors and Load Classifications, see Engineering Pages 348-349.

# 800 Series Right Angle Helical-Worm Ratings

## Non-Flanged; Input Speeds 1750, 1450 and 1160 RPM Service Factor 1.0

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 |                    |                              |                 |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|
|                | 1750 RPM           |                             |                 | 1450 RPM           |                             |                 | 1160 RPM           |                              |                 |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |
| 832BR-8K       | 218                | 689                         | 2.65            | 181                | 717                         | 2.30            | 145                | 751                          | 1.95            |
| 842BR-8K       | 218                | 1100                        | 4.39            | 181                | 1152                        | 3.81            | 145                | 1209                         | 3.23            |
| 852BR-8K       | 218                | 1678                        | 6.66            | 181                | 1829                        | 6.00            | 145                | 1991                         | 5.28            |
| 862BR-8K       | 218                | 2910                        | 11.40           | 181                | 3292                        | 10.20           | 145                | 3607                         | 8.98            |

# 800 Series Right Angle Helical Worm Gear Drives

## Overhung Loads (lbs) & Axial Thrusts (lbs)

### Overhung Loads & Axial Thrust Capacities on Output Shaft

| Output RPM | 832 / 833 |        | 842 / 843 |        | 852 / 853 |        | 862 / 863 |        |
|------------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
|            | OHL       | Thrust | OHL       | Thrust | OHL       | Thrust | OHL       | Thrust |
| 180        | 440       | 1650   | 1770      | 2570   | 1670      | 3420   | 1730      | 3920   |
| 125        | 440       | 1840   | 1770      | 2830   | 1670      | 3720   | 1720      | 4220   |
| 80         | 440       | 2260   | 1770      | 3410   | 1670      | 4220   | 1700      | 4990   |
| 50         | 440       | 2740   | 1770      | 4160   | 1670      | 5220   | 1660      | 5850   |
| 32         | 440       | 3000   | 1770      | 4530   | 1670      | 5540   | 1640      | 6400   |
| 25         | 440       | 3000   | 1770      | 4670   | 1670      | 5860   | 1620      | 6550   |
| 10         | 430       | 3890   | 1770      | 6160   | 1670      | 7760   | 1570      | 8550   |
| 5          | 430       | 4620   | 1770      | 7090   | 1670      | 9000   | 1560      | 10500  |
| 1          | 430       | 4840   | 1770      | 7130   | 1660      | 8950   | 1560      | 10500  |

### Overhung Loads (LBS) on Input Shaft at 1750 RPM

| Ratio | Size |     |     |     |
|-------|------|-----|-----|-----|
|       | 832  | 842 | 852 | 862 |
| 8.0   | 290  | 270 | 255 | 300 |
| 14.0  | 300  | 280 | 260 | 315 |
| 20.0  | 300  | 285 | 265 | 320 |
| 32.0  | 305  | 290 | 265 | 320 |
| 50.0  | 310  | 290 | 270 | 320 |
| 71.0  | 310  | 295 | 265 | 315 |
| 112.0 | 310  | 305 | 280 | 320 |
| 160.0 | 320  | 305 | 280 | 335 |
| 250.0 | 320  | 310 | 290 | 345 |

| Ratio | Size |     |     |     |
|-------|------|-----|-----|-----|
|       | 833  | 843 | 853 | 863 |
| 100.0 | 315  | 310 | 295 | 280 |
| 180.0 | 315  | 315 | 300 | 285 |
| 280.0 | 315  | 315 | 305 | 285 |
| 400.0 | 315  | 315 | 305 | 290 |
| 560.0 | 320  | 315 | 305 | 295 |
| 900.0 | 320  | 315 | 305 | 300 |

### Approximate Weights (LBS)

| NON-FLANGE Reducers |     | FLANGE Reducers |               |          |          |           |
|---------------------|-----|-----------------|---------------|----------|----------|-----------|
|                     |     | Size            | NEMA Mounting |          |          |           |
| Size                | Lbs |                 | 56C B5        | 140TC B7 | 180TC B9 | 210TC B11 |
| S832BR              | 24  | SF832BR         | 26            | 26       | —        | —         |
| S842BR              | 32  | SF842BR         | 31            | 31       | 34       | —         |
| S852BR              | 39  | SF852BR         | —             | 35       | 38       | —         |
| S862BR              | 70  | SF862BR         | —             | —        | 80       | 80        |
| S833BR              | 32  | SF833BR         | 33            | —        | —        | —         |
| S843BR              | 40  | SF843BR         | 39            | —        | —        | —         |
| S853BR              | 47  | SF853BR         | 43            | —        | —        | —         |
| S863BR              | 83  | SF863BR         | 78            | 78       | —        | —         |

# 800 Series Right Angle Helical Worm Gear Drives

## Lubricant and Quantity

Klubersynth UH1 6-460 is recommended for the 800BR Series gear drives and at all times, the lubricant must remain free from contamination. Normal operating temperatures range between 150°F - 170°F. During the initial break-in of the gear drive, higher than normal operating temperatures may result.

All gear drives are supplied filled with UH1 6-460 synthetic oil and with the quantity listed below for standard mounting position M1 or to mounting specified at time of order.

- Sizes 832/833BR and 842/843BR do not require a vent plug.
- Sizes 852/853BR and 862/863BR will require an oil change after 20,000 hours of operation. More frequent changes may be required when operating in high temperature ranges or unusually contaminated environments.
- Satisfactory performance may be obtained in some applications with non-synthetic oils and will require more frequent changes.

| Recommended Lubricant | ISO Viscosity Grade No. | Viscosity Range SUS @100°F | Boston Gear Item Code |
|-----------------------|-------------------------|----------------------------|-----------------------|
|                       |                         |                            | Quart                 |
| Klubersynth UH1 6-460 | 460                     | 1950/2500                  | 65159                 |
| Mobile SHC634         | 320 / 460               | 1950/2500                  | 51493                 |

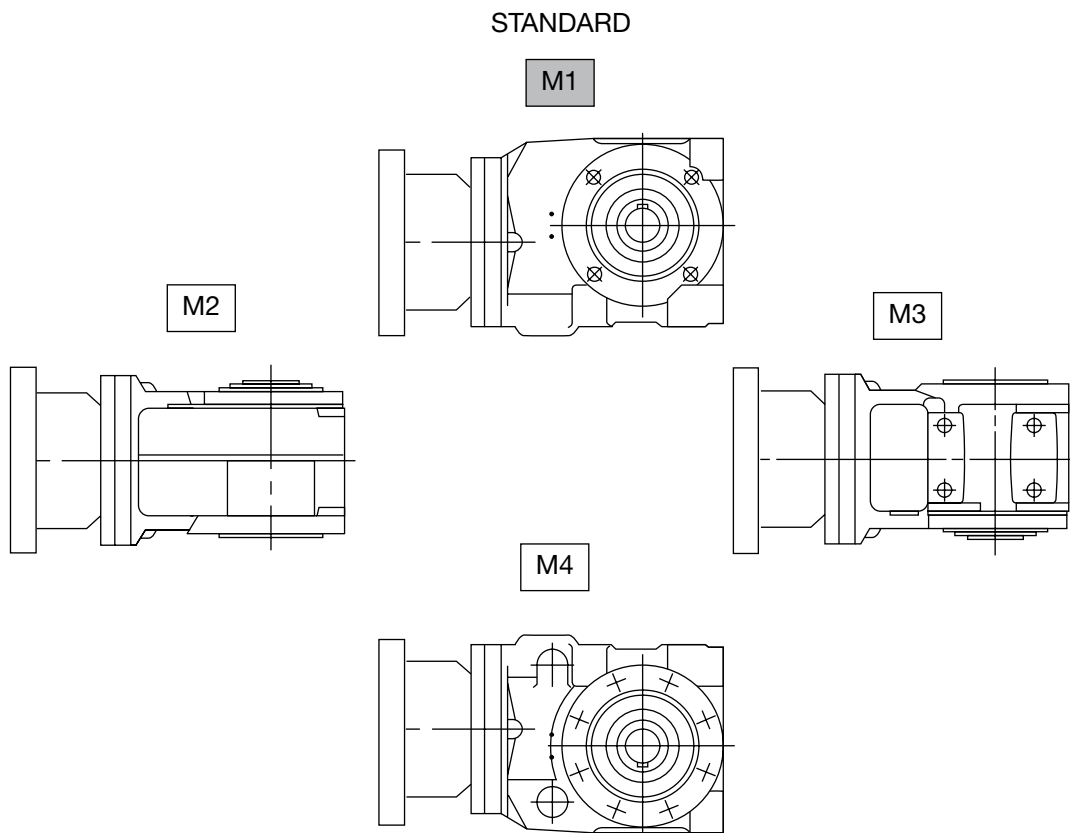
Ambient temperature range of -20F to +125F is suitable for standard configured products and ratings. Contact technical support for operating conditions beyond this range.

## Oil Capacities (PINTS)

| Unit Size | Mounting Positions |     |     |     |     |      |
|-----------|--------------------|-----|-----|-----|-----|------|
|           | M1                 | M2  | M3  | M4  | M5  | M6   |
| 832BR     | .80                | 1.0 | 1.0 | 1.7 | 1.7 | 1.7  |
| 833BR     | 2.3                | 1.3 | 1.3 | 2.8 | 2.8 | 2.8  |
| 842BR     | 1.2                | 1.6 | 1.6 | 2.0 | 2.0 | 2.0  |
| 843BR     | 2.6                | 1.8 | 1.8 | 3.2 | 3.4 | 3.4  |
| 852BR     | 1.8                | 2.3 | 2.3 | 2.7 | 3.8 | 3.8  |
| 853BR     | 3.2                | 2.8 | 2.8 | 4.4 | 4.8 | 4.8  |
| 862BR     | 4.0                | 4.6 | 4.6 | 7.0 | 7.0 | 7.0  |
| 863BR     | 7.0                | 5.8 | 5.8 | 8.8 | 9.6 | 10.0 |

# 800 Series Right Angle Helical Worm Mounting Positions

## Horizontal Mountings



## Vertical Mountings



- Position M1 is standard and will be supplied with oil for this position unless otherwise specified.

**CAUTION:** Mounting of gear drives in overhead positions may be hazardous. Use of external guides or supports is strongly recommended for overhead mounting. Avoiding those positions where the high speed oil seal is immersed in oil will provide greater security against high speed input seal wear.

**Note:** The above drawings will serve to represent both flanges and non-flanged styles.

# 800 Series Right Angle Helical Worm Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS†

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            | Flanged (Gearmotors) |                              |                    |                                |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------|------------------------------|--------------------|--------------------------------|
|                          |        | Gear Capacity                |             | Catalog No.<br>(Item Code) | Ratings              |                              |                    | Catalog No.<br>(Item Code)     |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP |                            | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | Service<br>Class** |                                |
| 218                      | 8      | 689                          | 2.65        | S832BR-8K-M1<br>(F01218)   | 2<br>1.5             | 519<br>389                   | I<br>II            | SF832BR-8K-B7-M1<br>(F01432)   |
|                          |        |                              |             |                            | 1                    | 260                          | III                | SF832BR-8K-B5-M1<br>(F01431)   |
|                          |        | 1160                         | 4.39        | S842BR-8K-M1<br>(F01263)   | 3                    | 751                          | II                 | SF842BR-8K-B9-M1<br>(F01491)   |
|                          |        |                              |             |                            | 2                    | 500                          | III                | SF842BR-8K-B7-M1<br>(F01490)   |
|                          |        | 1678                         | 6.66        | S852BR-8K-M1<br>(F01309)   | 5<br>3               | 1260<br>755                  | I<br>III           | SF852BR-8K-B9-M1<br>(F01558)   |
|                          |        | 2940                         | 11.40       | S862BR-8K-M1<br>(F01354)   | 10<br>7.5            | 2578<br>1933                 | I<br>II            | SF862BR-8K-B11-M1<br>(F01622)  |
|                          |        |                              |             |                            | 5                    | 1289                         | III                | SF862BR-8K-B9-M1<br>(F01623)   |
| 159                      | 11     | 742                          | 2.14        | S832BR-11K-M1<br>(F01195)  | 2<br>1.5             | 694<br>520                   | I<br>II            | SF832BR-11K-B7-M1<br>(F01404)  |
|                          |        |                              |             |                            | 1                    | 347                          | II                 | SF832BR-11K-B5-M1<br>(F01403)  |
|                          |        | 1194                         | 3.57        | S842BR-11K-M1<br>(F01240)  | 3                    | 1003                         | I                  | SF842BR-11K-B9-M1<br>(F01453)  |
|                          |        |                              |             |                            | 2<br>1.5             | 668<br>501                   | II<br>III          | SF842BR-11K-B7-M1<br>(F01452)  |
|                          |        | 1930                         | 5.52        | S852BR-11K-M1<br>(F01285)  | 5<br>3               | 1746<br>1048                 | I<br>II            | SF852BR-11K-B9-M1<br>(F01517)  |
|                          |        |                              |             |                            | 2                    | 666                          | III                | SF852BR-11K-B7-M1<br>(F01516)  |
|                          |        | 3480                         | 9.38        | S862BR-11K-M1<br>(F01331)  | 7.5                  | 2780                         | I                  | SF862BR-11K-B11-M1<br>(F01584) |
|                          |        |                              |             |                            | 5<br>3               | 1853<br>1112                 | II<br>III          | SF862BR-11K-B9-M1<br>(F01585)  |
| 145<br>(CONT.)           | 12     | 787                          | 1.95        | S832BR-12K-M1<br>(F01197)  | 1.5                  | 605                          | I                  | SF832BR-12K-B7-M1<br>(F01407)  |
|                          |        |                              |             |                            | 1<br>.75             | 403<br>302                   | II<br>III          | SF832BR-12K-B5-M1<br>(F01406)  |
|                          |        | 1264                         | 3.25        | S842BR-12K-M1<br>(F01242)  | 3                    | 1166                         | I                  | SF842BR-12K-B9-M1<br>(F01456)  |
|                          |        |                              |             |                            | 2<br>1.5             | 777<br>583                   | II<br>III          | SF842BR-12K-B7-M1<br>(F01455)  |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 204.

† For Base / Projecting Shaft / Output Flange see How to Order Page 201.

# 800 Series Right Angle Helical Worm Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS†

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            | Flanged (Gearmotors) |                              |                    |                                |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------|------------------------------|--------------------|--------------------------------|
|                          |        | Gear Capacity                |             | Catalog No.<br>(Item Code) | Ratings              |                              |                    | Catalog No.<br>(Item Code)     |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP |                            | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | Service<br>Class** |                                |
| 145<br>(CONT)            | 12     | 2010                         | 5.22        | S852BR-12K-M1<br>(F01287)  | 5<br>3               | 1924<br>1155                 | I<br>II            | SF852BR-12K-B9-M1<br>(F01520)  |
|                          |        |                              |             |                            | 2                    | 770                          | III                | SF852BR-12K-B7-M1<br>(F01519)  |
|                          |        | 3646                         | 8.77        | S862BR-12K-M1<br>(F01333)  | 7.5                  | 3117                         | I                  | SF862BR-12K-B11-M1<br>(F01587) |
|                          |        |                              |             |                            | 5<br>3               | 2078<br>1246                 | II<br>III          | SF862BR-12K-B9-M1<br>(F01588)  |
| 125                      | 14     | 790                          | 1.79        | S832BR-14K-M1<br>(F01199)  | 1.5                  | 662                          | I                  | SF832BR-14K-B7-M1<br>(F01410)  |
|                          |        |                              |             |                            | 1<br>.75             | 441<br>330                   | II<br>III          | SF832BR-14K-B5-M1<br>(F01409)  |
|                          |        | 1288                         | 2.99        | S842BR-14K-M1<br>(F01244)  | 3                    | 1288                         | I                  | SF842BR-14K-B9-M1<br>(F01459)  |
|                          |        |                              |             |                            | 2<br>1.5             | 861<br>646                   | II<br>III          | SF842BR-14K-B7-M1<br>(F01458)  |
|                          |        | 2060                         | 4.85        | S852BR-14K-M1<br>(F01289)  | 3                    | 1274                         | II                 | SF852BR-14K-B9-M1<br>(F01523)  |
|                          |        |                              |             |                            | 2                    | 849                          | III                | SF852BR-14K-B7-M1<br>(F01522)  |
|                          |        | 3827                         | 8.20        | S862BR-14K-M1<br>(F01335)  | 7.5                  | 3498                         | I                  | SF862BR-14K-B11-M1<br>(F01591) |
|                          |        |                              |             |                            | 5<br>3               | 2332<br>1399                 | II<br>III          | SF862BR-14K-B9-M1<br>(F01592)  |
| 109                      | 16     | 730                          | 1.70        | S832BR-16K-M1<br>(F01201)  | 1.5                  | 644                          | I                  | SF832BR-16K-B7-M1<br>(F01413)  |
|                          |        |                              |             |                            | 1<br>.75             | 430<br>322                   | II<br>III          | SF832BR-16K-B5-M1<br>(F01412)  |
|                          |        | 1218                         | 2.72        | S842BR-16K-M1<br>(F01246)  | 2<br>1.5             | 895<br>671                   | I<br>II            | SF842BR-16K-B7-M1<br>(F01462)  |
|                          |        |                              |             |                            | 1                    | 448                          | III                | SF842BR-16K-B5-M1<br>(F01461)  |
|                          |        | 2710                         | 5.92        | S852BR-16K-M1<br>(F01291)  | 5<br>3               | 2287<br>1372                 | I<br>III           | SF852BR-16K-B9-M1<br>(F01525)  |
|                          |        | 4199                         | 9.03        | S862BR-16K-M1<br>(F01337)  | 7.5                  | 3054                         | I                  | SF862BR-16K-B11-M1<br>(F01595) |
|                          |        |                              |             |                            | 5<br>3               | 2323<br>1393                 | II<br>III          | SF862BR-16K-B9-M1<br>(F01596)  |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 204.

† For Base / Projecting Shaft / Output Flange see How to Order Page 201.

# 800 Series Right Angle Helical Worm Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS†

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            | Flanged (Gearmotors) |                              |                    |                               |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------|------------------------------|--------------------|-------------------------------|
|                          |        | Gear Capacity                |             | Catalog No.<br>(Item Code) | Ratings              |                              |                    | Catalog No.<br>(Item Code)    |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP |                            | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | Service<br>Class** |                               |
| 97                       | 18     | 864                          | 1.50        | S832BR-18K-M1<br>(F01202)  | 1.5                  | 864                          | I                  | SF832BR-18K-B7-M1<br>(F01415) |
|                          |        |                              |             |                            | 1<br>.75             | 576<br>432                   | II<br>III          | SF832BR-18K-B5-M1<br>(F01414) |
|                          |        | 1388                         | 2.50        | S842BR-18K-M1<br>(F01247)  | 2<br>1.5             | 1110<br>832                  | I<br>II            | SF842BR-18K-B7-M1<br>(F01464) |
|                          |        |                              |             |                            | 1                    | 555                          | III                | SF842BR-18K-B5-M1<br>(F01463) |
|                          |        | 2162                         | 4.21        | S852BR-18K-M1<br>(F01292)  | 3                    | 1540                         | I                  | SF852BR-18K-B9-M1<br>(F01527) |
|                          |        |                              |             |                            | 2                    | 1026                         | III                | SF852BR-18K-B7-M1<br>(F01526) |
| 87                       | 20     | 860                          | 1.43        | S832BR-20K-M1<br>(F01203)  | 1<br>.75             | 600<br>451                   | I<br>III           | SF832BR-20K-B5-M1<br>(F01416) |
|                          |        |                              |             |                            | 2<br>1.5             | 1173<br>880                  | I<br>II            | SF842BR-20K-B7-M1<br>(F01466) |
|                          |        | 1391                         | 2.37        | S842BR-20K-M1<br>(F01248)  | 1                    | 586                          | III                | SF842BR-20K-B5-M1<br>(F01465) |
|                          |        |                              |             |                            | 3                    | 1803                         | I                  | SF852BR-20K-B9-M1<br>(F01529) |
|                          |        | 2345                         | 3.90        | S852BR-20K-M1<br>(F01294)  | 2<br>1.5             | 1202<br>902                  | II<br>III          | SF852BR-20K-B7-M1<br>(F01528) |
|                          |        |                              |             |                            | 5<br>3               | 3343<br>2006                 | I<br>III           | SF862BR-20K-B9-M1<br>(F01598) |
| 79                       | 22     | 804                          | 1.39        | S832BR-22K-M1<br>(F01205)  | 1<br>.75<br>.50      | 578<br>434<br>289            | I<br>II<br>III     | SF832BR-22K-B5-M1<br>(F01418) |
|                          |        |                              |             |                            | 2<br>1.5             | 1184<br>888                  | I<br>II            | SF842BR-22K-B7-M1<br>(F01470) |
|                          |        | 1321                         | 2.23        | S842BR-22K-M1<br>(F01250)  | 1                    | 592                          | III                | SF842BR-22K-B5-M1<br>(F01468) |
|                          |        |                              |             |                            | 5<br>3               | 3086<br>1889                 | I<br>II            | SF852BR-22K-B9-M1<br>(F01532) |
|                          |        | 3086                         | 4.90        | S852BR-22K-M1<br>(F01296)  | 2                    | 1259                         | III                | SF852BR-22K-B7-M1<br>(F01531) |
|                          |        |                              |             |                            | 5<br>3               | 3226<br>1935                 | II<br>III          | SF862BR-22K-B9-M1<br>(F01601) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 204.

† For Base / Projecting Shaft / Output Flange see How to Order Page 201.

H



# 800 Series Right Angle Helical Worm Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS†

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            | Flanged (Gearmotors) |                              |                    |                               |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------|------------------------------|--------------------|-------------------------------|
|                          |        | Gear Capacity                |             | Catalog No.<br>(Item Code) | Ratings              |                              |                    | Catalog No.<br>(Item Code)    |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP |                            | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | Service<br>Class** |                               |
| 70                       | 25     | 843                          | 1.28        | S832BR-25K-M1<br>(F01207)  | 1<br>.75<br>.50      | 658<br>494<br>329            | I<br>II<br>III     | SF832BR-25K-B5-M1<br>(F01420) |
|                          |        | 1389                         | 2.04        | S842BR-25K-M1<br>(F01252)  | 2<br>1.5             | 1360<br>1020                 | I<br>I             | SF842BR-25K-B7-M1<br>(F01473) |
|                          |        |                              |             |                            | 1                    | 680                          | III                | SF842BR-25K-B5-M1<br>(F01472) |
|                          |        | 3177                         | 4.62        | S852BR-25K-M1<br>(F01298)  | 3                    | 2062                         | II                 | SF852BR-25K-B9-M1<br>(F01535) |
|                          |        |                              |             |                            | 2                    | 1374                         | III                | SF852BR-25K-B7-M1<br>(F01534) |
|                          |        | 5026                         | 6.94        | S862BR-25K-M1<br>(F01343)  | 5<br>3               | 3620<br>2172                 | I<br>III           | SF862BR-25K-B9-M1<br>(F01603) |
| 62                       | 28     | 862                          | 1.17        | S832BR-28K-M1<br>(F01208)  | 1<br>.75<br>.50      | 736<br>552<br>368            | I<br>II<br>III     | SF832BR-28K-B5-M1<br>(F01421) |
|                          |        | 1363                         | 1.88        | S842BR-28K-M1<br>(F01253)  | 1.5                  | 1087                         | I                  | SF842BR-28K-B7-M1<br>(F01475) |
|                          |        |                              |             |                            | 1<br>.75             | 725<br>543                   | II<br>III          | SF842BR-28K-B5-M1<br>(F01474) |
|                          |        | 3200                         | 4.24        | S852BR-28K-M1<br>(F01299)  | 3                    | 2263                         | I                  | SF852BR-28K-B9-M1<br>(F01537) |
|                          |        |                              |             |                            | 2                    | 1508                         | III                | SF852BR-28K-B7-M1<br>(F01536) |
|                          |        | 5290                         | 6.49        | S862BR-28K-M1<br>(F01344)  | 5<br>3               | 4073<br>2444                 | I<br>III           | SF862BR-28K-B9-M1<br>(F01604) |
| 54                       | 32     | 971                          | 1.00        | S832BR-32K-M1<br>(F01209)  | 1<br>.75<br>.50      | 971<br>728<br>485            | I<br>II<br>III     | SF832BR-32K-B5-M1<br>(F01422) |
|                          |        | 1560                         | 1.66        | S842BR-32K-M1<br>(F01254)  | 1.5                  | 1409                         | I                  | SF842BR-32K-B7-M1<br>(F01477) |
|                          |        |                              |             |                            | 1<br>.75             | 940<br>705                   | II<br>III          | SF842BR-32K-B5-M1<br>(F01476) |
|                          |        | 2813                         | 2.98        | S852BR-32K-M1<br>(F01300)  | 3                    | 2813                         | I                  | SF852BR-32K-B9-M1<br>(F01539) |
|                          |        |                              |             |                            | 2<br>1.5             | 1887<br>1415                 | II<br>III          | SF852BR-32K-B7-M1<br>(F01538) |
|                          |        | 5184                         | 4.93        | S862BR-32K-M1<br>(F01345)  | 3                    | 3153                         | II                 | SF862BR-32K-B9-M1<br>(F01606) |
|                          |        |                              |             |                            | 2                    | 2102                         | III                | SF862BR-32K-B7-M1<br>(F01605) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 204.

† For Base / Projecting Shaft / Output Flange see How to Order Page 201.

# 800 Series Right Angle Helical Worm Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS†

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            | Flanged (Gearmotors) |                              |                    |                               |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------|------------------------------|--------------------|-------------------------------|
|                          |        | Gear Capacity                |             | Catalog No.<br>(Item Code) | Ratings              |                              |                    | Catalog No.<br>(Item Code)    |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP |                            | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | Service<br>Class** |                               |
| 48                       | 36     | 936                          | 0.99        | S832BR-36K-M1<br>(F01210)  | 1<br>.75<br>.50      | 936<br>709<br>472            | I<br>I<br>III      | SF832BR-36K-B5-M1<br>(F01423) |
|                          |        | 1525                         | 1.59        | S842BR-36K-M1<br>(F01255)  | 1.5                  | 1438                         | I                  | SF842BR-36K-B7-M1<br>(F01479) |
|                          |        |                              |             |                            | 1<br>.75             | 959<br>719                   | II<br>III          | SF842BR-36K-B5-M1<br>(F01478) |
|                          |        | 3262                         | 3.59        | S852BR-36K-M1<br>(F01301)  | 3                    | 2722                         | I                  | SF852BR-36K-B9-M1<br>(F01541) |
|                          |        |                              |             |                            | 2                    | 1816                         | II                 | SF852BR-36K-B7-M1<br>(F01540) |
|                          |        | 5768                         | 5.65        | S862BR-36K-M1<br>(F01346)  | 5<br>3               | 5102<br>3061                 | I<br>II            | SF862BR-36K-B9-M1<br>(F01608) |
|                          |        |                              |             |                            | 2                    | 2040                         | III                | SF862BR-36K-B7-M1<br>(F01607) |
|                          |        |                              |             |                            |                      |                              |                    |                               |
| 43                       | 40     | 933                          | 0.94        | S832BR-40K-M1<br>(F01211)  | .75<br>.50<br>.33    | 744<br>746<br>330            | I<br>II<br>III     | SF832BR-40K-B5-M1<br>(F01424) |
|                          |        | 1527                         | 1.51        | S842BR-40K-M1<br>(F01256)  | 1.5                  | 1516                         | I                  | SF842BR-40K-B7-M1<br>(F01481) |
|                          |        |                              |             |                            | 1<br>.75             | 1010<br>758                  | II<br>III          | SF842BR-40K-B5-M1<br>(F01480) |
|                          |        | 3453                         | 3.28        | S852BR-40K-M1<br>(F01302)  | 3                    | 3156                         | I                  | SF852BR-40K-B9-M1<br>(F01543) |
|                          |        |                              |             |                            | 2<br>1.5             | 2104<br>1578                 | II<br>III          | SF852BR-40K-B7-M1<br>(F01542) |
|                          |        | 6045                         | 5.25        | S862BR-40K-M1<br>(F01347)  | 5<br>3               | 5754<br>3453                 | I<br>II            | SF862BR-40K-B9-M1<br>(F01610) |
|                          |        |                              |             |                            | 2                    | 2302                         | III                | SF862BR-40K-B7-M1<br>(F01609) |
|                          |        |                              |             |                            |                      |                              |                    |                               |
| 38<br>(CONT.)            | 45     | 1032                         | 0.8         | S832BR-45K-M1<br>(F01212)  | .75<br>.50<br>.33    | 967<br>644<br>430            | I<br>II<br>III     | SF832BR-45K-B5-M1<br>(F01425) |
|                          |        | 1669                         | 1.34        | S842BR-45K-M1<br>(F01257)  | 1<br>.75<br>.50      | 1244<br>933<br>622           | I<br>II<br>III     | SF842BR-45K-B5-M1<br>(F01482) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.  
\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)  
Actual Output RPM = Input Speed ÷ Actual Ratio.  
For Overhung Load Ratings refer to Page 204.  
† For Base / Projecting Shaft / Output Flange see How to Order Page 201.

H

# 800 Series Right Angle Helical Worm Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS†

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            | Flanged (Gearmotors) |                              |                    |                               |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------|------------------------------|--------------------|-------------------------------|
|                          |        | Gear Capacity                |             | Catalog No.<br>(Item Code) | Ratings              |                              |                    | Catalog No.<br>(Item Code)    |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP |                            | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | Service<br>Class** |                               |
| 38<br>(CONT.)            | 45     | 3165                         | 2.37        | S852BR-45K-M1<br>(F01303)  | 2<br>1.5             | 2669<br>1978                 | I<br>II            | SF852BR-45K-B7-M1<br>(F01545) |
|                          |        |                              |             |                            | 1                    | 1335                         | III                | SF852BR-45K-B5-M1<br>(F01544) |
|                          |        | 5810                         | 3.95        | S862BR-45K-M1<br>(F01348)  | 3                    | 4410                         | I                  | SF862BR-45K-B9-M1<br>(F01612) |
|                          |        |                              |             |                            | 2                    | 3407                         | II                 | SF862BR-45K-B7-M1<br>(F01611) |
| 35                       | 50     | 1000                         | 0.71        | S832BR-50K-M1<br>(F01213)  | .50<br>.33           | 703<br>469                   | I<br>III           | SF832BR-50K-B5-M1<br>(F01426) |
|                          |        | 1616                         | 1.19        | S842BR-50K-M1<br>(F01258)  | 1<br>.75<br>.50      | 1354<br>1015<br>677          | I<br>II<br>III     | SF842BR-50K-B5-M1<br>(F01483) |
|                          |        | 3248                         | 2.24        | S852BR-50K-M1<br>(F01304)  | 2<br>1.5             | 2899<br>2174                 | I<br>II            | SF852BR-50K-B7-M1<br>(F01547) |
|                          |        |                              |             |                            | 1                    | 1449                         | III                | SF852BR-50K-B5-M1<br>(F01546) |
|                          |        | 5930                         | 3.79        | S862BR-50K-M1<br>(F01349)  | 3                    | 4692                         | I                  | SF862BR-50K-B9-M1<br>(F01614) |
|                          |        |                              |             |                            | 2<br>1.5             | 3128<br>2346                 | II<br>III          | SF862BR-50K-B7-M1<br>(F01613) |
|                          |        | 1033                         | 0.74        | S832BR-56K-M1<br>(F01214)  | .75<br>.50<br>.33    | 1033<br>698<br>465           | I<br>II<br>III     | SF832BR-56K-B5-M1<br>(F01427) |
|                          |        | 1670                         | 1.18        | S842BR-56K-M1<br>(F01259)  | 1<br>.75<br>.50      | 1416<br>1062<br>708          | I<br>II<br>III     | SF842BR-56K-B5-M1<br>(F01484) |
| 31                       | 56     | 3813                         | 2.63        | S852BR-56K-M1<br>(F01305)  | 2<br>1.5             | 2900<br>2174                 | I<br>II            | SF852BR-56K-B7-M1<br>(F01549) |
|                          |        |                              |             |                            | 1                    | 1449                         | III                | SF852BR-56K-B5-M1<br>(F01548) |
|                          |        | 6500                         | 4.2         | S862BR-56K-M1<br>(F01350)  | 3                    | 4633                         | I                  | SF862BR-56K-B9-M1<br>(F01616) |
|                          |        |                              |             |                            | 2                    | 3088                         | III                | SF862BR-56K-B7-M1<br>(F01615) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.  
\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)  
Actual Output RPM = Input Speed ÷ Actual Ratio.  
For Overhung Load Ratings refer to Page 204.  
† For Base / Projecting Shaft / Output Flange see How to Order Page 201.

# 800 Series Right Angle Helical Worm Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS†

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            | Flanged (Gearmotors) |                              |                    |                               |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------|------------------------------|--------------------|-------------------------------|
|                          |        | Gear Capacity                |             | Catalog No.<br>(Item Code) | Ratings              |                              |                    | Catalog No.<br>(Item Code)    |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP |                            | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | Service<br>Class** |                               |
| 27                       | 63     | 1040                         | 0.67        | S832BR-63K-M1<br>(F01215)  | .50<br>.33           | 775<br>517                   | I<br>III           | SF832BR-63K-B5-M1<br>(F01428) |
|                          |        | 1710                         | 1.07        | S842BR-63K-M1<br>(F01260)  | 1<br>.75<br>.50      | 1597<br>1197<br>800          | I<br>II<br>III     | SF842BR-63K-B5-M1<br>(F01485) |
|                          |        | 3899                         | 2.39        | S852BR-63K-M1<br>(F01306)  | 2<br>1.5             | 3261<br>2446                 | I<br>II            | SF852BR-63K-B7-M1<br>(F01552) |
|                          |        |                              |             |                            | 1                    | 1630                         | III                | SF852BR-63K-B5-M1<br>(F01550) |
|                          |        | 6720                         | 3.76        | S862BR-63K-M1<br>(F01351)  | 3                    | 5360                         | I                  | SF862BR-63K-B9-M1<br>(F01618) |
|                          |        |                              |             |                            | 2<br>1.5             | 3574<br>2680                 | II<br>III          | SF862BR-63K-B7-M1<br>(F01617) |
| 24                       | 71     | 1192                         | 0.59        | S832BR-71K-M1<br>(F01216)  | .50<br>.33<br>.25    | 1009<br>673<br>505           | I<br>II<br>III     | SF832BR-71K-B5-M1<br>(F01429) |
|                          |        | 1739                         | 0.88        | S842BR-71K-M1<br>(F01261)  | .75<br>.50<br>.33    | 1482<br>950<br>658           | I<br>II<br>III     | SF842BR-71K-B5-M1<br>(F01487) |
|                          |        | 3225                         | 1.71        | S852BR-71K-M1<br>(F01307)  | 1.5                  | 2828                         | I                  | SF852BR-71K-B7-M1<br>(F01555) |
|                          |        |                              |             |                            | 1<br>.75             | 1885<br>1414                 | II<br>III          | SF852BR-71K-B5-M1<br>(F01554) |
|                          |        | 6645                         | 2.94        | S862BR-71K-M1<br>(F01352)  | 2<br>1.5             | 4520<br>3389                 | II<br>III          | SF862BR-71K-B7-M1<br>(F01619) |
|                          |        |                              |             |                            |                      |                              |                    |                               |
| 21                       | 80     | 1250                         | 0.54        | S832BR-80K-M1<br>(F01217)  | .50<br>.33<br>.25    | 1158<br>772<br>579           | I<br>II<br>III     | SF832BR-80K-B5-M1<br>(F01430) |
|                          |        | 1619                         | 0.74        | S842BR-80K-M1<br>(F01262)  | .75<br>.50<br>.33    | 1640<br>1093<br>729          | I<br>II<br>III     | SF842BR-80K-B5-M1<br>(F01488) |
|                          |        | 3453                         | 1.5         | S852BR-80K-M1<br>(F01308)  | 1.5                  | 3453                         | I                  | SF852BR-80K-B7-M1<br>(F01557) |
|                          |        |                              |             |                            | 1<br>.75             | 2368<br>1776                 | II<br>III          | SF852BR-80K-B5-M1<br>(F01556) |
|                          |        | 6783                         | 2.77        | S862BR-80K-M1<br>(F01353)  | 2<br>1.5             | 4895<br>3671                 | I<br>II            | SF862BR-80K-B7-M1<br>(F01621) |
|                          |        |                              |             |                            | 1                    | 2444                         | III                | SF862BR-80K-B5-M1<br>(F01620) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.  
\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)  
Actual Output RPM = Input Speed ÷ Actual Ratio.  
For Overhung Load Ratings refer to Page 204.  
† For Base / Projecting Shaft / Output Flange see How to Order Page 201.

H

# 800 Series Right Angle Helical Worm Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS†

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            | Flanged (Gearmotors) |                              |                    |                                |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------|------------------------------|--------------------|--------------------------------|
|                          |        | Gear Capacity                |             | Catalog No.<br>(Item Code) | Ratings              |                              |                    | Catalog No.<br>(Item Code)     |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP |                            | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | Service<br>Class** |                                |
| 19                       | 90     | 1187                         | 0.57        | S832BR-90K-M1<br>(F01219)  | 0.5<br>0.33<br>0.25  | 1040<br>693<br>520           | I<br>II<br>III     | SF832BR-90K-B5-M1<br>(F01433)  |
|                          |        | 1934                         | 0.91        | S842BR-90K-M1<br>(F01264)  | 0.75<br>0.5<br>0.33  | 1593<br>1062<br>708          | I<br>II<br>III     | SF842BR-90K-B5-M1<br>(F01492)  |
|                          |        | 4178                         | 1.82        | S852BR-90K-M1<br>(F01310)  | 1.5                  | 3442                         | I                  | SF852BR-90K-B7-M1<br>(F01560)  |
|                          |        |                              |             |                            | 1<br>0.75            | 2295<br>1720                 | II<br>III          | SF852BR-90K-B5-M1<br>(F01559)  |
|                          |        | 7514                         | 3.05        | S862BR-90K-M1<br>(F01355)  | 3                    | 7388                         | I                  | SF862BR-90K-B9-M1<br>(F01625)  |
|                          |        |                              |             |                            | 2<br>1.5             | 4925<br>3694                 | II<br>III          | SF862BR-90K-B7-M1<br>(F01624)  |
| 17                       | 100    | 1120                         | 0.51        | S832BR-100K-M1<br>(F01193) | 0.5<br>0.33<br>0.25  | 1098<br>732<br>549           | I<br>II<br>III     | SF832BR-100K-B5-M1<br>(F01401) |
|                          |        | 1302                         | 0.47        | S833BR-100K-M1<br>(F01220) | 0.33<br>0.25<br>0.16 | 923<br>692<br>461            | I<br>II<br>III     | SF833BR-100K-B5-M1<br>(F01434) |
|                          |        | 1835                         | 0.81        | S842BR-100K-M1<br>(F01238) | 0.75<br>0.5<br>0.33  | 1697<br>1132<br>755          | I<br>II<br>III     | SF842BR-100K-B5-M1<br>(F01450) |
|                          |        | 1700                         | 0.63        | S843BR-100K-M1<br>(F01265) | 0.5<br>0.33<br>0.25  | 1349<br>900<br>674           | I<br>II<br>III     | SF843BR-100K-B5-M1<br>(F01495) |
|                          |        | 4225                         | 1.71        | S852BR-100K-M1<br>(F01283) | 1.5                  | 3704                         | I                  | SF852BR-100K-B7-M1<br>(F01514) |
|                          |        |                              |             |                            | 1<br>0.75            | 2469<br>1852                 | II<br>III          | SF852BR-100K-B5-M1<br>(F01513) |
|                          |        | 3477                         | 1.22        | S853BR-100K-M1<br>(F01311) | 1<br>0.75<br>0.5     | 2849<br>2136<br>1424         | I<br>II<br>III     | SF853BR-100K-B5-M1<br>(F01563) |
|                          |        | 7539                         | 2.87        | S862BR-100K-M1<br>(F01329) | 2<br>1.5             | 5252<br>3939                 | I<br>III           | SF862BR-100K-B7-M1<br>(F01581) |
|                          |        | 7173                         | 2.34        | S863BR-100K-M1<br>(F01356) | 2<br>1.5             | 6128<br>4596                 | I<br>II            | SF863BR-100K-B7-M1<br>(F01627) |
|                          |        |                              |             |                            | 1                    | 3064                         | III                | SF863BR-100K-B5-M1<br>(F01626) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 204.

† For Base / Projecting Shaft / Output Flange see How to Order Page 201.

□ Indicates Triple Reduction

# 800 Series Right Angle Helical Worm Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS†

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            | Flanged (Gearmotors) |                              |                    |                                |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------|------------------------------|--------------------|--------------------------------|
|                          |        | Gear Capacity                |             | Catalog No.<br>(Item Code) | Ratings              |                              |                    | Catalog No.<br>(Item Code)     |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP |                            | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | Service<br>Class** |                                |
| 15                       | 112    | 1360                         | 0.44        | S832BR-112K-M1<br>(F01194) | .33<br>.25<br>.16    | 1029<br>772<br>514           | I<br>II<br>III     | SF832BR-112K-B5-M1<br>(F01402) |
|                          |        | 1412                         | 0.48        | S842BR-112K-M1<br>(F01239) | .33<br>.25<br>.16    | 980<br>735<br>490            | I<br>II<br>III     | SF842BR-112K-B5-M1<br>(F01451) |
|                          |        | 3088                         | 1.00        | S852BR-112K-M1<br>(F01284) | 1<br>.75<br>.50      | 3088<br>2317<br>1544         | I<br>II<br>III     | SF852BR-112K-B5-M1<br>(F01515) |
|                          |        | 6574                         | 1.97        | S862BR-112K-M1<br>(F01330) | 1.5                  | 5003                         | I                  | SF862BR-112K-B7-M1<br>(F01583) |
|                          |        |                              |             |                            | 1<br>.75             | 3366<br>2502                 | II<br>III          | SF862BR-112K-B5-M1<br>(F01582) |
| 14                       | 118    | 1321                         | 0.42        | S833BR-118K-M1<br>(F01221) | .33<br>.25<br>.16    | 1048<br>786<br>524           | I<br>II<br>III     | SF833BR-118K-B5-M1<br>(F01435) |
|                          |        | 1698                         | 0.55        | S843BR-118K-M1<br>(F01266) | .50<br>.33<br>.25    | 1543<br>1029<br>772          | I<br>II<br>III     | SF843BR-118K-B5-M1<br>(F01496) |
|                          |        | 3436                         | 1.07        | S853BR-118K-M1<br>(F01312) | 1<br>.75<br>.50      | 3210<br>2407<br>1605         | I<br>II<br>III     | SF853BR-118K-B5-M1<br>(F01564) |
|                          |        | 7434                         | 2.14        | S863BR-118K-M1<br>(F01357) | 2<br>1.5             | 6945<br>5209                 | I<br>II            | SF863BR-118K-B7-M1<br>(F01629) |
|                          |        |                              |             |                            | 1                    | 3472                         | III                | SF863BR-118K-B5-M1<br>(F01628) |
| 14                       | 125    | 1311                         | 0.36        | S832BR-125K-M1<br>(F01196) | .33<br>.25<br>.16    | 1213<br>910<br>606           | I<br>II<br>III     | SF832BR-125K-B5-M1<br>(F01405) |
|                          |        | 1248                         | 0.36        | S842BR-125K-M1<br>(F01241) | .33<br>.25<br>.16    | 1155<br>866<br>578           | I<br>II<br>III     | SF842BR-125K-B5-M1<br>(F01454) |
|                          |        | 2630                         | 0.75        | S852BR-125K-M1<br>(F01286) | .75<br>.50<br>.33    | 2630<br>1753<br>1167         | I<br>II<br>III     | SF852BR-125K-B5-M1<br>(F01518) |
|                          |        | 4832                         | 1.28        | S862BR-125K-M1<br>(F01332) | 1<br>.75<br>.50      | 3773<br>2830<br>1886         | I<br>II<br>III     | SF862BR-125K-B5-M1<br>(F01586) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 204.

† For Base / Projecting Shaft / Output Flange see How to Order Page 201.

□ Indicates Triple Reduction

H

# 800 Series Right Angle Helical Worm Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS†

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            | Flanged (Gearmotors) |                              |                    |                                |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------|------------------------------|--------------------|--------------------------------|
|                          |        | Gear Capacity                |             | Catalog No.<br>(Item Code) | Ratings              |                              |                    | Catalog No.<br>(Item Code)     |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP |                            | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | Service<br>Class** |                                |
| 13                       | 132    | 1270                         | 0.42        | S833BR-132K-M1<br>(F01222) | .33<br>.25<br>.16    | 966<br>724<br>483            | I<br>II<br>III     | SF833BR-132K-B5-M1<br>(F01436) |
|                          |        | 1953                         | 0.66        | S843BR-132K-M1<br>(F01267) | .50<br>.33           | 1478<br>986                  | I<br>III           | SF843BR-132K-B5-M1<br>(F01497) |
|                          |        | 4596                         | 1.42        | S853BR-132K-M1<br>(F01313) | 1<br>.75<br>.50      | 3235<br>2426<br>1617         | I<br>II<br>III     | SF853BR-132K-B5-M1<br>(F01565) |
|                          |        | 7410                         | 2.21        | S863BR-132K-M1<br>(F01358) | 2<br>1.5             | 6739<br>5054                 | I<br>II            | SF863BR-132K-B7-M1<br>(F01631) |
|                          |        |                              |             |                            | 1                    | 3370                         | III                | SF863BR-132K-B5-M1<br>(F01630) |
| 12                       | 140    | 1310                         | 0.4         | S832BR-140K-M1<br>(F01198) | .33<br>.25<br>.16    | 1090<br>818<br>545           | I<br>II<br>III     | SF832BR-140K-B5-M1<br>(F01408) |
|                          |        | 2117                         | 0.64        | S842BR-140K-M1<br>(F01243) | .50<br>.33<br>.25    | 1653<br>1102<br>826          | I<br>II<br>III     | SF842BR-140K-B5-M1<br>(F01457) |
|                          |        | 4143                         | 1.3         | S852BR-140K-M1<br>(F01288) | 1<br>.75<br>.50      | 3186<br>2389<br>1592         | I<br>II<br>III     | SF852BR-140K-B5-M1<br>(F01521) |
|                          |        | 7520                         | 2.02        | S862BR-140K-M1<br>(F01334) | 2<br>1.5             | 7448<br>5586                 | I<br>I             | SF862BR-140K-B7-M1<br>(F01590) |
|                          |        |                              |             |                            | 1                    | 3724                         | III                | SF862BR-140K-B5-M1<br>(F01589) |
| 11                       | 150    | 1237                         | 0.4         | S833BR-150K-M1<br>(F01223) | .33<br>.25<br>.16    | 1030<br>773<br>515           | I<br>II<br>III     | SF833BR-150K-B5-M1<br>(F01437) |
|                          |        | 1980                         | 0.63        | S843BR-150K-M1<br>(F01268) | .50<br>.33<br>.25    | 1570<br>1047<br>785          | I<br>II<br>III     | SF843BR-150K-B5-M1<br>(F01498) |
|                          |        | 4604                         | 1.35        | S853BR-150K-M1<br>(F01314) | 1<br>.75<br>.50      | 3409<br>2557<br>1705         | I<br>II<br>III     | SF853BR-150K-B5-M1<br>(F01566) |
|                          |        | 7143                         | 2.00        | S863BR-150K-M1<br>(F01359) | 2<br>1.5             | 7143<br>5382                 | I<br>I             | SF863BR-150K-B7-M1<br>(F01633) |
|                          |        |                              |             |                            | 1                    | 3571                         | III                | SF863BR-150K-B5-M1<br>(F01632) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 204.

† For Base / Projecting Shaft / Output Flange see How to Order Page 201.

□ Indicates Triple Reduction



# 800 Series Right Angle Helical Worm Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS†

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            | Flanged (Gearmotors) |                              |                    |                                |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------|------------------------------|--------------------|--------------------------------|
|                          |        | Gear Capacity                |             | Catalog No.<br>(Item Code) | Ratings              |                              |                    | Catalog No.<br>(Item Code)     |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP |                            | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | Service<br>Class** |                                |
| 10                       | 160    | 1364                         | 0.37        | S832BR-160K-M1<br>(F01200) | .33<br>.25<br>.16    | 1228<br>921<br>614           | I<br>II<br>III     | SF832BR-160K-B5-M1<br>(F01411) |
|                          |        | 2216                         | 0.59        | S842BR-160K-M1<br>(F01245) | .50<br>.33<br>.25    | 1877<br>1251<br>939          | I<br>II<br>III     | SF842BR-160K-B5-M1<br>(F01460) |
|                          |        | 4738                         | 1.19        | S852BR-160K-M1<br>(F01290) | 1<br>.75<br>.50      | 3978<br>2984<br>1989         | I<br>II<br>III     | SF852BR-160K-B5-M1<br>(F01524) |
|                          |        | 7504                         | 1.86        | S862BR-160K-M1<br>(F01336) | 1.5                  | 6049                         | I                  | SF862BR-160K-B7-M1<br>(F01594) |
|                          |        |                              |             |                            | 1<br>.75             | 4033<br>3024                 | II<br>III          | SF862BR-160K-B5-M1<br>(F01593) |
|                          |        |                              |             |                            |                      |                              |                    |                                |
| 10                       | 160    | 1320                         | 0.33        | S833BR-160K-M1<br>(F01224) | .33<br>.25<br>.16    | 1320<br>1030<br>687          | I<br>I<br>II       | SF833BR-160K-B5-M1<br>(F01438) |
|                          |        | 1693                         | 0.41        | S843BR-160K-M1<br>(F01269) | .33<br>.25<br>.16    | 1376<br>1032<br>688          | I<br>II<br>III     | SF843BR-160K-B5-M1<br>(F01499) |
|                          |        | 3406                         | 0.79        | S853BR-160K-M1<br>(F01315) | .75<br>.50<br>.33    | 3233<br>2792<br>1437         | I<br>II<br>III     | SF853BR-160K-B5-M1<br>(F01567) |
|                          |        | 7431                         | 1.51        | S863BR-160K-M1<br>(F01360) | 1.5                  | 7378                         | I                  | SF863BR-160K-B7-M1<br>(F01635) |
|                          |        |                              |             |                            | 1<br>.75             | 4919<br>3689                 | II<br>III          | SF863BR-160K-B5-M1<br>(F01634) |
|                          |        |                              |             |                            |                      |                              |                    |                                |
| 9.1                      | 180    | 1247                         | 0.27        | S833BR-180K-M1<br>(F01225) | .25<br>.16           | 1153<br>769                  | I<br>II            | SF833BR-180K-B5-M1<br>(F01439) |
|                          |        | 1545                         | 0.35        | S843BR-180K-M1<br>(F01270) | .33<br>.25<br>.16    | 1471<br>1103<br>735          | I<br>I<br>III      | SF843BR-180K-B5-M1<br>(F01500) |
|                          |        | 3161                         | 0.68        | S853BR-180K-M1<br>(F01316) | .50<br>.33           | 2323<br>1549                 | I<br>III           | SF853BR-180K-B5-M1<br>(F01568) |
|                          |        | 7427                         | 1.39        | S863BR-180K-M1<br>(F01361) | 1<br>.75<br>.50      | 5341<br>4006<br>2670         | I<br>II<br>III     | SF863BR-180K-B5-M1<br>(F01636) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.  
\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)  
Actual Output RPM = Input Speed ÷ Actual Ratio.  
For Overhung Load Ratings refer to Page 204.  
† For Base / Projecting Shaft / Output Flange see How to Order Page 201.  
□ Indicates Triple Reduction

H

# 800 Series Right Angle Helical Worm Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS†

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            | Flanged (Gearmotors) |                              |                    |                                |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------|------------------------------|--------------------|--------------------------------|
|                          |        | Gear Capacity                |             | Catalog No.<br>(Item Code) | Ratings              |                              |                    | Catalog No.<br>(Item Code)     |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP |                            | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | Service<br>Class** |                                |
| 8.8                      | 200    | 1346                         | 0.33        | S833BR-200K-M1<br>(F01226) | .33<br>.25<br>.16    | 1346<br>1085<br>723          | I<br>I<br>II       | SF833BR-200K-B5-M1<br>(F01440) |
|                          |        | 2267                         | 0.5         | S843BR-200K-M1<br>(F01271) | .50<br>.33<br>.25    | 2264<br>1510<br>1133         | I<br>I<br>III      | SF843BR-200K-B5-M1<br>(F01501) |
|                          |        | 5139                         | 1.08        | S853BR-200K-M1<br>(F01317) | 1<br>.75<br>.50      | 4756<br>3567<br>2378         | I<br>II<br>III     | SF853BR-200K-B5-M1<br>(F01569) |
|                          |        | 7443                         | 1.49        | S863BR-200K-M1<br>(F01362) | 1<br>.75             | 4789<br>3745                 | II<br>III          | SF863BR-200K-B5-M1<br>(F01637) |
| 8.2                      | 212    | 1333                         | 0.28        | S832BR-212K-M1<br>(F01204) | .25<br>.16           | 1190<br>793                  | I<br>II            | SF832BR-212K-B5-M1<br>(F01417) |
|                          |        | 2352                         | 0.47        | S842BR-212K-M1<br>(F01249) | .33<br>.25<br>.16    | 1667<br>1250<br>833          | I<br>II<br>III     | SF842BR-212K-B5-M1<br>(F01467) |
|                          |        | 5021                         | 0.97        | S852BR-212K-M1<br>(F01295) | .75<br>.50           | 3880<br>2587                 | I<br>II            | SF852BR-212K-B5-M1<br>(F01530) |
|                          |        | 7607                         | 1.39        | S862BR-212K-M1<br>(F01340) | 1<br>.75<br>.50      | 5470<br>4103<br>2735         | I<br>II<br>III     | SF862BR-212K-B5-M1<br>(F01599) |
| 7.8                      | 225    | 1311                         | 0.27        | S833BR-225K-M1<br>(F01227) | .25<br>.16           | 1213<br>809                  | I<br>II            | SF833BR-225K-B5-M1<br>(F01441) |
|                          |        | 2346                         | 0.46        | S843BR-225K-M1<br>(F01272) | .33<br>.25<br>.16    | 1700<br>1274<br>850          | I<br>II<br>III     | SF843BR-225K-B5-M1<br>(F01502) |
|                          |        | 5260                         | 0.97        | S853BR-225K-M1<br>(F01318) | .75<br>.50<br>.33    | 4095<br>2803<br>1869         | I<br>II<br>III     | SF853BR-225K-B5-M1<br>(F01570) |
|                          |        | 7405                         | 1.32        | S863BR-225K-M1<br>(F01363) | 1<br>.75<br>.50      | 5608<br>4206<br>2804         | I<br>II<br>III     | SF863BR-225K-B5-M1<br>(F01638) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service Class III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 204.

† For Base / Projecting Shaft / Output Flange see How to Order Page 201.

□ Indicates Triple Reduction

# 800 Series Right Angle Helical Worm Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS†

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            | Flanged (Gearmotors) |                              |                    |                                |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------|------------------------------|--------------------|--------------------------------|
|                          |        | Gear Capacity                |             | Catalog No.<br>(Item Code) | Ratings              |                              |                    | Catalog No.<br>(Item Code)     |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP |                            | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | Service<br>Class** |                                |
| 7.0                      | 250    | 1382                         | 0.25        | S832BR-250K-M1<br>(F01206) | .25<br>.16           | 1382<br>920                  | I<br>II            | SF832BR-250K-B5-M1<br>(F01419) |
|                          |        | 2050                         | 0.36        | S842BR-250K-M1<br>(F01251) | .33<br>.25<br>.16    | 1898<br>1423<br>949          | I<br>II<br>III     | SF842BR-250K-B5-M1<br>(F01471) |
|                          |        | 4566                         | 0.75        | S852BR-250K-M1<br>(F01297) | .75<br>.50<br>.33    | 4566<br>3043<br>2197         | I<br>II<br>III     | SF852BR-250K-B5-M1<br>(F01533) |
|                          |        | 7676                         | 1.25        | S862BR-250K-M1<br>(F01342) | 1<br>.75<br>.50      | 6139<br>4604<br>3069         | I<br>II<br>III     | SF862BR-250K-B5-M1<br>(F01602) |
| 6.6                      | 265    | 1297                         | 0.20        | S833BR-265K-M1<br>(F01228) | .16                  | 1150                         | I                  | SF833BR-265K-B5-M1<br>(F01442) |
|                          |        | 1588                         | 0.25        | S843BR-265K-M1<br>(F01273) | .25<br>.16           | 1588<br>1058                 | I<br>II            | SF843BR-265K-B5-M1<br>(F01503) |
|                          |        | 3351                         | 0.49        | S853BR-265K-M1<br>(F01319) | .33<br>.25<br>.16    | 2279<br>1709<br>1139         | I<br>II<br>III     | SF853BR-265K-B5-M1<br>(F01571) |
|                          |        | 6895                         | 0.98        | S863BR-265K-M1<br>(F01364) | .75<br>.50<br>.33    | 5274<br>3516<br>2344         | I<br>II<br>III     | SF863BR-265K-B5-M1<br>(F01639) |
| 6.2                      | 280    | 1357                         | 0.18        | S833BR-280K-M1<br>(F01229) | .16                  | 1256                         | I                  | SF833BR-280K-B5-M1<br>(F01443) |
|                          |        | 1590                         | 0.23        | S843BR-280K-M1<br>(F01274) | .16                  | 1151                         | I                  | SF843BR-280K-B5-M1<br>(F01504) |
|                          |        | 3356                         | 0.44        | S853BR-280K-M1<br>(F01320) | .33<br>.25<br>.16    | 2541<br>1906<br>1270         | I<br>II<br>III     | SF853BR-280K-B5-M1<br>(F01572) |
|                          |        | 7671                         | 0.88        | S863BR-280K-M1<br>(F01365) | .75<br>.50<br>.33    | 6535<br>4357<br>2904         | I<br>II<br>III     | SF863BR-280K-B5-M1<br>(F01640) |
| 5.6<br>(CONT.)           | 315    | 1311                         | 0.20        | S833BR-315K-M1<br>(F01230) | .16                  | 1092                         | I                  | SF833BR-315K-B5-M1<br>(F01444) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 204.

† For Base / Projecting Shaft / Output Flange see How to Order Page 201.

□ Indicates Triple Reduction

H

# 800 Series Right Angle Helical Worm Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS†

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            | Flanged (Gearmotors) |                              |                    |                                |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------|------------------------------|--------------------|--------------------------------|
|                          |        | Gear Capacity                |             | Catalog No.<br>(Item Code) | Ratings              |                              |                    | Catalog No.<br>(Item Code)     |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP |                            | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | Service<br>Class** |                                |
| 5.6<br>(CONT.)           | 315    | 2620                         | 0.39        | S843BR-315K-M1<br>(F01275) | .33<br>.25<br>.16    | 2238<br>1679<br>1119         | I<br>II<br>III     | SF843BR-315K-B5-M1<br>(F01505) |
|                          |        | 5252                         | 0.75        | S853BR-315K-M1<br>(F01321) | .75<br>.50<br>.33    | 5252<br>3595<br>2397         | I<br>II<br>III     | SF853BR-315K-B5-M1<br>(F01573) |
|                          |        | 7490                         | 0.94        | S863BR-315K-M1<br>(F01366) | .75<br>.50<br>.33    | 5973<br>3982<br>2655         | I<br>I<br>II       | SF863BR-315K-B5-M1<br>(F01641) |
| 4.9                      | 360    | 1177                         | 0.18        | S833BR-360K-M1<br>(F01231) | .16                  | 1089                         | I                  | SF833BR-360K-B5-M1<br>(F01445) |
|                          |        | 2496                         | 0.35        | S843BR-360K-M1<br>(F01276) | .33<br>.25<br>.16    | 2376<br>1782<br>1188         | I<br>I<br>III      | SF843BR-360K-B5-M1<br>(F01506) |
|                          |        | 4862                         | 0.63        | S853BR-360K-M1<br>(F01322) | .50<br>.33<br>.25    | 3857<br>2571<br>1928         | I<br>II<br>III     | SF853BR-360K-B5-M1<br>(F01574) |
|                          |        | 7382                         | 0.87        | S863BR-360K-M1<br>(F01367) | .75<br>.50<br>.33    | 6361<br>4240<br>2827         | I<br>II<br>III     | SF863BR-360K-B5-M1<br>(F01642) |
| 4.4                      | 400    | 1296                         | 0.13        | S833BR-400K-M1<br>(F01232) | .16                  | 1296                         | I                  | SF833BR-400K-B5-M1<br>(F01446) |
|                          |        | 1647                         | 0.16        | S843BR-400K-M1<br>(F01277) | .16                  | 1647                         | I                  | SF843BR-400K-B5-M1<br>(F01507) |
|                          |        | 3368                         | 0.32        | S853BR-400K-M1<br>(F01323) | .25<br>.16           | 2630<br>1753                 | I<br>II            | SF853BR-400K-B5-M1<br>(F01575) |
|                          |        | 7686                         | 0.67        | S863BR-400K-M1<br>(F01368) | .50<br>.33           | 5733<br>3822                 | I<br>III           | SF863BR-400K-B5-M1<br>(F01643) |
| 3.9                      | 450    | 1279                         | 0.11        | S833BR-450K-M1<br>(F01233) | .16                  | 1279                         | I                  | SF833BR-450K-B5-M1<br>(F01447) |
|                          |        | 1572                         | 0.14        | S843BR-450K-M1<br>(F01278) | .16                  | 1572                         | I                  | SF843BR-450K-B5-M1<br>(F01508) |
|                          |        | 3305                         | 0.28        | S853BR-450K-M1<br>(F01324) | .25<br>.16           | 2950<br>1966                 | I<br>II            | SF853BR-450K-B5-M1<br>(F01576) |
|                          |        | 7692                         | 0.59        | S863BR-450K-M1<br>(F01369) | .50<br>.33<br>.25    | 6516<br>4344<br>3258         | I<br>II<br>III     | SF863BR-450K-B5-M1<br>(F01644) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.

\*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Overhung Load Ratings refer to Page 204.

† For Base / Projecting Shaft / Output Flange see How to Order Page 201.

□ Indicates Triple Reduction

# 800 Series Right Angle Helical Worm Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 222-231.  
ORDER BY CATALOG NUMBER OR ITEM CODE  
FOR STANDARD MOUNTING POSITIONS†

| Approx.<br>Output<br>RPM | Ratio* | Non-Flanged                  |             |                            | Flanged (Gearmotors) |                              |                    |                                |
|--------------------------|--------|------------------------------|-------------|----------------------------|----------------------|------------------------------|--------------------|--------------------------------|
|                          |        | Gear Capacity                |             | Catalog No.<br>(Item Code) | Ratings              |                              |                    | Catalog No.<br>(Item Code)     |
|                          |        | Output<br>Torque<br>(LB-IN.) | Input<br>HP |                            | Motor<br>HP          | Output<br>Torque<br>(LB-IN.) | Service<br>Class** |                                |
| 3.5                      | 500    | 1354                         | 0.13        | S833BR-500K-M1<br>(F01234) | .16                  | 1354                         | I                  | SF833BR-500K-B5-M1<br>(F01448) |
|                          |        | 2647                         | 0.25        | S843BR-500K-M1<br>(F01279) | .25                  | 2641                         | I                  | SF843BR-500K-B5-M1<br>(F01509) |
|                          |        | 5146                         | 0.46        | S853BR-500K-M1<br>(F01325) | .33<br>.25<br>.16    | 3728<br>2796<br>1864         | I<br>I<br>II       | SF853BR-500K-B5-M1<br>(F01577) |
|                          |        | 6913                         | 0.62        | S863BR-500K-M1<br>(F01370) | .50<br>.33<br>.25    | 5573<br>3715<br>2786         | I<br>II<br>III     | SF863BR-500K-B5-M1<br>(F01645) |
| 3.1                      | 560    | 1384                         | 0.12        | S833BR-560K-M1<br>(F01235) | .16                  | 1384                         | I                  | SF833BR-560K-B5-M1<br>(F01449) |
|                          |        | 2745                         | 0.23        | S843BR-560K-M1<br>(F01280) | .16                  | 1988                         | I                  | SF843BR-560K-B5-M1<br>(F01510) |
|                          |        | 5296                         | 0.42        | S853BR-560K-M1<br>(F01326) | .33<br>.25<br>.16    | 4201<br>3151<br>2100         | I<br>II<br>III     | SF853BR-560K-B5-M1<br>(F01578) |
|                          |        | 7200                         | 0.55        | S863BR-560K-M1<br>(F01371) | .50<br>.33<br>.25    | 6543<br>4362<br>3272         | I<br>II<br>III     | SF863BR-560K-B5-M1<br>(F01646) |
| 2.2                      | 800    | 1274                         | 0.08        | S833BR-800K-M1<br>(F01236) | --                   | --                           | --                 | --                             |
|                          |        | 2591                         | 0.16        | S843BR-800K-M1<br>(F01281) | .16                  | 2591                         | I                  | SF843BR-800K-B5-M1<br>(F01511) |
|                          |        | 5308                         | 0.31        | S853BR-800K-M1<br>(F01327) | .25<br>.16           | 4279<br>2852                 | I<br>II            | SF853BR-800K-B5-M1<br>(F01579) |
|                          |        | 7734                         | 0.43        | S863BR-800K-M1<br>(F01372) | .33<br>.25<br>.16    | 5993<br>4495<br>2997         | I<br>II<br>III     | SF863BR-800K-B5-M1<br>(F01647) |
| 1.9                      | 900    | 1247                         | 0.07        | S833BR-900K-M1<br>(F01237) | --                   | --                           | --                 | --                             |
|                          |        | 2494                         | 0.14        | S843BR-900K-M1<br>(F01282) | .16                  | 2494                         | I                  | SF843BR-900K-B5-M1<br>(F01512) |
|                          |        | 5099                         | 0.27        | S853BR-900K-M1<br>(F01328) | .25<br>.16           | 4719<br>3146                 | I<br>II            | SF853BR-900K-B5-M1<br>(F01580) |
|                          |        | 7659                         | 0.38        | S863BR-900K-M1<br>(F01373) | .33<br>.25<br>.16    | 6715<br>5036<br>3358         | I<br>II<br>III     | SF863BR-900K-B5-M1<br>(F01648) |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Pages 222-231.  
 \*\* Service Class I (S.F. = 1.00) Service Class II (S.F. = 1.50) Service III (S.F. = 2.00)  
 Actual Output RPM = Input Speed ÷ Actual Ratio.  
 For Overhung Load Ratings refer to Page 204.  
 † For Base / Projecting Shaft / Output Flange see How to Order Page 201.  
 □ Indicates Triple Reduction

H

# 800 Series Right Angle Helical Worm Ratings

## Non-Flanged; Input Speeds 1750, 1450 and 1160 RPM

Service Factor 1.0\*

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 |                    |                              |                 |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|
|                | 1750 RPM           |                             |                 | 1450 RPM           |                             |                 | 1160 RPM           |                              |                 |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |
| 832BR-8K       | 218                | 689                         | 2.65            | 181                | 717                         | 2.30            | 145                | 751                          | 1.95            |
| 842BR-8K       | 218                | 1100                        | 4.39            | 181                | 1152                        | 3.81            | 145                | 1209                         | 3.23            |
| 852BR-8K       | 218                | 1678                        | 6.66            | 181                | 1829                        | 6.00            | 145                | 1991                         | 5.28            |
| 862BR-8K       | 218                | 2910                        | 11.40           | 181                | 3292                        | 10.20           | 145                | 3607                         | 8.98            |
| 832BR-11K      | 159                | 742                         | 2.14            | 131                | 777                         | 1.86            | 105                | 820                          | 1.58            |
| 842BR-11K      | 159                | 1194                        | 3.57            | 131                | 1258                        | 3.10            | 105                | 1316                         | 2.63            |
| 852BR-11K      | 159                | 1929                        | 5.52            | 131                | 2090                        | 4.95            | 105                | 2279                         | 4.33            |
| 862BR-11K      | 159                | 3479                        | 9.38            | 131                | 3781                        | 8.39            | 105                | 4112                         | 7.34            |
| 832BR-12K      | 145                | 787                         | 1.95            | 120                | 816                         | 1.70            | 96                 | 865                          | 1.44            |
| 842BR-12K      | 145                | 1264                        | 3.25            | 120                | 1324                        | 2.83            | 96                 | 1382                         | 2.39            |
| 852BR-12K      | 145                | 2010                        | 5.22            | 120                | 2165                        | 4.67            | 96                 | 2351                         | 4.09            |
| 862BR-12K      | 145                | 3646                        | 8.77            | 120                | 3952                        | 7.84            | 96                 | 4292                         | 6.85            |
| 832BR-14K      | 125                | 790                         | 1.79            | 103                | 831                         | 1.56            | 82                 | 870                          | 1.32            |
| 842BR-14K      | 125                | 1288                        | 2.99            | 103                | 1344                        | 2.60            | 82                 | 1400                         | 2.19            |
| 852BR-14K      | 125                | 2060                        | 4.85            | 103                | 2212                        | 4.33            | 82                 | 2398                         | 3.79            |
| 862BR-14K      | 125                | 3827                        | 8.20            | 103                | 4118                        | 7.32            | 82                 | 4472                         | 6.38            |
| 832BR-16K      | 109                | 737                         | 1.70            | 90                 | 768                         | 1.49            | 72                 | 808                          | 1.27            |
| 842BR-16K      | 109                | 1218                        | 2.72            | 90                 | 1273                        | 2.38            | 72                 | 1343                         | 2.03            |
| 852BR-16K      | 109                | 2710                        | 5.92            | 90                 | 2922                        | 5.33            | 72                 | 3162                         | 4.68            |
| 862BR-16K      | 109                | 4191                        | 9.03            | 90                 | 4583                        | 8.09            | 72                 | 4990                         | 7.10            |
| 832BR-18K      | 97                 | 864                         | 1.50            | 80                 | 898                         | 1.30            | 64                 | 944                          | 1.10            |
| 842BR-18K      | 97                 | 1388                        | 2.50            | 80                 | 1445                        | 2.17            | 64                 | 1512                         | 1.83            |
| 852BR-18K      | 97                 | 2162                        | 4.21            | 80                 | 2319                        | 3.75            | 64                 | 2497                         | 3.27            |
| 862BR-18K      | 97                 | 4208                        | 7.10            | 80                 | 4502                        | 6.33            | 64                 | 4882                         | 5.51            |
| 832BR-20K      | 87                 | 860                         | 1.43            | 72                 | 895                         | 1.24            | 58                 | 941                          | 1.05            |
| 842BR-20K      | 87                 | 1391                        | 2.37            | 72                 | 1450                        | 2.06            | 58                 | 1514                         | 1.74            |
| 852BR-20K      | 87                 | 2345                        | 3.90            | 72                 | 2492                        | 3.47            | 58                 | 2688                         | 3.02            |
| 862BR-20K      | 87                 | 4400                        | 6.58            | 72                 | 4698                        | 5.86            | 58                 | 5077                         | 5.10            |
| 832BR-22K      | 79                 | 804                         | 1.39            | 65                 | 826                         | 1.22            | 52                 | 887                          | 1.04            |
| 842BR-22K      | 79                 | 1321                        | 2.23            | 65                 | 1383                        | 1.95            | 52                 | 1453                         | 1.66            |
| 852BR-22K      | 79                 | 3086                        | 4.90            | 65                 | 3265                        | 4.34            | 52                 | 3443                         | 3.72            |
| 862BR-22K      | 79                 | 4784                        | 7.41            | 65                 | 5142                        | 6.64            | 52                 | 5585                         | 5.82            |
| 832BR-25K      | 70                 | 843                         | 1.28            | 58                 | 883                         | 1.12            | 46                 | 929                          | 0.95            |
| 842BR-25K      | 70                 | 1389                        | 2.04            | 58                 | 1464                        | 1.79            | 46                 | 1328                         | 1.52            |
| 852BR-25K      | 70                 | 3177                        | 4.62            | 58                 | 3339                        | 4.06            | 46                 | 3516                         | 3.47            |
| 862BR-25K      | 70                 | 5022                        | 6.94            | 58                 | 5435                        | 6.21            | 46                 | 5873                         | 5.45            |
| 832BR-28K      | 62                 | 862                         | 1.17            | 51                 | 891                         | 1.03            | 41                 | 943                          | 0.87            |
| 842BR-28K      | 62                 | 1363                        | 1.88            | 51                 | 1430                        | 1.65            | 41                 | 1491                         | 1.39            |
| 852BR-28K      | 62                 | 3200                        | 4.24            | 51                 | 3339                        | 3.72            | 41                 | 3496                         | 3.17            |
| 862BR-28K      | 62                 | 5290                        | 6.49            | 51                 | 5359                        | 5.81            | 41                 | 6043                         | 5.06            |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 348 & 349.  
Actual Output RPM = Input Speed ÷ Actual Ratio.

For Base / Projecting Shaft / Output Flange see How to Order Page 201.

For Overhung Load Ratings refer to Page 204.

# 800 Series Right Angle Helical Worm Ratings

**Non-Flanged; Input Speeds 690 and 100 RPM**

**Service Factor 1.0\***

| Catalog<br>Number | Input Speed              |                                   |                       |                          |                                   |                       | Approx.<br>Wt.<br>(LB) | Actual<br>Gear<br>Ratio |
|-------------------|--------------------------|-----------------------------------|-----------------------|--------------------------|-----------------------------------|-----------------------|------------------------|-------------------------|
|                   | 690 RPM                  |                                   |                       | 100 RPM                  |                                   |                       |                        |                         |
|                   | Approx.<br>Output<br>RPM | Output<br>Torque<br>(LB-IN)(Max.) | Input<br>HP<br>(Max.) | Approx.<br>Output<br>RPM | Output<br>Torque<br>(LB-IN)(Max.) | Input<br>HP<br>(Max.) |                        |                         |
| 832BR-8K          | 86                       | 799                               | 1.25                  | 12                       | 1056                              | .25                   | 24                     | 8.591                   |
| 842BR-8K          | 86                       | 1296                              | 2.06                  | 12                       | 1403                              | .34                   | 32                     | 8.182                   |
| 852BR-8K          | 86                       | 2232                              | 3.52                  | 12                       | 2683                              | .63                   | 39                     | 8.043                   |
| 862BR-8K          | 86                       | 4013                              | 6.01                  | 12                       | 5265                              | 1.18                  | 70                     | 8.232                   |
| 832BR-11K         | 63                       | 879                               | 1.02                  | 9.1                      | 1200                              | .21                   | 24                     | 11.605                  |
| 842BR-11K         | 63                       | 1388                              | 1.67                  | 9.1                      | 1541                              | .28                   | 32                     | 11.053                  |
| 852BR-11K         | 63                       | 2496                              | 2.86                  | 9.1                      | 3511                              | .61                   | 39                     | 11.282                  |
| 862BR-11K         | 63                       | 4563                              | 4.90                  | 9.1                      | 6820                              | 1.10                  | 70                     | 11.573                  |
| 832BR-12K         | 57                       | 928                               | 0.93                  | 8.3                      | 1310                              | .20                   | 24                     | 13.500                  |
| 842BR-12K         | 57                       | 1470                              | 1.53                  | 8.3                      | 1580                              | .25                   | 32                     | 12.857                  |
| 852BR-12K         | 57                       | 2598                              | 2.72                  | 8.3                      | 3491                              | .55                   | 39                     | 12.432                  |
| 862BR-12K         | 57                       | 4739                              | 4.55                  | 8.3                      | 7019                              | 1.01                  | 70                     | 12.972                  |
| 832BR-14K         | 49                       | 942                               | 0.85                  | 7.1                      | 1306                              | .18                   | 24                     | 14.954                  |
| 842BR-14K         | 49                       | 1426                              | 1.39                  | 7.1                      | 1610                              | .23                   | 32                     | 14.242                  |
| 852BR-14K         | 49                       | 2627                              | 2.50                  | 7.1                      | 3388                              | .49                   | 39                     | 13.714                  |
| 862BR-14K         | 49                       | 4916                              | 4.22                  | 7.1                      | 7254                              | .93                   | 70                     | 14.560                  |
| 832BR-16K         | 43                       | 865                               | 0.82                  | 6.2                      | 1225                              | .18                   | 24                     | 16.364                  |
| 842BR-16K         | 43                       | 1437                              | 1.31                  | 6.2                      | 1866                              | .27                   | 32                     | 16.364                  |
| 852BR-16K         | 43                       | 3408                              | 3.04                  | 6.2                      | 4329                              | .61                   | 39                     | 16.087                  |
| 862BR-16K         | 43                       | 5625                              | 4.82                  | 6.2                      | 7183                              | .98                   | 70                     | 15.932                  |
| 832BR-18K         | 38                       | 997                               | 0.70                  | 5.5                      | 1419                              | .15                   | 24                     | 19.500                  |
| 842BR-18K         | 38                       | 1606                              | 1.17                  | 5.5                      | 1622                              | .18                   | 32                     | 18.571                  |
| 852BR-18K         | 38                       | 2740                              | 2.16                  | 5.5                      | 3174                              | .38                   | 39                     | 16.774                  |
| 862BR-18K         | 38                       | 5375                              | 3.65                  | 5.5                      | 7537                              | .77                   | 70                     | 18.490                  |
| 832BR-20K         | 34                       | 996                               | 0.67                  | 5.0                      | 1382                              | .14                   | 24                     | 20.610                  |
| 842BR-20K         | 34                       | 1619                              | 1.12                  | 5.0                      | 1715                              | .18                   | 32                     | 19.630                  |
| 852BR-20K         | 34                       | 2927                              | 1.98                  | 5.0                      | 3325                              | .34                   | 39                     | 19.643                  |
| 862BR-20K         | 34                       | 5542                              | 3.35                  | 5.0                      | 7546                              | .68                   | 70                     | 20.962                  |
| 832BR-22K         | 31                       | 933                               | 0.66                  | 4.5                      | 1268                              | .14                   | 24                     | 22.105                  |
| 842BR-22K         | 31                       | 1539                              | 1.06                  | 4.5                      | 2115                              | .23                   | 32                     | 22.105                  |
| 852BR-22K         | 31                       | 3685                              | 2.40                  | 4.5                      | 4642                              | .48                   | 39                     | 22.564                  |
| 862BR-22K         | 31                       | 6101                              | 3.83                  | 4.5                      | 7423                              | .74                   | 70                     | 22.105                  |
| 832BR-25K         | 28                       | 989                               | 0.61                  | 4.0                      | 1348                              | .13                   | 24                     | 25.714                  |
| 842BR-25K         | 28                       | 1634                              | 0.98                  | 4.0                      | 2212                              | .21                   | 32                     | 25.714                  |
| 852BR-25K         | 28                       | 3702                              | 2.25                  | 4.0                      | 4689                              | .44                   | 39                     | 24.865                  |
| 862BR-25K         | 28                       | 6332                              | 3.54                  | 4.0                      | 7527                              | .67                   | 70                     | 25.106                  |
| 832BR-28K         | 25                       | 1023                              | 0.57                  | 3.6                      | 1379                              | .12                   | 24                     | 28.485                  |
| 842BR-28K         | 25                       | 1630                              | 0.90                  | 3.6                      | 2135                              | .19                   | 32                     | 27.428                  |
| 852BR-28K         | 25                       | 3611                              | 2.03                  | 3.6                      | 4633                              | .40                   | 39                     | 27.428                  |
| 862BR-28K         | 25                       | 6402                              | 3.23                  | 3.6                      | 7566                              | .60                   | 70                     | 28.182                  |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 348 & 349.  
 Actual Output RPM = Input Speed ÷ Actual Ratio.  
 For Base / Projecting Shaft / Output Flange see How to Order Page 201.  
 For Overhung Load Ratings refer to Page 204.



# 800 Series Right Angle Helical Worm Ratings

## Non-Flanged; Input Speeds 1750, 1450 and 1160 RPM

Service Factor 1.0\*

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 |                    |                              |                 |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|
|                | 1750 RPM           |                             |                 | 1450 RPM           |                             |                 | 1160 RPM           |                              |                 |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |
| 832BR-32K      | 54                 | 971                         | 1.00            | 45                 | 995                         | 0.86            | 36                 | 1056                         | 0.73            |
| 842BR-32K      | 54                 | 1560                        | 1.66            | 45                 | 1618                        | 1.44            | 36                 | 1702                         | 1.22            |
| 852BR-32K      | 54                 | 2813                        | 2.98            | 45                 | 2986                        | 2.64            | 36                 | 3214                         | 2.29            |
| 862BR-32K      | 54                 | 5184                        | 4.93            | 45                 | 5526                        | 4.37            | 36                 | 5913                         | 3.78            |
| 832BR-36K      | 48                 | 936                         | 0.99            | 40                 | 969                         | 0.87            | 32                 | 1030                         | 0.74            |
| 842BR-36K      | 48                 | 1525                        | 1.59            | 40                 | 1600                        | 1.38            | 32                 | 1653                         | 1.17            |
| 852BR-36K      | 48                 | 3262                        | 3.59            | 40                 | 3397                        | 3.14            | 32                 | 3553                         | 2.67            |
| 862BR-36K      | 48                 | 5768                        | 5.65            | 40                 | 6174                        | 5.03            | 32                 | 6491                         | 4.24            |
| 832BR-40K      | 43                 | 933                         | 0.94            | 36                 | 972                         | 0.82            | 29                 | 1015                         | 0.70            |
| 842BR-40K      | 43                 | 1527                        | 1.51            | 36                 | 1587                        | 1.31            | 29                 | 1672                         | 1.12            |
| 852BR-40K      | 43                 | 3453                        | 3.28            | 36                 | 3587                        | 2.87            | 29                 | 3734                         | 2.43            |
| 862BR-40K      | 43                 | 6045                        | 5.25            | 36                 | 6292                        | 4.58            | 29                 | 6569                         | 3.87            |
| 832BR-45K      | 38                 | 1032                        | 0.80            | 32                 | 1088                        | 0.70            | 25                 | 1157                         | 0.60            |
| 842BR-45K      | 38                 | 1669                        | 1.34            | 32                 | 1752                        | 1.16            | 25                 | 1767                         | 0.95            |
| 852BR-45K      | 38                 | 3165                        | 2.37            | 32                 | 3308                        | 2.06            | 25                 | 3297                         | 1.65            |
| 862BR-45K      | 38                 | 5810                        | 3.95            | 32                 | 6151                        | 3.49            | 25                 | 6555                         | 3.00            |
| 832BR-50K      | 35                 | 1000                        | 0.71            | 29                 | 1032                        | 0.62            | 23                 | 1118                         | 0.54            |
| 842BR-50K      | 35                 | 1612                        | 1.19            | 29                 | 1639                        | 1.01            | 23                 | 1618                         | 0.81            |
| 852BR-50K      | 35                 | 3248                        | 2.24            | 29                 | 3427                        | 1.98            | 23                 | 3492                         | 1.63            |
| 862BR-50K      | 35                 | 5930                        | 3.79            | 29                 | 6278                        | 3.34            | 23                 | 6696                         | 2.87            |
| 832BR-56K      | 31                 | 1033                        | 0.74            | 25                 | 1050                        | 0.64            | 20                 | 1125                         | 0.55            |
| 842BR-56K      | 31                 | 1670                        | 1.18            | 25                 | 1733                        | 1.03            | 20                 | 1806                         | 0.87            |
| 852BR-56K      | 31                 | 3820                        | 2.63            | 25                 | 3951                        | 2.28            | 20                 | 4129                         | 1.93            |
| 862BR-56K      | 31                 | 6500                        | 4.20            | 25                 | 6718                        | 3.65            | 20                 | 6992                         | 3.08            |
| 832BR-63K      | 27                 | 1040                        | 0.67            | 23                 | 1088                        | 0.59            | 18                 | 1151                         | 0.50            |
| 842BR-63K      | 27                 | 1716                        | 1.07            | 23                 | 1787                        | 0.94            | 18                 | 1898                         | 0.80            |
| 852BR-63K      | 27                 | 3899                        | 2.39            | 23                 | 4050                        | 2.08            | 18                 | 4193                         | 1.75            |
| 862BR-63K      | 27                 | 6720                        | 3.76            | 23                 | 6954                        | 3.27            | 18                 | 7217                         | 2.77            |
| 832BR-71K      | 24                 | 1192                        | 0.59            | 20                 | 1246                        | 0.51            | 16                 | 1353                         | 0.44            |
| 842BR-71K      | 24                 | 1739                        | 0.88            | 20                 | 1704                        | 0.73            | 16                 | 1799                         | 0.58            |
| 852BR-71K      | 24                 | 3225                        | 1.71            | 20                 | 3216                        | 1.42            | 16                 | 3275                         | 1.13            |
| 862BR-71K      | 24                 | 6645                        | 2.94            | 20                 | 6972                        | 2.58            | 16                 | 7420                         | 2.20            |
| 832BR-80K      | 21                 | 1250                        | 0.54            | 18                 | 1296                        | 0.47            | 14                 | 1368                         | 0.40            |
| 842BR-80K      | 21                 | 1619                        | 0.74            | 18                 | 1611                        | 0.61            | 14                 | 1596                         | 0.49            |
| 852BR-80K      | 21                 | 3453                        | 1.50            | 18                 | 3436                        | 1.24            | 14                 | 3494                         | 0.99            |
| 862BR-80K      | 21                 | 6783                        | 2.77            | 18                 | 7143                        | 2.42            | 14                 | 7483                         | 2.05            |
| 832BR-90K      | 19                 | 1187                        | 0.57            | 16                 | 1243                        | 0.50            | 12                 | 1285                         | 0.42            |
| 842BR-90K      | 19                 | 1934                        | 0.91            | 16                 | 1997                        | 0.79            | 12                 | 2113                         | 0.68            |
| 852BR-90K      | 19                 | 4178                        | 1.82            | 16                 | 4294                        | 1.57            | 12                 | 4455                         | 1.33            |
| 862BR-90K      | 19                 | 7514                        | 3.05            | 16                 | 7520                        | 2.56            | 12                 | 7555                         | 2.08            |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 348 & 349.  
 Actual Output RPM = Input Speed ÷ Actual Ratio.  
 For Base / Projecting Shaft / Output Flange see How to Order Page 201.  
 For Overhung Load Ratings refer to Page 204.

# 800 Series Right Angle Helical Worm Ratings

**Non-Flanged; Input Speeds 690 and 100 RPM**

**Service Factor 1.0\***

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 | Approx. Wt. (LB) | Actual Gear Ratio |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|------------------|-------------------|
|                | 690 RPM            |                             |                 | 100 RPM            |                             |                 |                  |                   |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) |                  |                   |
| 832BR-32K      | 21                 | 1129                        | .47             | 3.1                | 1360                        | .09             | 24               | 33.710            |
| 842BR-32K      | 21                 | 1761                        | .76             | 3.1                | 1692                        | .11             | 32               | 32.105            |
| 852BR-32K      | 21                 | 3496                        | 1.50            | 3.1                | 3407                        | .22             | 39               | 31.500            |
| 862BR-32K      | 21                 | 6446                        | 2.48            | 3.1                | 7440                        | .43             | 70               | 33.480            |
| 832BR-36K      | 19                 | 1107                        | .48             | 2.8                | 1327                        | .09             | 24               | 37.143            |
| 842BR-36K      | 19                 | 1756                        | .75             | 2.8                | 2547                        | .17             | 32               | 37.143            |
| 852BR-36K      | 19                 | 3751                        | 1.70            | 2.8                | 4745                        | .34             | 39               | 33.548            |
| 862BR-36K      | 19                 | 6469                        | 2.57            | 2.8                | 7105                        | .45             | 70               | 35.790            |
| 832BR-40K      | 17                 | 1081                        | .45             | 2.5                | 1381                        | .09             | 24               | 39.259            |
| 842BR-40K      | 17                 | 1781                        | .72             | 2.5                | 2534                        | .16             | 32               | 39.259            |
| 852BR-40K      | 17                 | 3949                        | 1.55            | 2.5                | 4902                        | .30             | 39               | 39.286            |
| 862BR-40K      | 17                 | 6928                        | 2.46            | 2.5                | 7518                        | .42             | 70               | 40.571            |
| 832BR-45K      | 15                 | 1312                        | .41             | 2.2                | 1360                        | .06             | 24               | 45.500            |
| 842BR-45K      | 15                 | 1821                        | .59             | 2.2                | 1639                        | .08             | 32               | 43.333            |
| 852BR-45K      | 15                 | 3346                        | 1.01            | 2.2                | 3080                        | .14             | 39               | 45.333            |
| 862BR-45K      | 15                 | 7018                        | 2.03            | 2.2                | 7488                        | .31             | 70               | 47.316            |
| 832BR-50K      | 14                 | 1271                        | .37             | 2.0                | 1366                        | .06             | 24               | 49.500            |
| 842BR-50K      | 14                 | 1691                        | .51             | 2.0                | 1539                        | .07             | 32               | 47.143            |
| 852BR-50K      | 14                 | 3556                        | 1.00            | 2.0                | 3349                        | .14             | 39               | 49.286            |
| 862BR-50K      | 14                 | 7481                        | 1.93            | 2.0                | 7489                        | .29             | 70               | 50.518            |
| 832BR-56K      | 12                 | 1287                        | .38             | 1.8                | 1296                        | .06             | 24               | 56.190            |
| 842BR-56K      | 12                 | 2063                        | .60             | 1.8                | 2677                        | .12             | 32               | 56.190            |
| 852BR-56K      | 12                 | 4645                        | 1.31            | 1.8                | 5225                        | .23             | 39               | 55.454            |
| 862BR-56K      | 12                 | 7514                        | 2.14            | 1.8                | 7402                        | .31             | 70               | 55.714            |
| 832BR-63K      | 11                 | 1296                        | .34             | 1.6                | 1481                        | .06             | 24               | 64.210            |
| 842BR-63K      | 11                 | 2161                        | .55             | 1.6                | 2760                        | .11             | 32               | 64.210            |
| 852BR-63K      | 11                 | 4765                        | 1.20            | 1.6                | 5336                        | .21             | 39               | 63.000            |
| 862BR-63K      | 11                 | 7526                        | 1.87            | 1.6                | 7498                        | .27             | 70               | 64.800            |
| 832BR-71K      | 10                 | 1378                        | .27             | 1.4                | 1353                        | .04             | 24               | 73.500            |
| 842BR-71K      | 10                 | 1749                        | .36             | 1.4                | 1632                        | .05             | 32               | 70.000            |
| 852BR-71K      | 10                 | 3264                        | .70             | 1.4                | 3135                        | .10             | 39               | 65.454            |
| 862BR-71K      | 10                 | 7420                        | 1.39            | 1.4                | 7454                        | .20             | 70               | 73.923            |
| 832BR-80K      | 9.0                | 1419                        | .25             | 1.2                | 1504                        | .04             | 24               | 82.833            |
| 842BR-80K      | 9.0                | 1621                        | .30             | 1.2                | 1815                        | .04             | 32               | 78.889            |
| 852BR-80K      | 9.0                | 3573                        | .61             | 1.2                | 3498                        | .09             | 39               | 82.222            |
| 862BR-80K      | 9.0                | 7511                        | 1.27            | 1.2                | 7346                        | .18             | 70               | 80.944            |
| 832BR-90K      | 8.0                | 1360                        | .29             | 1.1                | 1360                        | .04             | 24               | 86.667            |
| 842BR-90K      | 8.0                | 2230                        | .46             | 1.1                | 2720                        | .08             | 32               | 86.667            |
| 852BR-90K      | 8.0                | 4730                        | .91             | 1.1                | 5110                        | .14             | 39               | 90.667            |
| 862BR-90K      | 8.0                | 7520                        | 1.36            | 1.1                | 7520                        | .20             | 70               | 91.579            |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 348 & 349.  
 Actual Output RPM = Input Speed ÷ Actual Ratio.  
 For Base / Projecting Shaft / Output Flange see How to Order Page 201.  
 For Overhung Load Ratings refer to Page 204.

# 800 Series Right Angle Helical Worm Ratings

## Non-Flanged; Input Speeds 1750, 1450 and 1160 RPM

Service Factor 1.0\*

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 |                    |                              |                 |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|
|                | 1750 RPM           |                             |                 | 1450 RPM           |                             |                 | 1160 RPM           |                              |                 |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |
| 832BR-100K     | 17                 | 1120                        | 0.51            | 14                 | 1188                        | 0.44            | 11                 | 1256                         | 0.38            |
| 842BR-100K     | 17                 | 1835                        | 0.81            | 14                 | 1926                        | 0.71            | 11                 | 1998                         | 0.60            |
| 852BR-100K     | 17                 | 4225                        | 1.71            | 14                 | 4365                        | 1.47            | 11                 | 4552                         | 1.25            |
| 862BR-100K     | 17                 | 7539                        | 2.87            | 14                 | 7518                        | 2.41            | 11                 | 7500                         | 1.96            |
| 833BR-100K     | 17                 | 1302                        | 0.47            | 14                 | 1346                        | 0.40            | 11                 | 1326                         | 0.32            |
| 843BR-100K     | 17                 | 1700                        | 0.63            | 14                 | 1667                        | 0.52            | 11                 | 1656                         | 0.42            |
| 853BR-100K     | 17                 | 3477                        | 1.22            | 14                 | 3452                        | 1.01            | 11                 | 3443                         | 0.81            |
| 863BR-100K     | 17                 | 7173                        | 2.34            | 14                 | 7455                        | 2.02            | 11                 | 7455                         | 1.63            |
| 832BR-112K     | 15                 | 1360                        | 0.44            | 12                 | 1342                        | 0.36            | 10                 | 1351                         | 0.29            |
| 842BR-112K     | 15                 | 1412                        | 0.48            | 12                 | 1427                        | 0.40            | 10                 | 1464                         | 0.33            |
| 852BR-112K     | 15                 | 3088                        | 0.99            | 12                 | 3076                        | 0.83            | 10                 | 3138                         | 0.68            |
| 862BR-112K     | 15                 | 6594                        | 1.97            | 12                 | 6533                        | 1.63            | 10                 | 6533                         | 1.30            |
| 833BR-118K     | 14                 | 1321                        | 0.42            | 12                 | 1334                        | 0.35            | 9                  | 1346                         | 0.28            |
| 843BR-118K     | 14                 | 1698                        | 0.55            | 12                 | 1666                        | 0.46            | 9                  | 1649                         | 0.37            |
| 853BR-118K     | 14                 | 3436                        | 1.07            | 12                 | 3446                        | 0.88            | 9                  | 3369                         | 0.71            |
| 863BR-118K     | 14                 | 7434                        | 2.14            | 12                 | 7450                        | 1.79            | 9                  | 7410                         | 1.44            |
| 832BR-125K     | 14                 | 1311                        | 0.36            | 11                 | 1299                        | 0.31            | 9                  | 1324                         | 0.25            |
| 842BR-125K     | 14                 | 1248                        | 0.36            | 11                 | 1237                        | 0.31            | 9                  | 1261                         | 0.25            |
| 852BR-125K     | 14                 | 2630                        | 0.75            | 11                 | 2636                        | 0.63            | 9                  | 2692                         | 0.52            |
| 862BR-125K     | 14                 | 4832                        | 1.28            | 11                 | 4829                        | 1.06            | 9                  | 4794                         | 0.85            |
| 833BR-132K     | 13                 | 1217                        | 0.42            | 10                 | 1300                        | 0.37            | 8                  | 1340                         | 0.31            |
| 843BR-132K     | 13                 | 1953                        | 0.66            | 10                 | 2088                        | 0.58            | 8                  | 2259                         | 0.51            |
| 853BR-132K     | 13                 | 4596                        | 1.42            | 10                 | 4856                        | 1.26            | 8                  | 5196                         | 1.09            |
| 863BR-132K     | 13                 | 7410                        | 2.21            | 10                 | 7520                        | 1.87            | 8                  | 7520                         | 1.52            |
| 832BR-140K     | 12                 | 1310                        | 0.40            | 10                 | 1338                        | 0.35            | 8                  | 1342                         | 0.28            |
| 842BR-140K     | 12                 | 2117                        | 0.64            | 10                 | 2191                        | 0.56            | 8                  | 2337                         | 0.48            |
| 852BR-140K     | 12                 | 4143                        | 1.30            | 10                 | 4321                        | 1.13            | 8                  | 4460                         | 0.95            |
| 862BR-140K     | 12                 | 7520                        | 2.02            | 10                 | 7525                        | 1.69            | 8                  | 7561                         | 1.37            |
| 833BR-150K     | 11                 | 1237                        | 0.40            | 9                  | 1313                        | 0.35            | 7                  | 1342                         | 0.29            |
| 843BR-150K     | 11                 | 1580                        | 0.63            | 9                  | 2151                        | 0.56            | 7                  | 2516                         | 0.49            |
| 853BR-150K     | 11                 | 4604                        | 1.35            | 9                  | 4888                        | 1.20            | 7                  | 5192                         | 1.04            |
| 863BR-150K     | 11                 | 7143                        | 1.99            | 9                  | 7161                        | 1.66            | 7                  | 7187                         | 1.35            |
| 832BR-160K     | 10                 | 1364                        | 0.37            | 9                  | 1372                        | 0.32            | 7                  | 1382                         | 0.26            |
| 842BR-160K     | 10                 | 2216                        | 0.59            | 9                  | 2264                        | 0.52            | 7                  | 2430                         | 0.45            |
| 852BR-160K     | 10                 | 4736                        | 1.19            | 9                  | 4925                        | 1.03            | 7                  | 5130                         | 0.87            |
| 862BR-160K     | 10                 | 7504                        | 1.86            | 9                  | 7489                        | 1.56            | 7                  | 7508                         | 1.26            |
| 833BR-160K     | 10                 | 1320                        | 0.32            | 9                  | 1316                        | 0.26            | 7                  | 1326                         | 0.21            |
| 843BR-160K     | 10                 | 1693                        | 0.41            | 9                  | 1647                        | 0.34            | 7                  | 1648                         | 0.27            |
| 853BR-160K     | 10                 | 3406                        | 0.79            | 9                  | 3368                        | 0.66            | 7                  | 3394                         | 0.53            |
| 863BR-160K     | 10                 | 7431                        | 1.51            | 9                  | 7290                        | 1.26            | 7                  | 7461                         | 1.01            |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 348 & 349. Actual Output RPM = Input Speed ÷ Actual Ratio.

For Base / Projecting Shaft / Output Flange see How to Order Page 201.

For Overhung Load Ratings refer to Page 204.

□ Indicates Triple Reduction

# 800 Series Right Angle Helical Worm Ratings

**Non-Flanged; Input Speeds 690 and 100 RPM**

**Service Factor 1.0\***

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 | Approx. Wt. (LB) | Actual Gear Ratio |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|------------------|-------------------|
|                | 690 RPM            |                             |                 | 100 RPM            |                             |                 |                  |                   |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) |                  |                   |
| 832BR-100K     | 6.9                | 1356                        | .25             | 1.0                | 1360                        | .04             | 24               | 94.286            |
| 842BR-100K     | 6.9                | 2260                        | .41             | 1.0                | 2496                        | .07             | 32               | 94.286            |
| 852BR-100K     | 6.9                | 5128                        | .85             | 1.0                | 5260                        | .13             | 39               | 98.571            |
| 862BR-100K     | 6.9                | 7588                        | 1.28            | 1.0                | 7520                        | .18             | 70               | 97.778            |
| 833BR-100K     | 6.9                | 1377                        | .20             | 1.0                | 1386                        | .03             | 32               | 103.250           |
| 843BR-100K     | 6.9                | 1700                        | .26             | 1.0                | 1710                        | .04             | 40               | 98.333            |
| 853BR-100K     | 6.9                | 3597                        | .51             | 1.0                | 3283                        | .07             | 47               | 100.551           |
| 863BR-100K     | 6.9                | 7596                        | 1.00            | 1.0                | 7157                        | .14             | 83               | 102.668           |
| 832BR-112K     | 6.2                | 1391                        | .18             | .89                | 1360                        | .03             | 24               | 114.333           |
| 842BR-112K     | 6.2                | 1766                        | .23             | .89                | 1710                        | .03             | 32               | 108.889           |
| 852BR-112K     | 6.2                | 3170                        | .42             | .89                | 3370                        | .07             | 39               | 108.889           |
| 862BR-112K     | 6.2                | 6592                        | .80             | .89                | 6160                        | .11             | 70               | 111.370           |
| 833BR-118K     | 5.8                | 1356                        | .17             | .85                | 1360                        | .03             | 32               | 117.987           |
| 843BR-118K     | 5.8                | 1656                        | .22             | .85                | 1530                        | .03             | 40               | 112.368           |
| 853BR-118K     | 5.8                | 3385                        | .43             | .85                | 3370                        | .06             | 47               | 114.903           |
| 863BR-118K     | 5.8                | 7505                        | .89             | .85                | 7390                        | .13             | 83               | 116.637           |
| 832BR-125K     | 5.5                | 1405                        | .16             | .80                | 1360                        | .02             | 24               | 129.937           |
| 842BR-125K     | 5.5                | 1338                        | .16             | .80                | 1410                        | .02             | 32               | 123.750           |
| 852BR-125K     | 5.5                | 2835                        | .33             | .80                | 2990                        | .05             | 39               | 123.750           |
| 862BR-125K     | 5.5                | 4870                        | .52             | .80                | 4470                        | .07             | 70               | 126.583           |
| 833BR-132K     | 5.2                | 1430                        | .20             | .78                | 1360                        | .03             | 32               | 130.000           |
| 843BR-132K     | 5.2                | 2638                        | .36             | .78                | 2670                        | .06             | 40               | 130.000           |
| 853BR-132K     | 5.2                | 5260                        | .72             | .78                | 5260                        | .10             | 47               | 132.932           |
| 863BR-132K     | 5.2                | 7520                        | .99             | .78                | 7520                        | .14             | 83               | 130.000           |
| 832BR-140K     | 4.9                | 1360                        | .18             | .71                | 1360                        | .03             | 24               | 140.000           |
| 842BR-140K     | 4.9                | 2739                        | .34             | .71                | 2603                        | .05             | 32               | 140.000           |
| 852BR-140K     | 4.9                | 4897                        | .63             | .71                | 4604                        | .09             | 39               | 130.909           |
| 862BR-140K     | 4.9                | 7520                        | .89             | .71                | 7520                        | .13             | 70               | 143.077           |
| 833BR-150K     | 4.6                | 1378                        | .18             | .67                | 1380                        | .03             | 32               | 137.407           |
| 843BR-150K     | 4.6                | 2659                        | .34             | .67                | 2660                        | .05             | 40               | 137.407           |
| 853BR-150K     | 4.6                | 5192                        | .59             | .67                | 5260                        | .09             | 47               | 140.507           |
| 863BR-150K     | 4.6                | 7674                        | .87             | .67                | 7550                        | .14             | 83               | 140.774           |
| 832BR-160K     | 4.3                | 1407                        | .16             | .62                | 1360                        | .02             | 24               | 157.778           |
| 842BR-160K     | 4.3                | 2770                        | .31             | .62                | 2470                        | .04             | 32               | 157.778           |
| 852BR-160K     | 4.3                | 5200                        | .58             | .62                | 5690                        | .09             | 39               | 164.444           |
| 862BR-160K     | 4.3                | 7515                        | .82             | .62                | 7520                        | .12             | 70               | 156.667           |
| 833BR-160K     | 4.3                | 1362                        | .13             | .62                | 1360                        | .02             | 32               | 159.250           |
| 843BR-160K     | 4.3                | 1719                        | .17             | .62                | 1720                        | .02             | 40               | 151.667           |
| 853BR-160K     | 4.3                | 3400                        | .32             | .62                | 3470                        | .05             | 47               | 155.089           |
| 863BR-160K     | 4.3                | 7500                        | .62             | .62                | 7500                        | .09             | 83               | 167.859           |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 348 & 349.  
Actual Output RPM = Input Speed ÷ Actual Ratio.

For Base / Projecting Shaft / Output Flange see How to Order Page 201.

For Overhung Load Ratings refer to Page 204.

□ Indicates Triple Reduction

# 800 Series Right Angle Helical Worm Ratings

## Non-Flanged; Input Speeds 1750, 1450 and 1160 RPM

Service Factor 1.0\*

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 |                    |                              |                 |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|
|                | 1750 RPM           |                             |                 | 1450 RPM           |                             |                 | 1160 RPM           |                              |                 |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |
| 833BR-180K     | 9.7                | 1247                        | 0.27            | 8.1                | 1205                        | 0.23            | 6.4                | 1205                         | 0.18            |
| 843BR-180K     | 9.7                | 1554                        | 0.35            | 8.1                | 1539                        | 0.29            | 6.4                | 1599                         | 0.23            |
| 853BR-180K     | 9.7                | 3161                        | 0.68            | 8.1                | 3154                        | 0.56            | 6.4                | 3200                         | 0.45            |
| 863BR-180K     | 9.7                | 7427                        | 1.39            | 8.1                | 7453                        | 1.16            | 6.4                | 7455                         | 0.93            |
| 833BR-200K     | 8.7                | 1346                        | 0.31            | 7.2                | 1367                        | 0.26            | 5.8                | 1367                         | 0.21            |
| 843BR-200K     | 8.7                | 2267                        | 0.50            | 7.2                | 2393                        | 0.45            | 5.8                | 2584                         | 0.39            |
| 853BR-200K     | 8.7                | 5139                        | 1.08            | 7.2                | 5243                        | 0.92            | 5.8                | 5248                         | 0.75            |
| 863BR-200K     | 8.7                | 7443                        | 1.49            | 7.2                | 7428                        | 1.25            | 5.8                | 7428                         | 1.01            |
| 832BR-212K     | 8.2                | 1333                        | 0.28            | 6.8                | 1324                        | 0.23            | 5.5                | 1371                         | 0.19            |
| 842BR-212K     | 8.2                | 2352                        | 0.47            | 6.8                | 2365                        | 0.40            | 5.5                | 2421                         | 0.33            |
| 852BR-212K     | 8.2                | 5021                        | 0.97            | 6.8                | 5107                        | 0.83            | 5.5                | 5230                         | 0.68            |
| 862BR-212K     | 8.2                | 7607                        | 1.39            | 6.8                | 7586                        | 1.17            | 5.5                | 7666                         | 0.95            |
| 833BR-225K     | 7.8                | 1311                        | 0.27            | 6.4                | 1366                        | 0.23            | 5.1                | 1319                         | 0.18            |
| 843BR-225K     | 7.8                | 2346                        | 0.46            | 6.4                | 2539                        | 0.41            | 5.1                | 2725                         | 0.36            |
| 853BR-225K     | 7.8                | 5298                        | 0.97            | 6.4                | 5291                        | 0.82            | 5.1                | 5295                         | 0.66            |
| 863BR-225K     | 7.8                | 7405                        | 1.32            | 6.4                | 7461                        | 1.11            | 5.1                | 7506                         | 0.90            |
| 832BR-250K     | 7.0                | 1382                        | 0.25            | 5.8                | 1398                        | 0.21            | 4.6                | 1398                         | 0.17            |
| 842BR-250K     | 7.0                | 2050                        | 0.36            | 5.8                | 2041                        | 0.31            | 4.6                | 2080                         | 0.25            |
| 852BR-250K     | 7.0                | 4566                        | 0.75            | 5.8                | 4768                        | 0.63            | 4.6                | 4800                         | 0.52            |
| 862BR-250K     | 7.0                | 7676                        | 1.25            | 5.8                | 7671                        | 1.05            | 4.6                | 7625                         | 0.85            |
| 833BR-265K     | 6.6                | 1297                        | 0.20            | 5.5                | 1342                        | 0.16            | 4.4                | 1308                         | 0.13            |
| 843BR-265K     | 6.6                | 1588                        | 0.25            | 5.5                | 1597                        | 0.21            | 4.4                | 1629                         | 0.17            |
| 853BR-265K     | 6.6                | 3351                        | 0.49            | 5.5                | 3267                        | 0.40            | 4.4                | 3267                         | 0.32            |
| 863BR-265K     | 6.6                | 6895                        | 0.98            | 5.5                | 6850                        | 0.82            | 4.4                | 6866                         | 0.66            |
| 833BR-280K     | 6.2                | 1357                        | 0.18            | 5.2                | 1386                        | 0.15            | 4.1                | 1360                         | 0.12            |
| 843BR-280K     | 6.2                | 1590                        | 0.23            | 5.2                | 1681                        | 0.19            | 4.1                | 1680                         | 0.15            |
| 853BR-280K     | 6.2                | 3356                        | 0.44            | 5.2                | 3313                        | 0.36            | 4.1                | 3392                         | 0.29            |
| 863BR-280K     | 6.2                | 7671                        | 0.88            | 5.2                | 7671                        | 0.73            | 4.1                | 7710                         | 0.59            |
| 833BR-315K     | 5.6                | 1311                        | 0.20            | 4.6                | 1318                        | 0.17            | 3.7                | 1360                         | 0.14            |
| 843BR-315K     | 5.6                | 2620                        | 0.39            | 4.6                | 2770                        | 0.34            | 3.7                | 2770                         | 0.27            |
| 853BR-315K     | 5.6                | 5252                        | 0.73            | 4.6                | 5255                        | 0.61            | 3.7                | 5309                         | 0.50            |
| 863BR-315K     | 5.6                | 7490                        | 0.94            | 4.6                | 7475                        | 0.79            | 3.7                | 7474                         | 0.64            |
| 833BR-360K     | 4.9                | 1177                        | 0.18            | 4.0                | 1269                        | 0.15            | 3.2                | 1269                         | 0.12            |
| 843BR-360K     | 4.9                | 2496                        | 0.35            | 4.0                | 2537                        | 0.29            | 3.2                | 2537                         | 0.23            |
| 853BR-360K     | 4.9                | 4862                        | 0.63            | 4.0                | 4897                        | 0.53            | 3.2                | 4900                         | 0.43            |
| 863BR-360K     | 4.9                | 7382                        | 0.87            | 4.0                | 7509                        | 0.73            | 3.2                | 7512                         | 0.59            |
| 833BR-400K     | 4.4                | 1296                        | 0.13            | 3.6                | 1391                        | 0.11            | 2.9                | 1391                         | 0.09            |
| 843BR-400K     | 4.4                | 1647                        | 0.16            | 3.6                | 1656                        | 0.14            | 2.9                | 1653                         | 0.11            |
| 853BR-400K     | 4.4                | 3368                        | 0.32            | 3.6                | 3215                        | 0.26            | 2.9                | 3290                         | 0.21            |
| 863BR-400K     | 4.4                | 7686                        | 0.67            | 3.6                | 7704                        | 0.56            | 2.9                | 7718                         | 0.44            |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 354 & 355.  
 Actual Output RPM = Input Speed ÷ Actual Ratio.  
 For Base / Projecting Shaft / Output Flange see How to Order Page 201.  
 For Overhung Load Ratings refer to Page 204.  
 □ Indicates Triple Reduction

# 800 Series Right Angle Helical Worm Ratings

**Non-Flanged; Input Speeds 690 and 100 RPM**

**Service Factor 1.0\***

| Catalog<br>Number | Input Speed              |                                   |                       |                          |                                   |                       | Approx.<br>Wt.<br>(LB) | Actual<br>Gear<br>Ratio |
|-------------------|--------------------------|-----------------------------------|-----------------------|--------------------------|-----------------------------------|-----------------------|------------------------|-------------------------|
|                   | 690 RPM                  |                                   |                       | 100 RPM                  |                                   |                       |                        |                         |
|                   | Approx.<br>Output<br>RPM | Output<br>Torque<br>(LB-IN)(Max.) | Input<br>HP<br>(Max.) | Approx.<br>Output<br>RPM | Output<br>Torque<br>(LB-IN)(Max.) | Input<br>HP<br>(Max.) |                        |                         |
| 833BR-180K        | 3.8                      | 1205                              | .11                   | .55                      | 1260                              | .70                   | 32                     | 173.250                 |
| 843BR-180K        | 3.8                      | 1600                              | .14                   | .55                      | 1700                              | .71                   | 40                     | 165.000                 |
| 853BR-180K        | 3.8                      | 3400                              | .27                   | .55                      | 3440                              | .73                   | 47                     | 168.723                 |
| 863BR-180K        | 3.8                      | 7500                              | .57                   | .55                      | 7500                              | .78                   | 83                     | 182.494                 |
| 833BR-200K        | 3.4                      | 1360                              | .13                   | .50                      | 1360                              | .57                   | 32                     | 196.667                 |
| 843BR-200K        | 3.4                      | 2620                              | .26                   | .50                      | 2620                              | .58                   | 40                     | 196.667                 |
| 853BR-200K        | 3.4                      | 5555                              | .48                   | .50                      | 5260                              | .60                   | 47                     | 201.103                 |
| 863BR-200K        | 3.4                      | 7520                              | .65                   | .50                      | 7520                              | .63                   | 83                     | 198.712                 |
| 832BR-212K        | 3.2                      | 1432                              | .12                   | .47                      | 1360                              | .57                   | 24                     | 217.778                 |
| 842BR-212K        | 3.2                      | 2548                              | .21                   | .47                      | 2610                              | .58                   | 32                     | 217.778                 |
| 852BR-212K        | 3.2                      | 5602                              | .44                   | .47                      | 5260                              | .60                   | 39                     | 217.778                 |
| 862BR-212K        | 3.2                      | 7700                              | .61                   | .47                      | 7700                              | .63                   | 70                     | 215.555                 |
| 833BR-225K        | 3.1                      | 1355                              | .11                   | .44                      | 1360                              | .57                   | 32                     | 224.737                 |
| 843BR-225K        | 3.1                      | 2880                              | .23                   | .44                      | 2610                              | .58                   | 40                     | 224.737                 |
| 853BR-225K        | 3.1                      | 5554                              | .42                   | .44                      | 5260                              | .60                   | 47                     | 229.806                 |
| 863BR-225K        | 3.1                      | 7520                              | .57                   | .44                      | 7520                              | .63                   | 83                     | 225.750                 |
| 832BR-250K        | 2.8                      | 1360                              | .11                   | .40                      | 1360                              | .57                   | 24                     | 247.500                 |
| 842BR-250K        | 2.8                      | 2206                              | .16                   | .40                      | 2150                              | .58                   | 32                     | 247.500                 |
| 852BR-250K        | 2.8                      | 4800                              | .33                   | .40                      | 4680                              | .60                   | 39                     | 247.500                 |
| 862BR-250K        | 2.8                      | 7770                              | .54                   | .40                      | 7427                              | .62                   | 70                     | 245.000                 |
| 833BR-265K        | 2.6                      | 1335                              | .08                   | .38                      | 1360                              | .70                   | 32                     | 257.250                 |
| 843BR-265K        | 2.6                      | 1589                              | .10                   | .38                      | 1680                              | .70                   | 40                     | 245.000                 |
| 853BR-265K        | 2.6                      | 3387                              | .20                   | .38                      | 3310                              | .72                   | 47                     | 250.526                 |
| 863BR-265K        | 2.6                      | 7080                              | .41                   | .38                      | 7260                              | .76                   | 83                     | 242.367                 |
| 833BR-280K        | 2.5                      | 1360                              | .07                   | .36                      | 1360                              | .01                   | 32                     | 289.917                 |
| 843BR-280K        | 2.5                      | 1712                              | .09                   | .36                      | 1670                              | .01                   | 40                     | 276.111                 |
| 853BR-280K        | 2.5                      | 3382                              | .18                   | .36                      | 3310                              | .02                   | 47                     | 282.339                 |
| 863BR-280K        | 2.5                      | 7710                              | .36                   | .36                      | 7250                              | .05                   | 83                     | 304.445                 |
| 833BR-315K        | 2.2                      | 1446                              | .09                   | .32                      | 1360                              | .01                   | 32                     | 303.333                 |
| 843BR-315K        | 2.2                      | 2782                              | .17                   | .32                      | 2580                              | .02                   | 40                     | 303.333                 |
| 853BR-315K        | 2.2                      | 5445                              | .31                   | .32                      | 5220                              | .05                   | 47                     | 310.175                 |
| 863BR-315K        | 2.2                      | 7520                              | .41                   | .32                      | 7520                              | .06                   | 83                     | 324.889                 |
| 833BR-360K        | 1.9                      | 1270                              | .07                   | .28                      | 1360                              | .01                   | 32                     | 330.000                 |
| 843BR-360K        | 1.9                      | 2537                              | .14                   | .28                      | 2570                              | .02                   | 40                     | 330.000                 |
| 853BR-360K        | 1.9                      | 5079                              | .27                   | .28                      | 5190                              | .04                   | 47                     | 337.444                 |
| 863BR-360K        | 1.9                      | 7520                              | .38                   | .28                      | 7520                              | .05                   | 83                     | 353.214                 |
| 833BR-400K        | 1.7                      | 1391                              | .05                   | .25                      | 1360                              | .01                   | 32                     | 400.167                 |
| 843BR-400K        | 1.7                      | 1730                              | .07                   | .25                      | 1660                              | .01                   | 40                     | 381.111                 |
| 853BR-400K        | 1.7                      | 3378                              | .13                   | .25                      | 3290                              | .02                   | 47                     | 389.708                 |
| 863BR-400K        | 1.7                      | 7798                              | .27                   | .25                      | 7718                              | .04                   | 83                     | 403.190                 |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 354 & 355.

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Base / Projecting Shaft / Output Flange see How to Order Page 201.

For Overhung Load Ratings refer to Page 204.

□ Indicates Triple Reduction

# 800 Series Right Angle Helical Worm Ratings

## Non-Flanged; Input Speeds 1750, 1450 and 1160 RPM

Service Factor 1.0\*

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 |                    |                              |                 |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|
|                | 1750 RPM           |                             |                 | 1450 RPM           |                             |                 | 1160 RPM           |                              |                 |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |
| 833BR-450K     | 3.9                | 1279                        | 0.11            | 3.2                | 1263                        | 0.09            | 2.6                | 1403                         | 0.08            |
| 843BR-450K     | 3.9                | 1572                        | 0.14            | 3.2                | 1627                        | 0.12            | 2.6                | 1671                         | 0.10            |
| 853BR-450K     | 3.9                | 3303                        | 0.28            | 3.2                | 3276                        | 0.23            | 2.6                | 3380                         | 0.19            |
| 863BR-450K     | 3.9                | 7692                        | 0.59            | 3.2                | 7612                        | 0.49            | 2.6                | 7612                         | 0.39            |
| 833BR-500K     | 3.5                | 1354                        | 0.13            | 2.9                | 1359                        | 0.11            | 2.3                | 1390                         | 0.09            |
| 843BR-500K     | 3.5                | 2647                        | 0.25            | 2.9                | 2684                        | 0.21            | 2.3                | 2690                         | 0.17            |
| 853BR-500K     | 3.5                | 5146                        | 0.46            | 2.9                | 5266                        | 0.39            | 2.3                | 5266                         | 0.31            |
| 863BR-500K     | 3.5                | 6913                        | 0.62            | 2.9                | 6892                        | 0.52            | 2.3                | 6892                         | 0.42            |
| 833BR-560K     | 3.1                | 1384                        | 0.12            | 2.6                | 1392                        | 0.10            | 2.0                | 1392                         | 0.08            |
| 843BR-560K     | 3.1                | 2745                        | 0.23            | 2.6                | 2691                        | 0.19            | 2.0                | 2691                         | 0.15            |
| 853BR-560K     | 3.1                | 5296                        | 0.42            | 2.6                | 5240                        | 0.35            | 2.0                | 5240                         | 0.28            |
| 863BR-560K     | 3.1                | 7200                        | 0.55            | 2.6                | 7156                        | 0.46            | 2.0                | 7200                         | 0.37            |
| 833BR-800K     | 2.2                | 1274                        | 0.08            | 1.8                | 1322                        | 0.07            | 1.4                | 1416                         | 0.06            |
| 843BR-800K     | 2.2                | 2591                        | 0.16            | 1.8                | 2737                        | 0.14            | 1.4                | 2740                         | 0.11            |
| 853BR-800K     | 2.2                | 5308                        | 0.31            | 1.8                | 5373                        | 0.26            | 1.4                | 5376                         | 0.21            |
| 863BR-800K     | 2.2                | 7734                        | 0.43            | 1.8                | 7734                        | 0.36            | 1.4                | 7774                         | 0.29            |
| 833BR-900K     | 1.9                | 1247                        | 0.07            | 1.6                | 1490                        | 0.06            | 1.3                | 1490                         | 0.05            |
| 843BR-900K     | 1.9                | 2494                        | 0.14            | 1.6                | 2621                        | 0.12            | 1.3                | 2630                         | 0.10            |
| 853BR-900K     | 1.9                | 5099                        | 0.27            | 1.6                | 5402                        | 0.23            | 1.3                | 5420                         | 0.18            |
| 863BR-900K     | 1.9                | 7659                        | 0.38            | 1.6                | 7771                        | 0.32            | 1.3                | 7775                         | 0.26            |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 348 & 349.

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Base / Projecting Shaft / Output Flange see How to Order Page 201.

For Overhung Load Ratings refer to Page 204.

□ Indicates Triple Reduction



# 800 Series Right Angle Helical Worm Ratings

**Non-Flanged; Input Speeds 690 and 100 RPM**

**Service Factor 1.0\***

| Catalog Number | Input Speed        |                             |                 |                    |                             |                 | Approx. Wt. (LB) | Actual Gear Ratio |
|----------------|--------------------|-----------------------------|-----------------|--------------------|-----------------------------|-----------------|------------------|-------------------|
|                | 690 RPM            |                             |                 | 100 RPM            |                             |                 |                  |                   |
|                | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) |                  |                   |
| 833BR-450K     | 1.5                | 1454                        | .05             | .22                | 1454                        | .01             | 32               | 454.781           |
| 843BR-450K     | 1.5                | 1662                        | .06             | .22                | 1660                        | .01             | 40               | 433.125           |
| 853BR-450K     | 1.5                | 3360                        | .11             | .22                | 3280                        | .02             | 47               | 442.895           |
| 863BR-450K     | 1.5                | 7612                        | .24             | .22                | 7190                        | .03             | 83               | 458.217           |
| 833BR-500K     | 1.4                | 1390                        | .05             | .20                | 1360                        | .01             | 32               | 490.000           |
| 843BR-500K     | 1.4                | 2650                        | .10             | .20                | 2540                        | .01             | 40               | 490.000           |
| 853BR-500K     | 1.4                | 5270                        | .20             | .20                | 5410                        | .03             | 47               | 501.053           |
| 863BR-500K     | 1.4                | 7288                        | .27             | .20                | 7520                        | .04             | 83               | 469.091           |
| 833BR-560K     | 1.2                | 1412                        | .05             | .18                | 1360                        | .01             | 32               | 552.222           |
| 843BR-560K     | 1.2                | 2700                        | .09             | .18                | 2530                        | .01             | 40               | 552.222           |
| 853BR-560K     | 1.2                | 5260                        | .18             | .18                | 5130                        | .02             | 47               | 564.678           |
| 863BR-560K     | 1.2                | 7520                        | .24             | .18                | 7520                        | .03             | 83               | 589.250           |
| 833BR-800K     | .86                | 1453                        | .03             | .12                | 1360                        | .01             | 32               | 762.222           |
| 843BR-800K     | .86                | 2778                        | .07             | .12                | 2510                        | .01             | 40               | 762.222           |
| 853BR-800K     | .86                | 5460                        | .13             | .12                | 5080                        | .02             | 47               | 779.415           |
| 863BR-800K     | .86                | 7734                        | .18             | .12                | 7520                        | .03             | 83               | 780.370           |
| 833BR-900K     | .78                | 1490                        | .03             | .11                | 1360                        | .00             | 32               | 866.250           |
| 843BR-900K     | .78                | 2630                        | .06             | .11                | 2500                        | .01             | 40               | 866.250           |
| 853BR-900K     | .78                | 5450                        | .11             | .11                | 5060                        | .02             | 47               | 885.789           |
| 863BR-900K     | .78                | 7775                        | .16             | .11                | 7520                        | .02             | 83               | 886.875           |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 348 & 349.

Actual Output RPM = Input Speed ÷ Actual Ratio.

For Base / Projecting Shaft / Output Flange see How to Order Page 201.

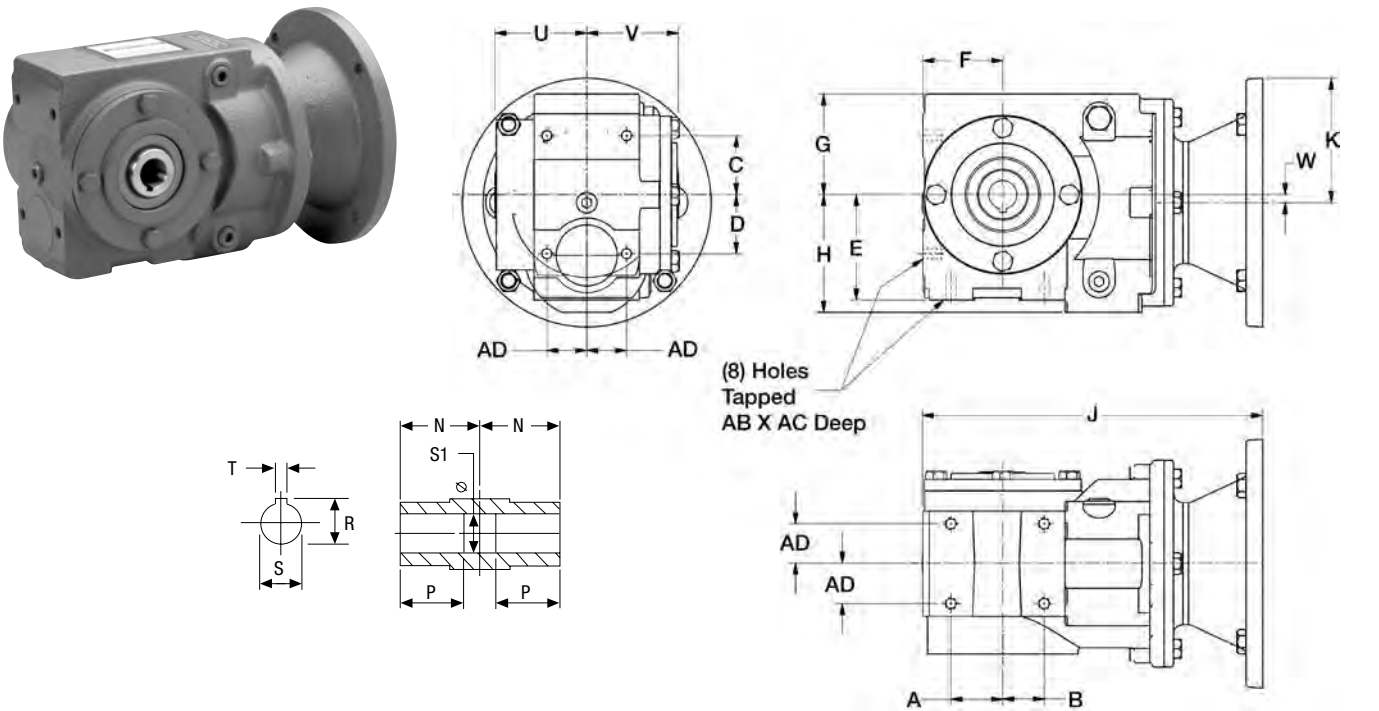
For Overhung Load Ratings refer to Page 204.

□ Indicates Triple Reduction

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# 800 Series Right Angle Helical Worm Gear Drives

## SF800BR Series; NEMA C-Face Input; Double Reduction Basic Model



| Size    | A    | B    | C    | D    | E    | F    | G    | H    | J             |       |       |       | K             |       |       |       |
|---------|------|------|------|------|------|------|------|------|---------------|-------|-------|-------|---------------|-------|-------|-------|
|         |      |      |      |      |      |      |      |      | NEMA Mounting |       |       |       | NEMA Mounting |       |       |       |
|         |      |      |      |      |      |      |      |      | 56C           | 140TC | 180TC | 210TC | 56C           | 140TC | 180TC | 210TC |
|         |      |      |      |      |      |      |      |      | B5            | B7    | B9    | B11   | B5            | B7    | B9    | B11   |
| SF832BR | 1.38 | 1.10 | 1.57 | 1.57 | 2.80 | 2.13 | 2.68 | 3.13 | 9.04          | 9.04  | —     | —     | 3.31          | 3.31  | —     | —     |
| SF842BR | 1.38 | 1.77 | 2.09 | 2.56 | 3.39 | 2.52 | 2.95 | 3.66 | 9.79          | 9.79  | 10.61 | —     | 3.31          | 3.31  | 4.63  | —     |
| SF852BR | 1.77 | 2.17 | 2.56 | 3.03 | 3.78 | 2.68 | 3.46 | 4.36 | 10.57         | 10.57 | 11.40 | —     | 3.31          | 3.31  | 4.63  | —     |
| SF862BR | 2.20 | 2.60 | 2.99 | 3.78 | 4.72 | 3.54 | 3.94 | 5.49 | 12.29         | 12.29 | 14.65 | 14.65 | 3.31          | 3.31  | 4.63  | 4.63  |

| Size    | N    | P    | R    | S<br>+.001<br>-.000 | S1   | T   | U    | V    | W   | AB      | AC  | AD   |
|---------|------|------|------|---------------------|------|-----|------|------|-----|---------|-----|------|
| SF832BR | 2.44 | 1.25 | .84  | .7500               | .76  | .19 | 2.76 | 2.24 | .21 | 5/16-18 | .50 | 1.06 |
| SF842BR | 2.56 | 1.25 | 1.37 | 1.250               | 1.26 | .25 | 2.93 | 2.56 | .59 | 3/8-16  | .56 | 1.10 |
| SF852BR | 2.76 | 1.38 | 1.53 | 1.375*              | 1.39 | .31 | 2.76 | 2.76 | .53 | 3/8-16  | .75 | 1.34 |
| SF862BR | 3.54 | 3.00 | 1.67 | 1.500*              | 1.51 | .38 | 3.54 | 3.17 | .67 | 7/16-14 | .75 | 1.57 |

Output shaft rotation, relative to input shaft rotation, is identical for double reduction and opposite for triple reduction.

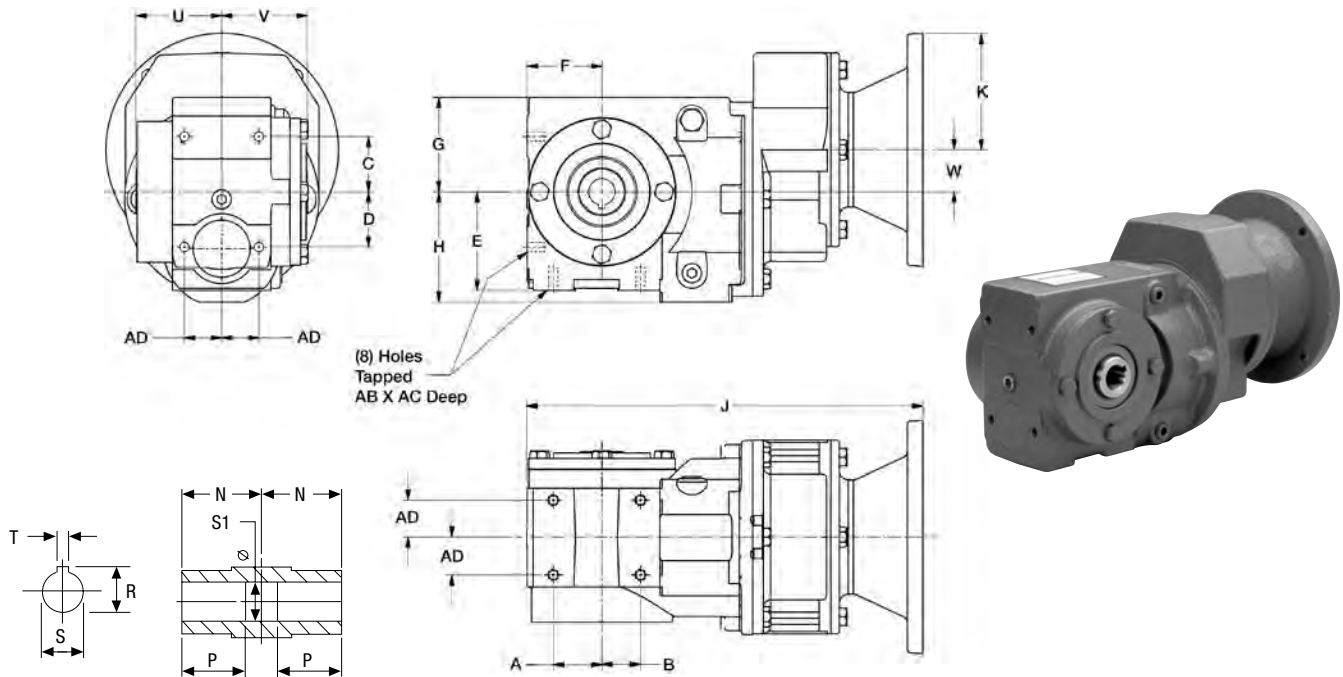
Option kit dimensions on pages 236 & 237.

\* Maximum bore size is 1.625, contact factory for availability.

# 800 Series Right Angle Helical Worm Gear Drives

## SF800BR Series; NEMA C-Face Input; Triple Reduction

### Basic Model



| Size    | A    | B    | C    | D    | E    | F    | G    | H    | J             |       | K             |       |
|---------|------|------|------|------|------|------|------|------|---------------|-------|---------------|-------|
|         |      |      |      |      |      |      |      |      | NEMA Mounting |       | NEMA Mounting |       |
|         |      |      |      |      |      |      |      |      | 56C           | 140TC | 56C           | 140TC |
|         |      |      |      |      |      |      |      |      | B5            | B7    | B5            | B7    |
| SF833BR | 1.38 | 1.10 | 1.57 | 1.57 | 2.80 | 2.13 | 2.68 | 3.13 | 11.24         | 11.24 | 3.31          | 3.31  |
| SF843BR | 1.38 | 1.77 | 2.09 | 2.56 | 3.39 | 2.52 | 2.95 | 3.66 | 12.00         | 12.00 | 3.31          | 3.31  |
| SF853BR | 1.77 | 2.17 | 2.56 | 3.03 | 3.78 | 2.68 | 3.46 | 4.41 | 13.17         | 13.17 | 3.31          | 3.31  |
| SF863BR | 2.20 | 2.60 | 2.99 | 3.78 | 4.72 | 3.54 | 3.94 | 5.49 | 16.00         | 16.00 | 3.31          | 3.31  |

| Size    | N    | P    | R    | S<br>+.001<br>-.000 | S1   | T   | U    | V    | W    | AB      | AC  | AD   |
|---------|------|------|------|---------------------|------|-----|------|------|------|---------|-----|------|
| SF833BR | 2.44 | 1.25 | .84  | .7500               | .76  | .19 | 2.76 | 2.24 | 1.20 | 5/16-18 | .50 | 1.06 |
| SF843BR | 2.56 | 1.25 | 1.37 | 1.250               | 1.26 | .25 | 2.93 | 2.56 | .81  | 3/8-16  | .56 | 1.10 |
| SF853BR | 2.76 | 1.35 | 1.47 | 1.375*              | 1.39 | .31 | 2.76 | 2.76 | .89  | 3/8-16  | .75 | 1.34 |
| SF863BR | 3.54 | 3.00 | 1.62 | 1.500*              | 1.51 | .38 | 3.54 | 3.17 | 1.16 | 7/16-14 | .75 | 1.57 |

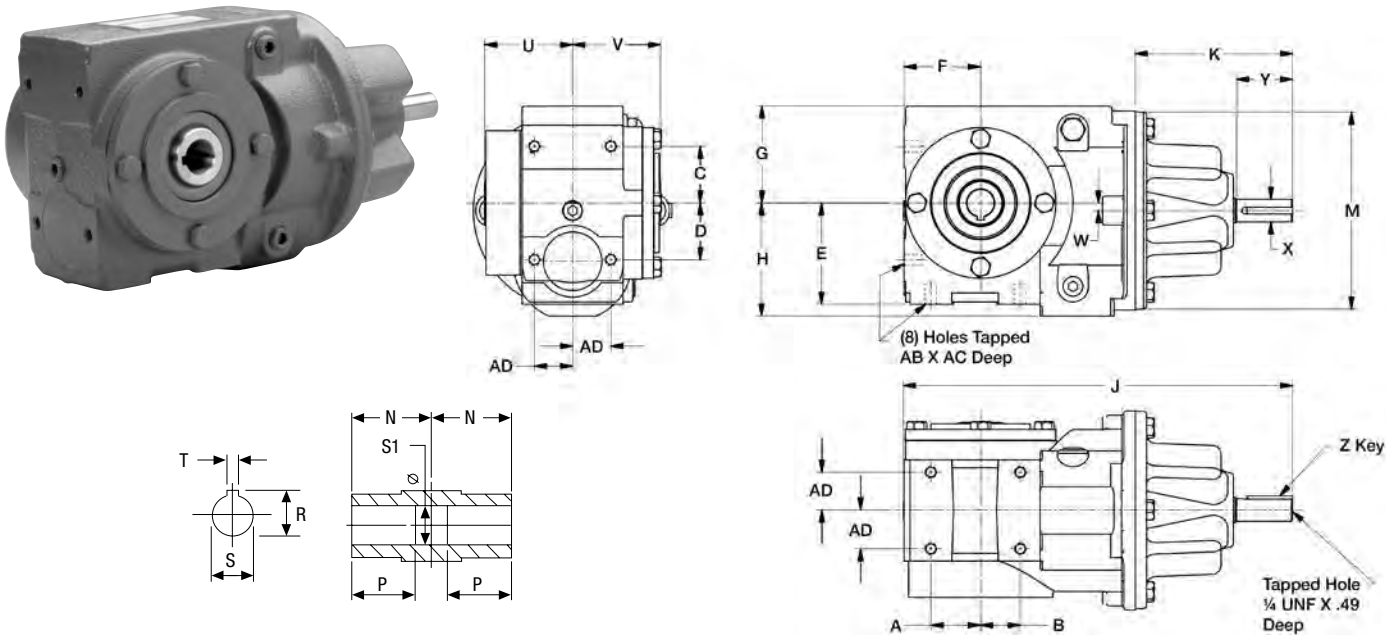
Output shaft rotation, relative to input shaft rotation, is identical for double reduction and opposite for triple reduction.

Option kit dimensions on pages 236 & 237.

\* Maximum bore size is 1.625, contact factory for availability.

# 800 Series Right Angle Helical Worm Gear Drives

## S800BR Series; Non-Flanged; Double Reduction Basic Model



| Size   | A    | B    | C    | D    | E    | F    | G    | H    | J     | K    | M    | N    | P    |
|--------|------|------|------|------|------|------|------|------|-------|------|------|------|------|
| S832BR | 1.38 | 1.10 | 1.57 | 1.57 | 2.80 | 2.13 | 2.68 | 3.13 | 10.79 | 4.37 | 5.51 | 2.44 | 1.25 |
| S842BR | 1.38 | 1.77 | 2.09 | 2.56 | 3.39 | 2.52 | 2.95 | 3.66 | 11.54 | 4.37 | 5.51 | 2.56 | 1.25 |
| S852BR | 1.77 | 2.17 | 2.56 | 3.03 | 3.78 | 2.68 | 3.46 | 4.36 | 12.32 | 4.37 | 5.51 | 2.76 | 1.38 |
| S862BR | 2.20 | 2.60 | 2.99 | 3.78 | 4.72 | 3.54 | 3.94 | 5.49 | 14.57 | 4.37 | 7.09 | 3.54 | 3.00 |

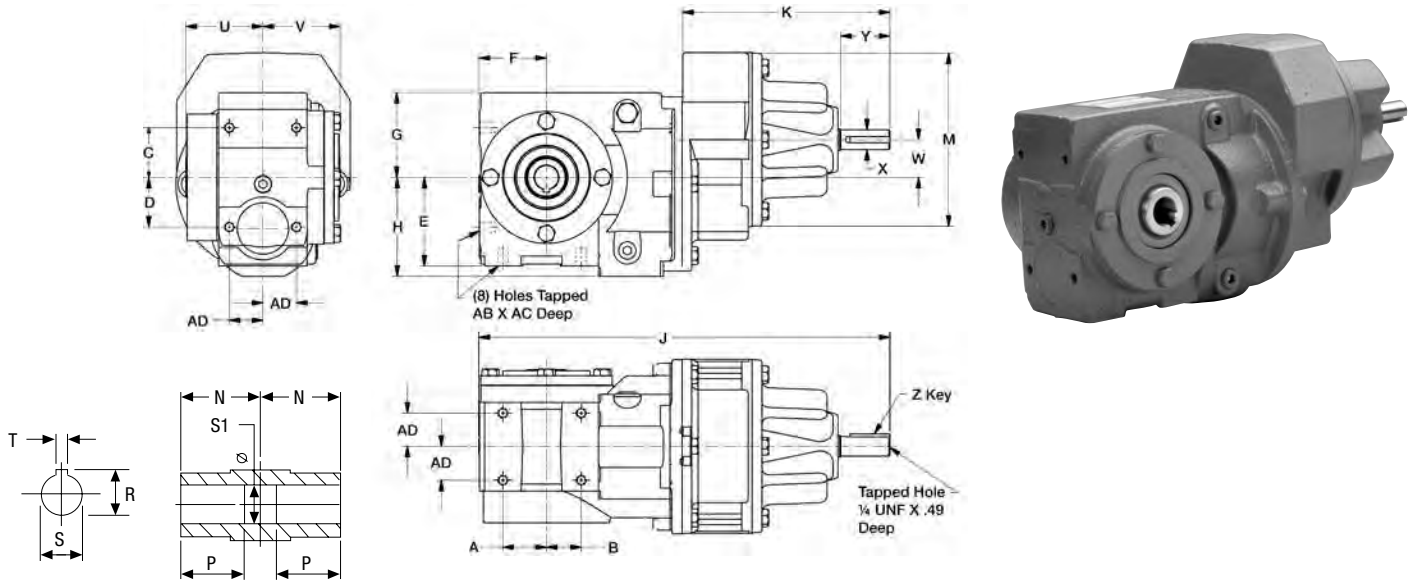
| Size   | R    | S<br>+.001<br>-.000 | S1   | T   | U    | V    | W   | X<br>+.000<br>-.001 | Y    | Z - KEY |       | AB      | AC  | AD   |
|--------|------|---------------------|------|-----|------|------|-----|---------------------|------|---------|-------|---------|-----|------|
|        |      |                     |      |     |      |      |     |                     |      | Sq.     | Lgth. |         |     |      |
| S832BR | .84  | .7500               | .76  | .19 | 2.76 | 2.24 | .21 | .625                | 1.57 | .19     | 1.28  | 5/16-18 | .56 | 1.06 |
| S842BR | 1.37 | 1.250               | 1.26 | .25 | 2.93 | 2.56 | .59 | .625                | 1.57 | .19     | 1.28  | 3/8-16  | .56 | 1.10 |
| S852BR | 1.53 | 1.375*              | 1.39 | .31 | 2.76 | 2.76 | .53 | .625                | 1.57 | .19     | 1.28  | 3/8-16  | .75 | 1.34 |
| S862BR | 1.67 | 1.500*              | 1.51 | .38 | 3.54 | 3.17 | .67 | .750                | 1.57 | .19     | 1.28  | 7/16-14 | .75 | 1.57 |

Output shaft rotation, relative to input shaft rotation, is identical for double reduction and opposite for triple reduction.  
Option kit dimensions on pages 236 & 237.  
\* Maximum bore size is 1.625, contact factory for availability.

# 800 Series Right Angle Helical Worm Gear Drives

## S800BR Series; Non-Flanged; Triple Reduction

### Basic Model



| Size   | A    | B    | C    | D    | E    | F    | G    | H    | J     | K    | M    | N    | P    |
|--------|------|------|------|------|------|------|------|------|-------|------|------|------|------|
| S833BR | 1.38 | 1.10 | 1.57 | 1.57 | 2.80 | 2.13 | 2.68 | 3.13 | 12.99 | 6.57 | 5.51 | 2.44 | 1.25 |
| S843BR | 1.38 | 1.77 | 2.09 | 2.56 | 3.39 | 2.52 | 2.95 | 3.66 | 13.74 | 6.57 | 5.51 | 2.56 | 1.25 |
| S853BR | 1.77 | 2.17 | 2.56 | 3.03 | 3.78 | 2.68 | 3.46 | 4.36 | 14.53 | 6.57 | 5.51 | 2.76 | 1.38 |
| S863BR | 2.20 | 2.60 | 2.99 | 3.78 | 4.72 | 3.54 | 3.94 | 5.49 | 17.17 | 6.97 | 5.51 | 3.54 | 2.00 |

| Size   | R    | S<br>+.001<br>-.000 | S1   | T   | U    | V    | W    | X<br>+.000<br>-.001 | Y    | Z - KEY |       | AB      | AC  | AD   |
|--------|------|---------------------|------|-----|------|------|------|---------------------|------|---------|-------|---------|-----|------|
|        |      |                     |      |     |      |      |      |                     |      | Sq.     | Lgth. |         |     |      |
| S833BR | .84  | .7500               | .76  | .19 | 2.76 | 2.24 | 1.20 | .625                | 1.57 | .19     | 1.28  | 5/16-18 | .59 | 1.06 |
| S843BR | 1.37 | 1.250               | 1.26 | .25 | 2.93 | 2.56 | .89  | .625                | 1.57 | .19     | 1.28  | 3/8-16  | .79 | 1.10 |
| S853BR | 1.53 | 1.375*              | 1.39 | .31 | 2.76 | 2.76 | .89  | .625                | 1.57 | .19     | 1.28  | 3/8-16  | .79 | 1.34 |
| S863BR | 1.67 | 1.500*              | 1.51 | .38 | 3.54 | 3.17 | 1.16 | .625                | 1.57 | .19     | 1.28  | 7/16-14 | .79 | 1.57 |

Output shaft rotation, relative to input shaft rotation, is identical for double reduction and opposite for triple reduction.

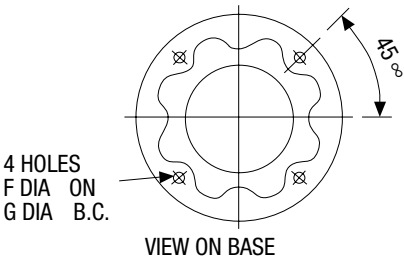
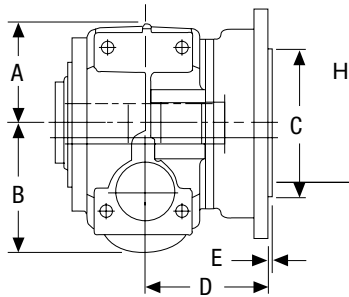
Option kit dimensions on pages 236 & 237.

\* Maximum bore size is 1.625, contact factory for availability.

# 800 Series Right Angle Helical Worm Gear Drives

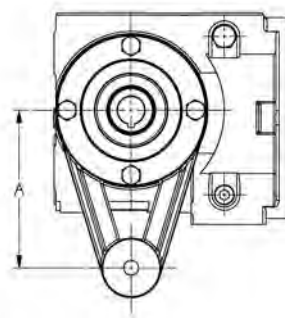
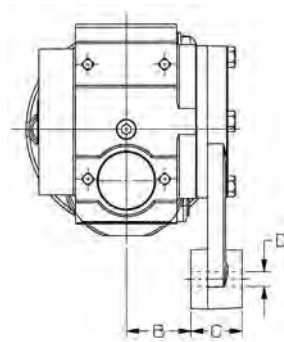
## Accessories

### Output Flange Kits



| Size  | A    | B    | C      | D    | E   | F   | G    | H    | Catalog No.<br>(Item Code) |
|-------|------|------|--------|------|-----|-----|------|------|----------------------------|
| 832BR | 2.66 | 3.13 | 4.3312 | 2.95 | .16 | .35 | 5.12 | 6.30 | XS830BR-11VK<br>(59611)    |
| 833BR |      |      | 4.3304 |      |     |     |      |      |                            |
| 842BR | 2.95 | 3.36 | 4.3312 | 3.39 | .16 | .35 | 5.12 | 6.30 | XS840BR-11VK<br>(59523)    |
| 843BR |      |      | 4.3304 |      |     |     |      |      |                            |
| 852BR | 3.43 | 4.41 | 5.1187 | 4.21 | .14 | .43 | 6.50 | 7.88 | XS850BR-11VK<br>(59528)    |
| 853BR |      |      | 5.1177 |      |     |     |      |      |                            |
| 862BR | 4.04 | 5.49 | 5.1187 | 4.72 | .14 | .43 | 6.50 | 7.88 | XS860BR-11VK<br>(59533)    |
| 863BR |      |      | 5.1177 |      |     |     |      |      |                            |

## Torque Arm Kits

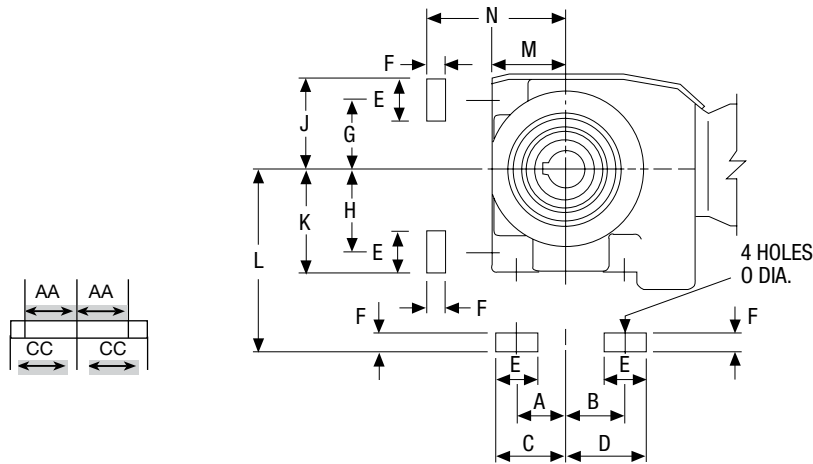


| Size  | A    | B    | C    | D   | Catalog No.<br>(Item Code) |
|-------|------|------|------|-----|----------------------------|
| 832BR | 4.33 | 1.85 | 1.42 | .41 | XS830BR-76K<br>(59612)     |
| 833BR |      |      |      |     |                            |
| 842BR | 5.12 | 2.05 | 1.42 | .41 | XS840BR-76K<br>(59524)     |
| 843BR |      |      |      |     |                            |
| 852BR | 6.30 | 2.05 | 1.42 | .41 | XS850BR-76K<br>(59529)     |
| 853BR |      |      |      |     |                            |
| 862BR | 7.87 | 2.81 | 1.73 | .65 | XS860BR-76K<br>(59534)     |
| 863BR |      |      |      |     |                            |

\*Available on carrier side only (left side when facing flange input).

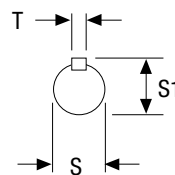
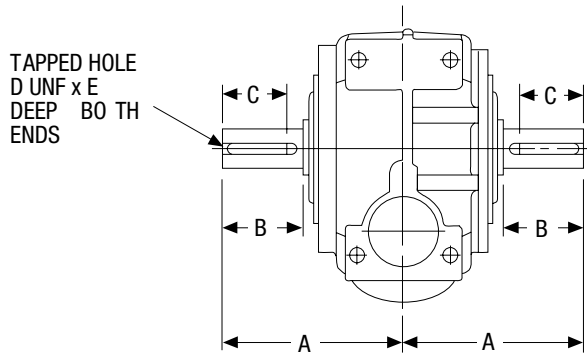
# 800 Series Right Angle Helical Worm Gear Drives

## Accessories Base Kits



| Size           | A    | B    | C    | D    | E    | F   | G    | H    | J    | K    | L    | M    | N    | O   | AA   | CC   | Catalog No. (Item Code) |
|----------------|------|------|------|------|------|-----|------|------|------|------|------|------|------|-----|------|------|-------------------------|
| 832BR<br>833BR | 1.38 | 1.10 | 1.85 | 1.61 | .98  | .35 | 1.57 | 1.57 | 2.07 | 2.07 | 3.15 | 2.13 | 2.48 | .35 | 1.77 | 2.17 | XS830BR-11K (59610)     |
| 842BR<br>843BR | 1.38 | 1.77 | 2.09 | 2.44 | 1.38 | .55 | 2.09 | 2.56 | 2.78 | 3.25 | 3.94 | 2.52 | 3.07 | .43 | 1.97 | 2.44 | XS840BR-11K (59522)     |
| 852BR<br>853BR | 1.77 | 2.17 | 2.56 | 2.95 | 1.57 | .63 | 2.56 | 3.03 | 3.35 | 3.82 | 4.41 | 2.68 | 3.31 | .43 | 2.17 | 2.68 | XS850BR-11K (59527)     |
| 862BR<br>863BR | 2.36 | 2.76 | 3.19 | 3.58 | 1.97 | .79 | 3.15 | 3.94 | 3.98 | 4.76 | 5.51 | 3.54 | 4.33 | .55 | 2.56 | 3.15 | XS860BR-11K (59532)     |

## Output Shaft Kits

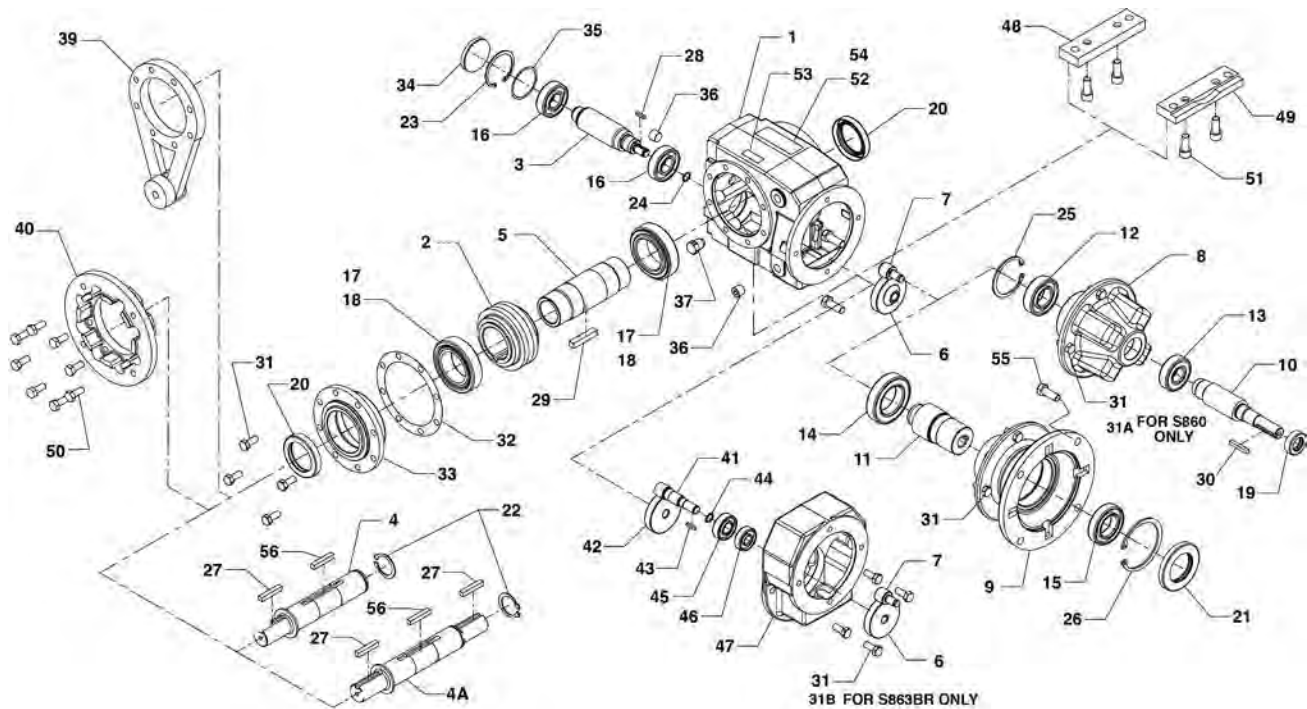


| Size           | A    | B    | C    | D   | E    | S<br>+.000<br>-.001 | S1   | T   | Catalog No. (Item Code) |                      |
|----------------|------|------|------|-----|------|---------------------|------|-----|-------------------------|----------------------|
|                |      |      |      |     |      |                     |      |     | Single Projection       | Double Projection    |
| 832BR<br>833BR | 3.94 | 1.38 | 1.28 | 1/4 | .63  | .750                | .83  | .19 | XS830BR-3PAK (59608)    | XS830BR-3PBK (59609) |
| 842BR<br>843BR | 4.53 | 1.81 | 1.69 | 1/4 | .63  | 1.000               | 1.10 | .25 | XS840BR-3PAK (59520)    | XS840BR-3PBK (59521) |
| 852BR<br>853BR | 5.28 | 2.36 | 2.12 | 3/4 | .87  | 1.250               | 1.36 | .25 | XS850BR-3PAK (59525)    | XS850BR-3PBK (59526) |
| 862BR<br>863BR | 6.30 | 2.48 | 2.34 | 1/2 | 1.12 | 1.375               | 1.51 | .31 | XS860BR-3PAK (59530)    | XS860BR-3PBK (59531) |

Single left / right or double projection shafts.



# 800 Series Parts List – Right Angle Helical Worm Gear Drives



| Part No. | Description of Part                     |
|----------|-----------------------------------------|
| 1        | HOUSING                                 |
| 2        | O/P WORM GEAR                           |
| 3        | O/P WORM                                |
| 4        | OUTPUT SHAFT, PROJECTION (SINGLE)       |
| 4A       | OUTPUT SHAFT, PROJECTION (DOUBLE)       |
| 5        | OUTPUT SHAFT, HOLLOW                    |
| 6        | HELICAL GEAR, 1ST REDUCTOR              |
| 7        | HELICAL PINION, 1ST REDUCTOR            |
| 8        | INPUT BEARING CARRIER                   |
| 9        | MOTOR FLANGE (B5/B7-B9/B11)             |
| 10       | INPUT REDUCTOR SHAFT                    |
| 11       | INPUT MOTOR SHAFT                       |
| 12       | BEARING, INPUT SHAFT (INBOARD)          |
| 13       | BEARING, INPUT SHAFT (OUTBOARD)         |
| 14       | BEARING, MOTOR SHAFT (INBOARD)          |
| 15       | BEARING, MOTOR SHAFT (OUTBOARD)         |
| 16       | BEARING, OUTPUT PINION                  |
| 17       | BEARING, OUTPUT SHAFT (CUP)             |
| 18       | BEARING, OUTPUT SHAFT (CONE)            |
| 19       | OIL SEAL, INPUT REDUCTOR SHAFT          |
| 20       | OIL SEAL, OUTPUT SHAFT                  |
| 21       | OIL SEAL, INPUT MOTOR SHAFT             |
| 22       | RETAINING RING, OUTPUT SHAFT            |
| 23       | RETAINING RING, OUTPUT PINION (HOUSING) |
| 24       | RETAINING RING, 1ST REDUCTOR GEAR       |
| 25       | RETAINING RING, INPUT CARRIER           |
| 26       | RETAINING RING, B5/B7-B9/B11 FLANGE     |
| 27       | KEY, OUTPUT SHAFT PROJECTION            |

| Part No. | Description of Part                     |
|----------|-----------------------------------------|
| 28       | KEY, 1ST REDUCTION GEAR                 |
| 29       | KEY, OUTPUT SHAFT HOLLOW                |
| 30       | KEY, INPUT REDUCTOR                     |
| 31       | HEX HEAD CAP SCREWS                     |
| 32       | OUTPUT SHIM                             |
| 33       | OUTPUT BEARING CARRIER                  |
| 34       | BORE PLUG, OUTPUT PINION                |
| 35       | OUTPUT PINION SHIM                      |
| 36       | PLUG, PIPE                              |
| 37       | PLUG, OIL VENT                          |
| 39       | TORQUE ARM                              |
| 40       | OUTPUT FLANGE 11V BASE                  |
| 41       | HELICAL PINION, 2ND REDUCTOR (TRIPLE)   |
| 42       | HELICAL GEAR, 2ND REDUCTOR (TRIPLE)     |
| 43       | KEY, HELICAL PINION (TRIPLE)            |
| 44       | RETAINING RING, HELICAL PINION          |
| 45       | BEARING, HELICAL PINION (TRPL) OUTBOARD |
| 46       | BEARING, HELICAL GEAR (TRPL)            |
| 47       | HOUSING, TRIPLE REDUCTION               |
| 48       | MOUNTING FOOT                           |
| 49       | MOUNTING FOOT                           |
| 50       | SOCKET HEAD CAPSCREW                    |
| 51       | ALLEN HEAD CAPSCREWS                    |
| 52       | NAMEPLATE                               |
| 53       | SYNTHETIC OIL LEVEL                     |
| 54       | NAMEPLATE TAPE                          |
| 55       | MOTOR BOLTS                             |
| 56       | HOLLOW-TO-SOLID SHAFT KEY               |



Section Contents

HM Series Features / How to Order .....240

HM Series standard products .....241

Mounting Assemblies. ....242

Lubrication / Operating Instructions ..... 242-243

Helical Multiplier Ratings.....244

Helical Multiplier Dimentions .....245

# Features / How to Order

Use alone as either a speed reducer or increaser or in combination with a 700 Series worm gear reducer to create an efficient right angle double reduction speed reducer.

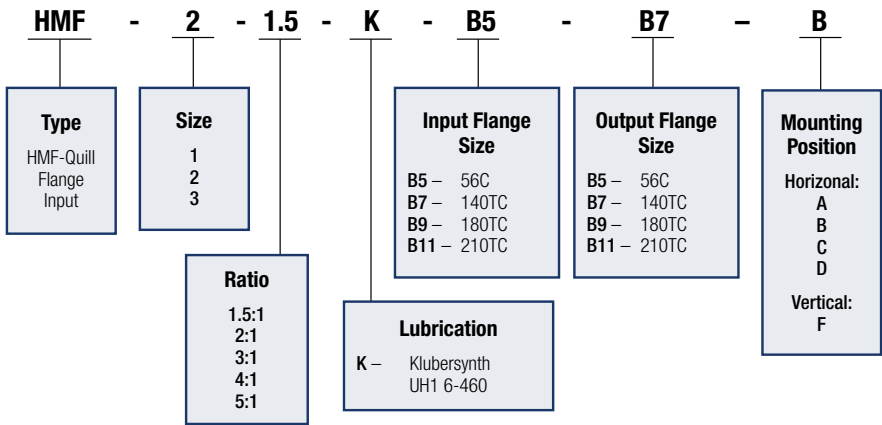
- Close grained cast iron housing and flanges
- Hardened steel helical gearing for long life
- Anti-friction bearings
- Double lip seals guard against oil leakage
- Brass spring loaded breather plug keeps out dirt and water
- Optional steel bolt on base
- Double bearing design on input and output shaftt



Flanged

| Unit Size | Optional Base Kits  |           |
|-----------|---------------------|-----------|
|           | Catalog Description | Item Code |
| 1         | HMF1 Base Kit       | 83501     |
| 2         | HMF2 Base Kit       | 83502     |
| 3         | HMF3 Base Kit       | 83503     |

## Numbering System



## Available Styles

| Model | Input | Output |
|-------|-------|--------|
| HMF1  | B5    | B5     |
| HMF 2 | B5    | B5     |
|       | B5    | B7     |
|       | B7    | B5     |
|       | B7    | B7     |
| HMF3  | B9    | B9     |
|       | B9    | B11    |
|       | B11   | B9     |
|       | B11   | B11    |

# Helical Multiplier Series Reducer

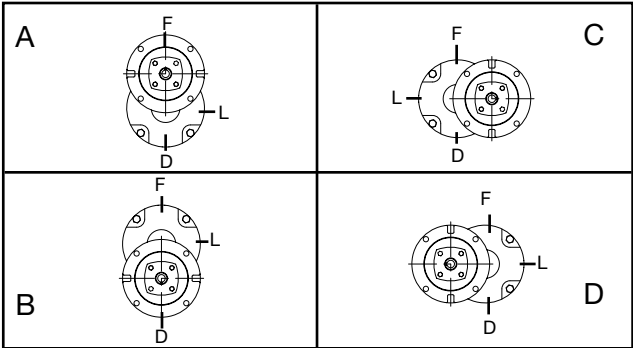
## NEMA C-Face Models

| Catalog Number  | Item Code |
|-----------------|-----------|
| HMF1-1.5K-B5-B5 | F05001    |
| HMF1-2K-B5-B5   | F05002    |
| HMF1-3K-B5-B5   | F05003    |
| HMF1-4K-B5-B5   | F05004    |
| HMF1-5K-B5-B5   | F05005    |
| HMF2-1.5K-B5-B5 | F05006    |
| HMF2-1.5K-B5-B7 | F05007    |
| HMF2-1.5K-B7-B5 | F05008    |
| HMF2-1.5K-B7-B7 | F05009    |
| HMF2-2K-B5-B5   | F05010    |
| HMF2-2K-B5-B7   | F05011    |
| HMF2-2K-B7-B5   | F05012    |
| HMF2-2K-B7-B7   | F05013    |
| HMF2-3K-B5-B5   | F05014    |
| HMF2-3K-B5-B7   | F05015    |
| HMF2-3K-B7-B5   | F05016    |
| HMF2-3K-B7-B7   | F05017    |
| HMF2-4K-B5-B5   | F05018    |
| HMF2-4K-B5-B7   | F05019    |
| HMF2-4K-B7-B5   | F05020    |
| HMF2-4K-B7-B7   | F05021    |
| HMF2-5K-B5-B5   | F05022    |
| HMF2-5K-B5-B7   | F05023    |
| HMF2-5K-B7-B5   | F05024    |
| HMF2-5K-B7-B7   | F05025    |

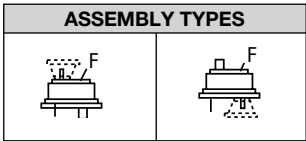
| Catalog Number    | Item Code |
|-------------------|-----------|
| HMF3-1.5K-B11-B11 | F05026    |
| HMF3-1.5K-B11-B9  | F05027    |
| HMF3-1.5K-B9-B11  | F05028    |
| HMF3-1.5K-B9-B9   | F05029    |
| HMF3-2K-B11-B11   | F05030    |
| HMF3-2K-B11-B9    | F05031    |
| HMF3-2K-B9-B11    | F05032    |
| HMF3-2K-B9-B9     | F05033    |
| HMF3-3K-B11-B11   | F05034    |
| HMF3-3K-B11-B9    | F05035    |
| HMF3-3K-B9-B11    | F05036    |
| HMF3-3K-B9-B9     | F05037    |
| HMF3-4K-B11-B11   | F05038    |
| HMF3-4K-B11-B9    | F05039    |
| HMF3-4K-B9-B11    | F05040    |
| HMF3-4K-B9-B9     | F05041    |
| HMF3-5K-B11-B11   | F05042    |
| HMF3-5K-B11-B9    | F05043    |
| HMF3-5K-B9-B11    | F05044    |
| HMF3-5K-B9-B9     | F05045    |

# Helical Multiplier Lubrication

## Horizontal Mounting



## Vertical Mounting



## Recommended Lubricants

The following tables indicate the type and viscosity of lubricant suitable for reducers operating at various temperatures.

Lubrication and maintenance instructions are provided with each speed reducer. These instructions should be followed for best results. It is important that the proper type of oil be used since many oils are not suitable for the lubrication of gears. Various types of gearing require different types of lubricants.

The lubricant must remain free from oxidation and contamination by water or debris since only a very thin film of oil stands between efficient operation and failure. To assure long service life, the reducer should be periodically drained (preferably while warm) and refilled to the proper level with a recommended gear oil. Under normal environmental conditions oil changes, are suggested after the initial 250 hours of operation, and thereafter, at regular intervals of 2500 hours or every 6 months. Synthetic lubricants will allow extended lubrication intervals due to its increased resistance to thermal and oxidation degradation. It is suggested that the initial oil change be made at 1500 hours and, thereafter, at 5000 hour intervals.

During the initial period of operation, higher than normal operating temperatures may be seen. This is due to the initial break-in of the gear set. The temperature of Helical Gear Reducers may reach 160°F.

## Enclosed Helical

| Recommended Oil (or equivalent) | Viscosity Range S&S @ 100°F | Oil Type | ISO Viscosity Grade No. |
|---------------------------------|-----------------------------|----------|-------------------------|
| Klubersynth* UH1 6-460          | 1950/2500                   | PAG      | 460                     |
| Mobile SHC634                   | 1950/2500                   | PAO      | 320/460                 |

Ambient temperature range of -20F to +125F is suitable for standard configured products and ratings. Contact technical support for operating conditions beyond this range.

| Recommended Lubricant | Boston Gear Item Code |
|-----------------------|-----------------------|
|                       | Quart                 |
| Klubersynth UH1 6-460 | 65159                 |
| Mobile SHC634         | 51493                 |

CAUTION: Relubricate more frequently, if drive is operated in high ambient temperatures or unusually contaminated atmospheres. High loads and operating temperatures will also require more frequent relubrication.

\*Synthetic recommendation is exclusively for Klubersynth UH1 6-460.

‡The UH1 6-460 lubricant will perform at temperatures considerably higher than 225°F. However, the factory should always be consulted prior to operating at higher temperatures, as damage may occur to oil seals and other components.

**Drain Plug** must be installed in the lower most location of the housing. This plug will be on the input shaft side of the housing for positions B, C, D and A, may be either side for A.

The **Vented Filler Plug** should be installed in the uppermost location. This plug will be on the input shaft side for positions A, C, or D, on either side for B and must be tightened into position.

**Level Plug** position will be as indicated for horizontal positions. For vertical positions the oil level is established by an oil level distance measured from the outer surface of the housing from the oil filler hole.

| Size | Flanged       |                | Non-Flanged   |                |
|------|---------------|----------------|---------------|----------------|
|      | Weight (lbs.) | Capacity (ozs) | Weight (lbs.) | Capacity (ozs) |
| 1    | 18            | 11             | 14            | 11             |
| 2    | 25            | 14             | 21            | 14             |
| 3    | 50            | 28             | 43            | 28             |

## Installation, Lubrication and Operation Instructions

**Warning:** *Boston Gear speed reducers are normally shipped without lubricant. They must be filled to the proper level with the recommended lubricant before operation.*

These instructions must be read thoroughly before installing or operating speed reducers. File instructions for future reference.

### CAUTION

- For safe operation of any gear drive, all rotating shafts and auxiliary components must be shielded to conform with applicable safety standards. You must consider overall operational system safety at all times.
- When using a gear drive to raise or lower a load, such as in hoisting applications, provision must be made for external braking. Under no conditions should a speed reducer be considered self-locking.
- Mounting of speed reducers in overhead positions may be hazardous. Use of external guides or supports is strongly recommended for overhead mounting.

### General Instructions

1. When mounting, use maximum possible bolt size and secure gear drive to a rigid foundation. Periodic inspection of all bolts is recommended.
2. Align all shafts accurately. Improper alignment can result in failure. Use of flexible couplings is recommended to compensate for slight misalignment.
3. Arrange the drain and breather plug per your mounting position as indicated on page 230. The breather plug should also be located in the Fill position.
4. Auxiliary drive components (such as sprockets, gears and pulleys) should be mounted on the shafts as close as possible to the housing to minimize effects of overhung loads. Avoid force fits that might damage bearings or gears.
5. Gear drives are nameplated for 1750 RPM Input Speed and Class I Service. For lower Input Speeds and other Service Class, refer to catalog rating information.
6. Input speeds of 1750 and lower are shown in catalog rating tables for speed reducing applications. This does not represent the maximum speed. Since speed limitation is based on pitching velocity and varies with size and ratio.

### Instructions for Flanged Models

#### HMF (Quill Type Input)

1. Assemble the key to the motor shaft and coat the quill bore with anti-seize compound. Insert the motor shaft into the reducer input shaft.
2. Rotate the motor to proper position and firmly secure to flange with four hex-head cap screws.

**CAUTION** - If the motor does not readily seat itself, check to determine if key has moved axially along motor shaft, causing interference. Staking of the keyway adjacent to the motor key will facilitate this procedure.

### Location of Filler, Level and Drain Plugs

Helical-Multiplier reducers may be mounted in any position shown.

Filler, level and drain plugs are completely interchangeable and should be arranged to suit the required mounting positions.

# Helical Multiplier Series Ratio & Capacity Selection Tables

## Horsepower and Torque Capacities (Service Factor 1.0)

| Series Size |           |            | HMF Size 1 |        |                  | HMF Size 2 |        |                  | HMF Size 3 |        |                  |
|-------------|-----------|------------|------------|--------|------------------|------------|--------|------------------|------------|--------|------------------|
| Ratio       | Input RPM | Output RPM | Input HP   | Output |                  | Input HP   | Output |                  | Input HP   | Output |                  |
|             |           |            |            | HP     | Torque (Lb. In.) |            | HP     | Torque (Lb. In.) |            | HP     | Torque (Lb. In.) |
| 1.5         | 1750      | 1167       | 3.29       | 3.19   | 172              | 13.60      | 13.19  | 712              | 17.79      | 17.26  | 932              |
| 2           | 1750      | 875        | 2.74       | 2.66   | 192              | 11.76      | 11.41  | 822              | 15.38      | 14.92  | 1075             |
| 3           | 1750      | 583        | 2.06       | 2.00   | 216              | 9.48       | 9.20   | 944              | 12.39      | 12.02  | 1299             |
| 4           | 1750      | 437        | 1.45       | 1.41   | 203              | 6.88       | 6.67   | 962              | 8.99       | 8.72   | 1258             |
| 5           | 1750      | 350        | 1.05       | 1.02   | 183              | 5.06       | 4.91   | 884              | 6.61       | 6.41   | 1155             |

### Output Shaft Thrust Rating (lbs.)

|      | 1.5:1 | 2:1 | 3:1 | 4:1 | 5:1 |
|------|-------|-----|-----|-----|-----|
| HMF1 | 153   | 169 | 193 | 213 | 230 |
| HMF2 | 230   | 253 | 289 | 319 | 345 |
| HMF3 | 313   | 345 | 394 | 435 | 470 |

### Overhung Loads (lbs.)

|        | HMF Size 1 | HMF Size 2 |           | HMF Size 3 |             |
|--------|------------|------------|-----------|------------|-------------|
| Input  | 200        | 200        |           | 350        |             |
| Output | 315        | B5<br>375  | B7<br>750 | B9<br>1100 | B11<br>1135 |

**Ratings Shown Reflect Maximum Gear Capacity With KLUBERSYNTH UH1 6-460 Lubricant.**

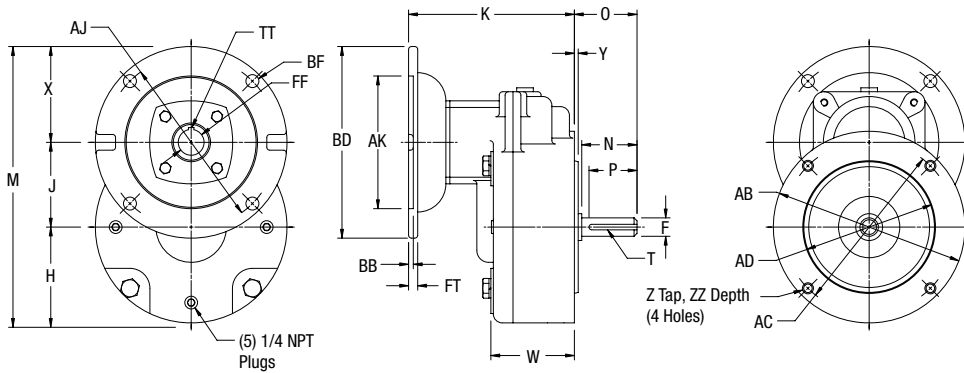
Overhung Load is at centerline of output shaft projection and with NO THRUST Load.

**Maximum Input Speed 1750 RPM**

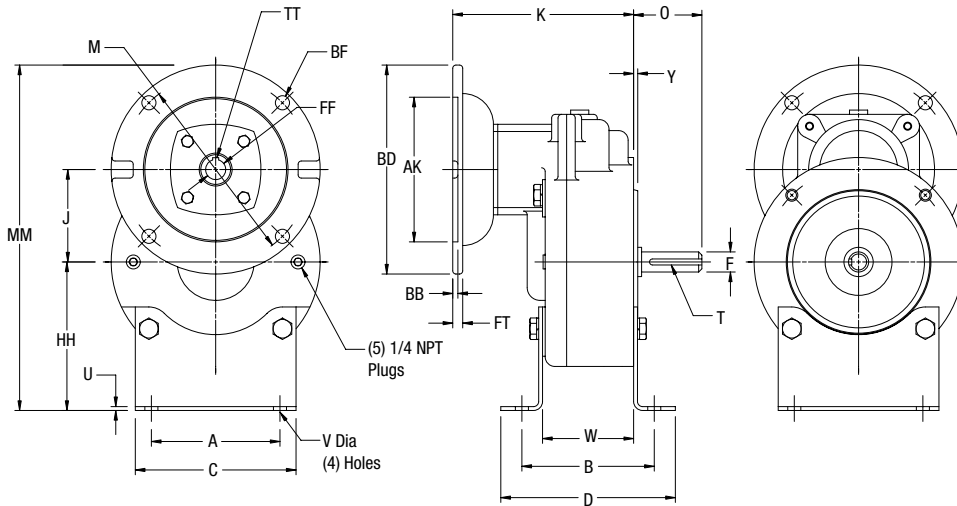


# Helical Multiplier Dimensions

## HMF Basic



## HMF with Base



ALL DIMENSIONS IN INCHES

| Size | Output Flange | Foot |      |      |      | Main Dimensions |      |      |       |      |       |       |      |      |      |           |
|------|---------------|------|------|------|------|-----------------|------|------|-------|------|-------|-------|------|------|------|-----------|
|      |               | A    | B    | C    | D    | F               | H    | HH   | J     | K    | M     | MM    | N    | O    | P    | T         |
| 1    | B5            | 4.00 | 3.87 | 5.00 | 5.18 | 0.625           | 2.39 | 4.62 | 1.675 | 4.19 | 7.31  | 9.54  | 1.89 | 2.04 | 1.57 | 3/16X3/32 |
|      | B5            | 4.00 | 4.12 | 5.00 | 5.44 | 0.625           | 3.37 | 4.62 | 2.875 | 5.00 | 9.49  | 10.74 | 1.84 | 1.90 | 1.57 | 3/16X3/32 |
| 2    | B7            | 4.00 | 4.12 | 5.00 | 5.44 | 0.875           | 3.37 | 4.62 | 2.875 | 5.00 | 9.49  | 10.74 | 1.84 | 1.90 | 1.57 | 3/16X3/32 |
|      | B9            | 5.13 | 4.74 | 6.37 | 6.15 | 1.125           | 4.25 | 4.81 | 2.875 | 6.44 | 11.63 | 12.19 | 2.50 | 3.31 | 1.97 | 1/4X1/8   |
| 3    | B11           | 5.13 | 4.74 | 6.37 | 6.15 | 1.375           | 4.25 | 4.81 | 2.875 | 6.44 | 11.63 | 12.19 | 2.50 | 3.31 | 1.97 | 5/16X5/32 |

| Size | Main Dimensions |       |      |      |      | Output Flange |      |     |       |     |  |
|------|-----------------|-------|------|------|------|---------------|------|-----|-------|-----|--|
|      | U               | V     | W    | X    | Y    | Z             | ZZ   | AB  | AC    | AD  |  |
| 1    | 0.12            | 0.406 | 1.95 | 3.25 | 0.16 | 3/8 - 16      | Thru | 6.5 | 5.875 | 4.5 |  |
| 2    | 0.12            | 0.406 | 3.00 | 3.25 | 0.16 | 3/8 - 16      | 0.75 | 6.5 | 5.875 | 4.5 |  |
| 3    | 0.16            | 0.500 | 3.35 | 4.50 | 0.31 | 1/2 - 13      | Thru | - - | 7.250 | 8.5 |  |

| Size | Input Flange | Input Flange |     |     |      |      |       |      |           |
|------|--------------|--------------|-----|-----|------|------|-------|------|-----------|
|      |              | AJ           | AK  | BD  | BF   | BB   | FF    | FT   | TT        |
| 1    | B5           | 5.875        | 4.5 | 6.5 | 0.43 | 0.16 | 0.625 | 0.35 | 3/16x3/32 |
|      | B5           | 5.875        | 4.5 | 6.5 | 0.41 | 0.16 | 0.625 | 0.43 | 3/16x3/32 |
| 2    | B7           | 5.875        | 4.5 | 6.5 | 0.41 | 0.16 | 0.875 | 0.43 | 3/16x3/32 |
|      | B9           | 7.250        | 8.5 | 9.0 | 0.59 | 0.24 | 1.125 | 0.59 | 1/4x1/8   |
| 3    | B11          | 7.250        | 8.5 | 9.0 | 0.59 | 0.24 | 1.375 | 0.59 | 5/16x5/32 |



Hollow Shaft



Section Contents

Product Reference Guide .....248

Numbering System / How To Order .....249

Selection Procedure.....250-251

Mounting Positions .....252

Output RPM Selection Tables .....253-256

Reducer Ratings.....257-258

Dimensions .....259-263

Accessories .....264-265

Washdown Duty .....266

Lubrication .....267-268

Parts List .....269



# 200 Series Optimount® Product Reference Guide

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## F200 Series Optimount® Helical Gear Flanged Reducers

**Ordering Information** – Pages 249-251

**Selection/Rating Information** – Pages 253-256

**Lubrication** – Pages 267-268

**Motor Selection** – Pages 334, 337-341



**Basic Model**  
Dimensions – Page 259



**F200H Series  
Horizontal Base Model**  
Dimensions – Page 260



**F200V Series  
Vertical Base Model**  
Dimensions – Page 260

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## 200 Series Optimount® Helical Gear Non-Flanged Reducers

**Ordering Information** – Pages 249-251

**Selection/Rating Information** – Pages 253-256

**Lubrication** – Pages 267-268

**Motor Selection** – Pages 334, 337-341



**Basic Model**  
Dimensions – Pages 261



**200H Series  
Horizontal Base Model**  
Dimensions – Page 262



**200V Series  
Vertical Base Model**  
Dimensions – Page 262

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## 200 Series Optimount® Helical Gear Accessories and Options

**Ordering Information** – Page 249



**Shaft Kits / Reaction Rods**  
Dimensions – Pages 264



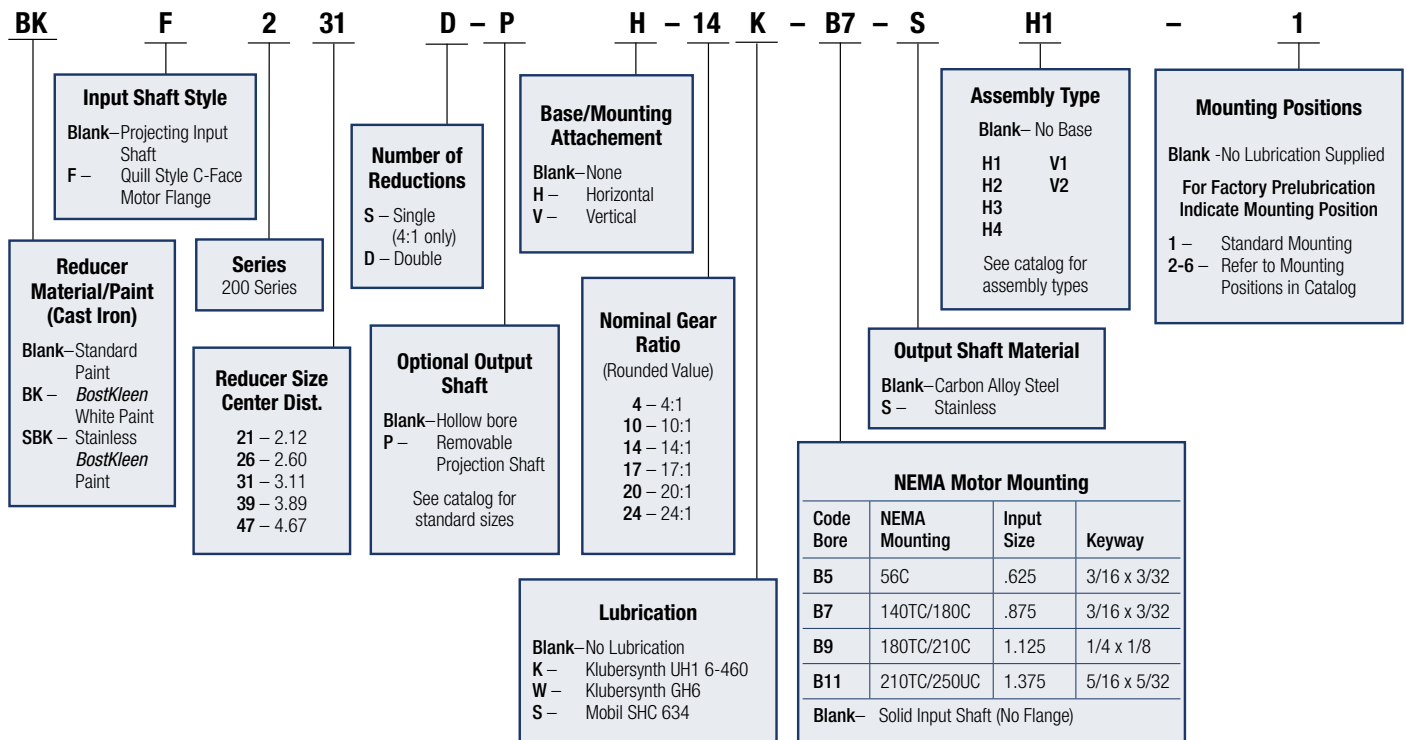
**Base Kits  
Vertical/Horizontal**  
Dimensions – Page 265

# 200 Series Optimount® Numbering System / How to Order

## Catalog Numbering System

When ordering please note the complete catalog number and/or the (5-digit) item code. With either of these two numbers your local Boston Distributor will have several alternatives to enter your order into the Boston Gear system.

### 200 Series Catalog Number



## How to Order

Specify Model Number (Basic Hollow Output Shaft Reducer), Ratio, Input Bore Code, Horizontal or Vertical Base Kit and Output Shaft Kit.

### EXAMPLE:

F239DPH-14-B9\*\*

### Order:

1 Pc. F239D-14-B9 (Basic Flanged Reducer) (39272)

1 Pc. X239-3PK (Output Shaft Kit) (23904)

1 Pc. X239-11HK (Horizontal Base Kit) (68658)

\*Shipped separately unless otherwise specified.

**\*\*If components are to be factory assembled, specify Assembly Type and Mounting Position, see Page 240**

# 200 Series Optimount® Helical Gear Speed Reducers

To properly select a speed reducer, the following application information should be known.

1. Service Factor or AGMA Service Class.
2. Output Horsepower or Torque
3. Output RPM or Ratio

## Non-Motorized Speed Reducer

1. Determine application service factor from table 1 or from application classification tables on pages 348-349.
2. Determine design Horsepower or Torque.
  - Design HP = Application HP x S.F.
  - Design Torque = Application Torque x S.F.
3. Select a Speed reducer that satisfies output RPM, service class and/or output torque requirement. Ref. rating tables pages 257-258.
4. Overhung shaft load should be checked when belt or chain drives are used, to prevent premature shaft or bearing failure. Reference page 251 for calculations.

## Example

Select a parallel shaft helical speed reducer for a uniformly loaded assembly belt conveyor to operate 12 hrs/day, to be driven at 1150 RPM input. Output RPM Approx. 80, Torque requirement is 2200 lb-in.

1. Application Service Factor = 1.25
2. Design Torque =  $2200 \times 1.25$   
= 2750 LB-IN.
3. Select at speed and torque level of at least 2750 LB-IN or greater
4. Order 239D-14  
(Item Code 39052)

**NOTE:** The use of an auxiliary drive between the speed reducer and the driven machine reduces the torque required at the output shaft in direct proportion to the auxiliary drive ratio.

A 3:1 chain ratio would reduce the torque requirement at the output shaft of the reducer to one-third, resulting in a smaller unit size selection.

## Service Factor Table

| AGMA CLASS OF SERVICE | SERVICE FACTOR | OPERATING CONDITIONS                                                                                |
|-----------------------|----------------|-----------------------------------------------------------------------------------------------------|
| I                     | 1.00           | Moderate Shock-not more than 15 minutes in 2 hours.<br>Uniform Load-not more than 10 hours per day. |
| II                    | 1.25           | Moderate Shock-not more than 10 hours per day.<br>Uniform Load-more than 10 hours per day.          |
|                       | 1.50           | Heavy Shock-not more than 15 minutes in 2 hours.<br>Moderate Shock-more than 10 hours per day.      |
| III                   | 1.75           | Heavy Shock-not more than 10 hours per day.                                                         |
|                       | 2.00           | Heavy Shock-more than 10 hours per day.                                                             |

For complete AGMA Service Factors and Load Classifications, see Engineering Pages 348-349.

# 200 Series Ratio and Capacity Selection Tables

## (Service Factor 1.0)

| Catalog Number | Item Code | INPUT RPM |                       |       |        |         |                       |       |        | Gear Ratio | O.H.L. (LB.)* | Weight (Lb.) |
|----------------|-----------|-----------|-----------------------|-------|--------|---------|-----------------------|-------|--------|------------|---------------|--------------|
|                |           | 1750      |                       |       |        | 1150    |                       |       |        |            |               |              |
|                |           | O/P RPM   | Output Torque (LB-IN) | HP    |        | O/P RPM | Output Torque (LB-IN) | HP    |        |            |               |              |
|                |           |           |                       | Input | Output |         |                       | Input | Output |            |               |              |
| 221D-14        | 39004     | 121       | 403                   | 0.80  | 0.77   | 80      | 403                   | 0.53  | 0.51   | 14.45      | 490           | 23           |
| 226D-14        | 39020     |           | 711                   | 1.43  | 1.37   |         | 772                   | 1.02  | 0.97   |            | 660           | 38           |
| 231D-14        | 39036     |           | 1500                  | 3.00  | 2.88   |         | 1781                  | 2.34  | 2.25   |            | 780           | 57           |
| 239D-14        | 39052     |           | 2842                  | 5.69  | 5.46   |         | 3168                  | 4.17  | 4.00   |            | 875           | 96           |
| 247D-14        | 39068     |           | 4736                  | 9.48  | 9.10   |         | 5662                  | 7.45  | 7.15   |            | 1070          | 140          |
| 221D-17        | 39006     | 101       | 410                   | 0.69  | 0.66   | 67      | 410                   | 0.45  | 0.43   | 17.28      | 500           | 23           |
| 226D-17        | 39022     |           | 754                   | 1.26  | 1.21   |         | 805                   | 0.89  | 0.85   |            | 675           | 38           |
| 231D-17        | 39038     |           | 1644                  | 2.75  | 2.64   |         | 1857                  | 2.04  | 1.96   |            | 800           | 57           |
| 239D-17        | 39054     |           | 2959                  | 5.00  | 4.80   |         | 3219                  | 3.54  | 3.40   |            | 900           | 96           |
| 247D-17        | 39070     |           | 5071                  | 8.49  | 8.15   |         | 5775                  | 6.34  | 6.10   |            | 1100          | 135          |

Ref. Page 257

# 200 Series Optimount® Helical Gear Speed Reducers

## Motorized Speed Reducer

1. Determine application service factor from the table on page 250 or from pages 348-349.
2. Determine output speed required.
3. Determine HP or output torque requirement.
4. Select based on output speed and horsepower requirement for given service class.
5. Check overhung load Ref. calculation.

## Example

Select a Parallel Shaft Helical Gear Flanged Speed Reducer and motor to drive a uniformly loaded line shaft 12 hours/day, requiring approximately 1 1/2 HP at 100 RPM.

### Power Requirement

230/460 volt  
3 phase  
60 Hz

1. Select service factor class from pages 348-349 or from Table 1.  
Service class = II
2. Output RPM = 100
3. 1 1/2 HP
4. Select a 1 1/2 HP drive that will satisfy service class II.
5. O.H.L = 800 LBS. Ref. pg. 257
6. Order: 1 – F231D-17-B7 (39250)  
1 – JUTF Motor Ref. page 339 for specific manufacturer.

## Overhung Load

If the output shaft of a speed reducer is connected to the driven machine by other than a flexible coupling, an overhung load is imposed on the shaft. This load may be calculated as follows:

$$OHL = \frac{2 TK}{D}$$

OHL = Overhung Load (LB.)

T = Shaft Torque (LB.-INS.)

D = PD of Sprocket, Pinion or Pulley (IN.)

K = Load Connection Factor

## Load Connection Factor (K)

|                                  |      |
|----------------------------------|------|
| Sprocket or Timing Belt .....    | 1.00 |
| Pinion and Gear Drive .....      | 1.25 |
| Pulley and V-Belt Drive .....    | 1.50 |
| Pulley and Flat Belt Drive ..... | 2.50 |

An overhung load greater than permissible load value may be reduced to an acceptable value by the use of a sprocket, pinion or pulley of a larger PD. Relocation of the load closer to the center of reducer will also increase OHL capacity.

Permissible Overhung Loads and Output Shaft Thrust Loads are listed for each reducer in the Tables on Pages 257-258.

## 200 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

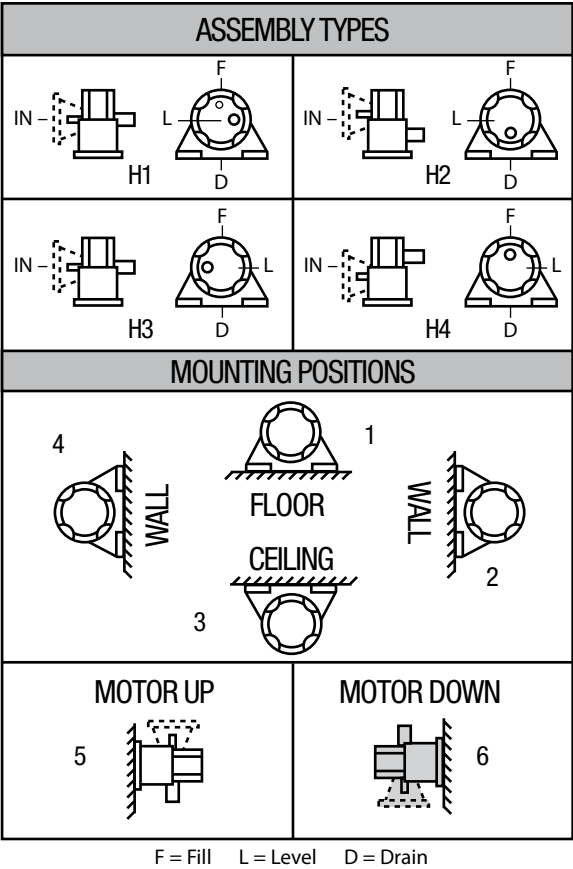
| Output<br>RPM  | Ratio | Non-Flanged Reducers         |       |        |                   |              | Flanged Reducers (Gearmotors) |                              |                  |                   |              | AC<br>Motors† | DC<br>Motors††            |
|----------------|-------|------------------------------|-------|--------|-------------------|--------------|-------------------------------|------------------------------|------------------|-------------------|--------------|---------------|---------------------------|
|                |       | Gear Capacity                |       |        | Catalog<br>Number | Item<br>Code | Ratings                       |                              |                  | Catalog<br>Number | Item<br>Code |               |                           |
|                |       | Output<br>Torque<br>(LB-IN.) | HP    |        |                   |              | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | Service<br>Class |                   |              |               |                           |
|                |       |                              | Input | Output |                   |              |                               |                              |                  |                   |              |               |                           |
| 101<br>(Cont.) | 17.28 |                              |       |        |                   |              | 3                             | *1644                        | *                | F231D-17-B9       | 47227        | LUTF          | PM18300                   |
|                |       | 1644                         | 2.75  | 2.64   | 231D-17           | 39038        | 2<br>1 1/2                    | 1194<br>896                  | I<br>II          | F231D-17-B7       | 39250        | KUTF<br>JUTF  | PM18200<br>PM18150        |
|                |       |                              |       |        |                   |              | 1                             | 597                          | III              | F231D-17-B5       | 39246        | HUTF-5/8      | PM9100 5/8<br>PM18100 5/8 |
|                |       | 2959                         | 4.96  | 4.76   | 239D-17           | 39054        | 5<br>3                        | *2956<br>1498                | *<br>II          | F239D-17-B9       | 39276        | MUTF<br>LUTF  | PM18500<br>PM18300        |
|                |       |                              |       |        |                   |              | 2                             | 1194                         | III              | F239D-17-B7       | 39274        | KJUTF         | PM18200                   |
|                |       |                              |       |        |                   |              |                               | 7 1/2                        | 4478             | I                 | F247D-17-B11 | 47233         | NUTF                      |

Reference Page 255



# 200 Series Optimount® Mounting Positions

## 200 SERIES—HORIZONTAL BASE



**NOTE:** Shaded positions are not recommended when used as a motorized reducer and should be avoided if possible.

Mountings are designated by combining identification for assembly type and mounting position (Example Mtg. H1).

**Mounting H1 is standard and will be furnished unless otherwise specified.**

### SIZES 221 TO 247

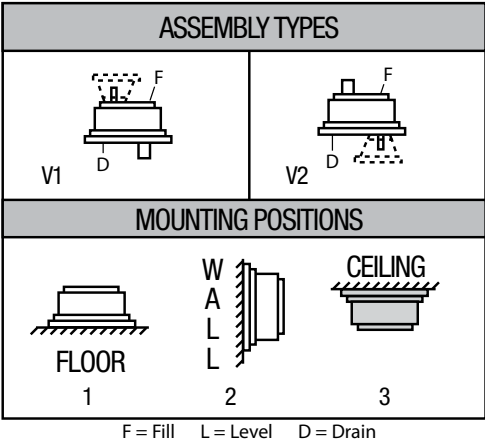
All other assemblies are available at no additional charge. The assembly types shown indicate the four possible arrangements of the Reductor in the base.

Any of these assemblies may be installed in the various floor sidewall or ceiling mounting positions shown by relocating oil plugs in proper positions. *Reference pages 267-268.*

### CAUTION

Mounting of speed reducers in overhead positions may be hazardous. Use of external guides or supports is strongly recommended for overhead mounting.

## 200 SERIES—VERTICAL BASE



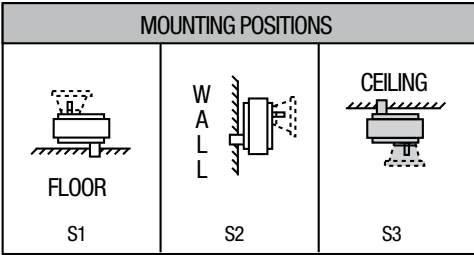
Mountings are designated by combining identification for assembly type and mounting position (Example Mtg. V1).  
Mounting V1 is standard and will be furnished unless otherwise specified. All other mountings are available at no additional charge.

### SIZES 221 TO 247

Assemblies V1 & V2 may be installed in the various floor, side-wall or ceiling mounting positions shown.  
Sidewall Mounted Reducers must be located with one edge of the base parallel to the floor so that oil plugs can be properly located.  
Mounting designations other than standard must be included with each Reductor order.

## 200 SERIES

### SHAFT MOUNTING



Mounting S2 is standard and will be furnished unless otherwise specified. Mountings S1 & S3 are available at a slight additional charge.

### SIZES 221 TO 247

Shaft Mounted Reducers may be installed in floor, sidewall or ceiling mounting positions by proper relocation of oil plugs. *Reference to pages 267-268.*

# 200 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 257-258  
ORDER BY CATALOG NUMBER OR ITEM CODE

| Output<br>RPM | Ratio | Non-Flanged Reducers         |       |        |                   |                 | Flanged Reducers (Gearmotors) |                              |                  |                   |              | AC<br>Motors† | DC<br>Motors††            |
|---------------|-------|------------------------------|-------|--------|-------------------|-----------------|-------------------------------|------------------------------|------------------|-------------------|--------------|---------------|---------------------------|
|               |       | Gear Capacity                |       |        | Catalog<br>Number | Item<br>Code    | Ratings                       |                              |                  | Catalog<br>Number | Item<br>Code |               |                           |
|               |       | Output<br>Torque<br>(LB-IN.) | HP    |        |                   |                 | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | Service<br>Class |                   |              |               |                           |
|               |       |                              | Input | Output |                   |                 |                               |                              |                  |                   |              |               |                           |
| 431           | 4.06  | 289                          | 2.02  | 1.98   | 221S-4            | 39012           | 1                             | 142                          | III              | F221S-4-B5        | 39214        | HUTF-5/8      | PM9100 5/8<br>PM18100 5/8 |
|               |       |                              |       |        |                   |                 | 3/4                           | 106                          | III              |                   |              | GUTF          | PM975                     |
|               |       | 455                          | 3.17  | 3.11   | 226S-4            | 39028           | 2                             | 284                          | II               | F226S-4-B7        | 39236        | KUTF          | PM18200                   |
|               |       |                              |       |        |                   |                 | 1 1/2                         | 213                          | III              |                   |              | JUTF          | PM18150                   |
|               |       | 950                          | 6.63  | 6.50   | 231S-4            | 39044           | 5                             | 716                          | I                | F231S-4-B9        | 39264        | MUTF          | PM18500                   |
|               |       |                              |       |        |                   |                 | 3                             | 423                          | III              |                   |              | LUTF          | PM18300                   |
|               |       | 1900                         | 13.26 | 12.99  | 239S-4            | 39060           | 10                            | 1432                         | I                | F239S-4-B11       | 39290        | PUTF          | —                         |
|               |       |                              |       |        |                   |                 | 7 1/2                         | 1074                         | II               |                   |              | NUTF          | —                         |
|               |       |                              |       |        |                   |                 | 5                             | 716                          | III              |                   | F239S-4-B9   | 39288         | MUTF                      |
|               |       | 2851                         | 19.90 | 19.50  | 247S-4            | 39076           | 10                            | 1432                         | II               | F247S-4-B11       | 39308        | PUTF          | —                         |
|               |       |                              |       |        |                   |                 | 7 1/2                         | 1074                         | III              |                   |              | NUTF          | —                         |
|               |       | 178                          | 9.84  | 390    | 1.15              | 1.10            | 221D-10                       | 39002                        | 1                | 340               | I            | F221D-10-B5   | 39202                     |
| 3/4           | 255   |                              |       |        |                   |                 |                               |                              | II               | GUTF              | PM975        |               |                           |
| 1/2           | 170   |                              |       |        |                   |                 |                               |                              | III              | FUTF              | PM950        |               |                           |
| 672           | 2.00  |                              |       | 1.90   | 226D-10           | 39018           | 2                             | 660                          | I                | F226D-10-B7       | 39220        | KUTF          | PM18200                   |
|               |       |                              |       |        |                   |                 | 1 1/2                         | 510                          | I                |                   |              | JUTF          | PM18150                   |
|               |       |                              |       |        |                   |                 | 1                             | 340                          | II               | F226D-10-B5       | 39218        | HUTF-5/8      | PM9100 5/8<br>PM18100 5/8 |
| 3/4           | 255   |                              |       | III    | GUTF              | PM975<br>PM1875 |                               |                              |                  |                   |              |               |                           |
| 1322          | 3.89  |                              |       | 3.73   | 231D-10           | 39034           | 3                             | 1020                         | I                | F231D-10-B9       | 39242        | LUTF          | PM18300                   |
|               |       |                              |       |        |                   |                 | 2                             | 680                          | II               | F231D-10-B7       | 39240        | KUTF          | PM18200                   |
|               |       |                              |       |        |                   |                 | 1 1/2                         | 510                          | III              |                   |              | JUTF          | PM18150                   |
| 2426          | 7.12  |                              |       | 6.84   | 239D-10           | 39050           | 5                             | 1700                         | I                | F239D-10-B9       | 39268        | MUTF          | PM18500                   |
|               |       |                              |       |        |                   |                 | 3                             | 1020                         | III              |                   |              | LUTF          | PM18300                   |

Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

††DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 340 and 341.

# 200 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 245-246  
ORDER BY CATALOG NUMBER OR ITEM CODE

| Output<br>RPM   | Ratio             | Non-Flanged Reducers         |       |        |                   |              | Flanged Reducers (Gearmotors) |                              |                   |                    |                 | AC<br>Motors†            | DC<br>Motors††                              |                      |                         |
|-----------------|-------------------|------------------------------|-------|--------|-------------------|--------------|-------------------------------|------------------------------|-------------------|--------------------|-----------------|--------------------------|---------------------------------------------|----------------------|-------------------------|
|                 |                   | Gear Capacity                |       |        | Catalog<br>Number | Item<br>Code | Ratings                       |                              |                   | Catalog<br>Number  | Item<br>Code    |                          |                                             |                      |                         |
|                 |                   | Output<br>Torque<br>(LB-IN.) | HP    |        |                   |              | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | Service<br>Class  |                    |                 |                          |                                             |                      |                         |
|                 |                   |                              | Input | Output |                   |              |                               |                              |                   |                    |                 |                          |                                             |                      |                         |
| 178<br>(Cont.)  | 9.84              | 4641                         | 13.64 | 13.09  | 247D-10           | 39066        | 10<br>7 1/2                   | 3400<br>2550                 | I<br>II           | F247D-10-B11       | 39296           | PUTF<br>NUTF             | —<br>—                                      |                      |                         |
|                 |                   |                              |       |        |                   |              | 5                             | 1700                         | III               | F247D-10-B9        | 39294           | MUTF                     | PM18500                                     |                      |                         |
| 121             | 14.45             | 403                          | .80   | .77    | 221D-14           | 39004        | 3/4<br>1/2<br>1/3             | 374<br>250<br>166            | I<br>II<br>III    | F221D-14-B5        | 39204           | GUTF<br>FUTF<br>EUTF     | PM975<br>PM950<br>PM933                     |                      |                         |
|                 |                   | 711                          | 1.43  | 1.37   | 226D-14           | 39020        | 1 1/2                         | *711                         | *                 | F226D-14-B7        | 39224           | JUTF                     | PM18150                                     |                      |                         |
|                 |                   |                              |       |        |                   | 1500         | 3.00                          | 2.88                         | 231D-14           | 39036              | 1<br>3/4<br>1/2 | 500<br>374<br>250        | I<br>II<br>III                              | F226D-14-B5          | 39222                   |
|                 |                   | 2842                         | 5.69  | 5.46   | 239D-14           |              |                               |                              |                   |                    | 39052           | 3                        | 1500                                        | I                    | F231D-14-B9             |
|                 |                   |                              |       |        |                   | 2<br>1 1/2   | 998<br>750                    | II<br>III                    | F231D-14-B7       | 39248              |                 | KUTF<br>JUTF             | PM18200<br>PM18150                          |                      |                         |
|                 |                   |                              |       |        |                   | 1            | 500                           | III                          | F231D-14-B5       | 39244              |                 | HUTF-5/8                 | PM9100 5/8<br>PM18100 5/8                   |                      |                         |
|                 |                   | 4736                         | 9.48  | 9.10   | 247D-14           | 39068        | 5<br>3                        | 2497<br>1498                 | I<br>II           | F239D-14-B9        | 39272           | MUTF<br>LUTF             | PM18500<br>PM18300                          |                      |                         |
|                 |                   |                              |       |        |                   |              | 2                             | 998                          | III               | F239D-14-B7        | 39270           | KUTF                     | PM18200                                     |                      |                         |
|                 |                   |                              |       |        |                   |              | 10<br>7 1/2<br>5              | *4736<br>3745<br>2497        | *<br>I<br>II      | F247D-14-B11       | 47232           | PUTF<br>NUTF<br>MUTF     | —<br>—<br>PM18500                           |                      |                         |
|                 |                   | 3                            | 1498  | III    | F247D-14-B9       | 39298        | LUTF                          | PM18300                      |                   |                    |                 |                          |                                             |                      |                         |
|                 |                   | 101                          | 17.28 | 410    | .69               | .66          | 221D-17                       | 39006                        | 3/4<br>1/2<br>1/3 | *410<br>298<br>199 | *<br>I<br>III   | F221D-17-B5              | 39206                                       | GUTF<br>FUTF<br>EUTF | PM975<br>PM950<br>PM933 |
|                 |                   |                              |       | 754    | 1.26              | 1.21         | 226D-17                       | 39022                        | 1 1/2             | *754               | *               | F226D-17-B7              | 47220                                       | JUTF                 | PM18150                 |
| 1<br>3/4<br>1/2 | 597<br>448<br>298 |                              |       |        |                   |              |                               |                              | I<br>II<br>III    | F226D-17-B5        | 39226           | HUTF-5/8<br>GUTF<br>FUTF | PM9100 5/8<br>PM18100 5/8<br>PM975<br>PM950 |                      |                         |

Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

††DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 340 and 341.

\*Rating Limited to Gear Capacity.

# 200 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 245-246  
ORDER BY CATALOG NUMBER OR ITEM CODE

| Output<br>RPM  | Ratio | Non-Flanged Reducers         |       |        |                   |              | Flanged Reducers (Gearmotors) |                              |                  |                   |              | AC<br>Motors†            | DC<br>Motors††                              |
|----------------|-------|------------------------------|-------|--------|-------------------|--------------|-------------------------------|------------------------------|------------------|-------------------|--------------|--------------------------|---------------------------------------------|
|                |       | Gear Capacity                |       |        | Catalog<br>Number | Item<br>Code | Ratings                       |                              |                  | Catalog<br>Number | Item<br>Code |                          |                                             |
|                |       | Output<br>Torque<br>(LB-IN.) | HP    |        |                   |              | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | Service<br>Class |                   |              |                          |                                             |
|                |       |                              | Input | Output |                   |              |                               |                              |                  |                   |              |                          |                                             |
| 101<br>(Cont.) | 17.28 | 1644                         | 2.75  | 2.64   | 231D-17           | 39038        | 3                             | *1644                        | *                | F231D-17-B9       | 47227        | LUTF                     | PM18300                                     |
|                |       |                              |       |        |                   |              | 2<br>1 1/2                    | 1194<br>896                  | I<br>II          | F231D-17-B7       | 39250        | KUTF<br>JUTF             | PM18200<br>PM18150                          |
|                |       |                              |       |        |                   |              | 1                             | 597                          | III              | F231D-17-B5       | 39246        | HUTF-5/8                 | PM9100 5/8<br>PM18100 5/8                   |
|                |       | 2959                         | 4.96  | 4.76   | 239D-17           | 39054        | 5<br>3                        | *2956<br>1498                | *<br>II          | F239D-17-B9       | 39276        | MUTF<br>LUTF             | PM18500<br>PM18300                          |
|                |       |                              |       |        |                   |              | 2                             | 1194                         | III              | F239D-17-B7       | 39274        | KUTF                     | PM18200                                     |
|                |       | 5071                         | 8.49  | 8.15   | 247D-17           | 39070        | 7 1/2                         | 4478                         | I                | F247D-17-B11      | 47233        | NUTF                     | —                                           |
|                |       |                              |       |        |                   |              | 5<br>3                        | 2986<br>1791                 | II<br>III        | F247D-17-B9       | 39300        | MUTF<br>LUTF             | PM18500<br>PM18300                          |
| 87.4           | 20.03 | 398                          | .57   | .55    | 221D-20           | 39008        | 1/2<br>1/3<br>1/4             | 346<br>230<br>173            | I<br>II<br>III   | F221D-20-B5       | 39208        | FUTF<br>EUTF<br>DUTF     | PM950<br>PM933<br>PM925                     |
|                |       | 758                          | 1.09  | 1.05   | 226D-20           | 39024        | 1<br>3/4<br>1/2               | 692<br>519<br>346            | I<br>II<br>III   | F226D-20-B5       | 39228        | HUTF-5/8<br>GUTF<br>FUTF | PM9100 5/8<br>PM18100 5/8<br>PM975<br>PM950 |
|                |       | 1679                         | 2.43  | 2.33   | 231D-20           | 39040        | 3                             | *1679                        | *                | F231D-20-B9       | 47228        | LUTF                     | PM18300                                     |
|                |       |                              |       |        |                   |              | 2<br>1 1/2                    | 1384<br>1038                 | I<br>II          | F231D-20-B7       | 39254        | KUTF<br>JUTF             | PM18200<br>PM18150                          |
|                |       |                              |       |        |                   |              | 1                             | 692                          | III              | F231D-20-B5       | 39252        | HUTF-5/8                 | PM9100 5/8<br>PM18100 5/8                   |
|                |       | 3022                         | 4.36  | 4.19   | 239D-20           | 39056        | 5<br>3                        | *3022<br>2076                | *<br>I           | F239D-20-B9       | 39280        | MUTF<br>LUTF             | PM18500<br>PM18300                          |
|                |       |                              |       |        |                   |              | 2                             | 1384                         | III              | F239D-20-B7       | 39278        | KUTF                     | PM18200                                     |
|                |       | 5198                         | 7.51  | 7.21   | 247D-20           | 39072        | 7 1/2                         | 5192                         | I                | F247D-20-B11      | 47234        | NUTF                     | —                                           |
|                |       |                              |       |        |                   |              | 5<br>3                        | 3461<br>2076                 | II<br>III        | F247D-20-B9       | 39302        | MUTF<br>LUTF             | PM18500<br>PM18300                          |

Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

††DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 340 and 341.

\*Rating Limited to Gear Capacity.

# 200 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 245-246  
ORDER BY CATALOG NUMBER OR ITEM CODE

| Output<br>RPM | Ratio | Non-Flanged Reducers         |       |        |                   |              | Flanged Reducers (Gearmotors) |                              |                  |                   |              | AC<br>Motors† | DC<br>Motors††            |
|---------------|-------|------------------------------|-------|--------|-------------------|--------------|-------------------------------|------------------------------|------------------|-------------------|--------------|---------------|---------------------------|
|               |       | Gear Capacity                |       |        | Catalog<br>Number | Item<br>Code | Ratings                       |                              |                  | Catalog<br>Number | Item<br>Code |               |                           |
|               |       | Output<br>Torque<br>(LB-IN.) | HP    |        |                   |              | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | Service<br>Class |                   |              |               |                           |
|               |       |                              | Input | Output |                   |              |                               |                              |                  |                   |              |               |                           |
| 73            | 23.95 | 414                          | .50   | .48    | 221D-24           | 39010        | 1/2                           | 414                          | I                | F221D-24-B5       | 39210        | FUTF          | PM950                     |
|               |       |                              |       |        |                   |              | 1/3                           | 275                          | I                |                   |              | EUTF          | PM933                     |
|               |       |                              |       |        |                   |              | 1/4                           | 206                          | III              |                   |              | DUTF          | PM925                     |
|               |       | 809                          | .98   | .94    | 226D-24           | 39026        | 1                             | 809                          | I                | F226D-24-B5       | 39230        | HUTF-5/8      | PM9100 5/8<br>PM18100 5/8 |
|               |       |                              |       |        |                   |              | 3/4                           | 620                          | II               |                   |              | GUTF          | PM975                     |
|               |       |                              |       |        |                   |              | 1/2                           | 414                          | III              |                   |              | FUTF          | PM950                     |
|               |       | 1791                         | 2.17  | 2.08   | 231D-24           | 39042        | 2                             | 1655                         | I                | F231D-24-B7       | 39258        | KUTF          | PM18200                   |
|               |       |                              |       |        |                   |              | 1 1/2                         | 1242                         | II               |                   |              | JUTF          | PM18150                   |
|               |       |                              |       |        |                   |              | 1                             | 828                          | III              | F231D-24-B5       | 39256        | HUTF-5/8      | PM9100 5/8<br>PM18100 5/8 |
|               |       | 3175                         | 3.83  | 3.68   | 239D-24           | 39058        | 5                             | *3175                        | *                | F239D-24-B9       | 39284        | MUTF          | PM18500                   |
|               |       |                              |       |        |                   |              | 3                             | 2483                         | I                |                   |              | LUTF          | PM18300                   |
|               |       |                              |       |        |                   |              | 2                             | 1655                         | II               | F239D-24-B7       | 39282        | KUTF          | PM18200                   |
|               |       |                              |       |        |                   |              | 1 1/2                         | 1241                         | III              |                   |              | JUTF          | PM18150                   |
|               |       | 5478                         | 6.61  | 6.35   | 247D-24           | 39074        | 7 1/2                         | *5478                        | *                | F247D-24-B11      | 47235        | NUTF          | —                         |
|               |       |                              |       |        |                   |              | 5                             | 4138                         | I                | F247D-24-B9       | 39304        | MUTF          | PM18500                   |
|               |       |                              |       |        |                   |              | 3                             | 2483                         | III              |                   |              | LUTF          | PM18300                   |

Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

†† DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 340 and 341.

\* Rating Limited to Gear Capacity.

# 200 Series Ratio and Capacity Selection Tables

## Non-Flanged Reducers; Input Speeds 1750 and 1150 RPM

Service Factor 1.0

ORDER BY CATALOG NUMBER OR ITEM CODE

| Catalog Number | Item Code | INPUT RPM |                       |       |        |         |                       |       |        | Gear Ratio | O.H.L. (LB.)* | Weight (Lb.) |
|----------------|-----------|-----------|-----------------------|-------|--------|---------|-----------------------|-------|--------|------------|---------------|--------------|
|                |           | 1750      |                       |       |        | 1150    |                       |       |        |            |               |              |
|                |           | O/P RPM   | Output Torque (LB-IN) | HP    |        | O/P RPM | Output Torque (LB-IN) | HP    |        |            |               |              |
|                |           |           |                       | Input | Output |         |                       | Input | Output |            |               |              |
| 221S-4         | 39012     | 431       | 289                   | 2.02  | 1.98   | 283     | 300                   | 1.38  | 1.35   | 4.06       | 350           | 25           |
| 226S-4         | 39028     |           | 455                   | 3.17  | 3.11   |         | 552                   | 2.53  | 2.48   |            | 475           | 40           |
| 231S-4         | 39044     |           | 959                   | 6.63  | 6.56   |         | 1144                  | 5.24  | 5.14   |            | 575           | 58           |
| 239S-4         | 39060     |           | 1900                  | 13.26 | 12.99  |         | 2545                  | 11.67 | 11.44  |            | 650           | 96           |
| 247S-4         | 39076     |           | 2851                  | 19.90 | 19.50  |         | 3557                  | 16.32 | 15.99  |            | 800           | 137          |
| 221D-10        | 39002     | 178       | 390                   | 1.15  | 1.10   | 117     | 404                   | 0.78  | 0.75   | 9.84       | 460           | 23           |
| 226D-10        | 39018     |           | 672                   | 2.90  | 1.90   |         | 723                   | 1.40  | 1.34   |            | 615           | 38           |
| 231D-10        | 39034     |           | 1322                  | 3.89  | 3.73   |         | 1581                  | 3.05  | 2.93   |            | 720           | 60           |
| 239D-10        | 39050     |           | 2426                  | 7.12  | 6.85   |         | 2860                  | 5.52  | 5.30   |            | 800           | 99           |
| 247D-10        | 39066     |           | 4641                  | 13.64 | 13.10  |         | 5071                  | 9.79  | 9.40   |            | 980           | 140          |
| 221D-14        | 39004     | 121       | 403                   | 0.80  | 0.77   | 80      | 403                   | 0.53  | 0.51   | 14.45      | 490           | 23           |
| 226D-14        | 39020     |           | 711                   | 1.43  | 1.37   |         | 772                   | 1.02  | 0.97   |            | 660           | 38           |
| 231D-14        | 39036     |           | 1500                  | 3.00  | 2.88   |         | 1781                  | 2.34  | 2.25   |            | 780           | 57           |
| 239D-14        | 39052     |           | 2842                  | 5.69  | 5.46   |         | 3168                  | 4.17  | 4.00   |            | 875           | 96           |
| 247D-14        | 39068     |           | 4736                  | 9.48  | 9.10   |         | 5662                  | 7.45  | 7.15   |            | 1070          | 140          |
| 221D-17        | 39006     | 101       | 410                   | 0.69  | 0.66   | 67      | 410                   | 0.45  | 0.43   | 17.28      | 500           | 23           |
| 226D-17        | 39022     |           | 754                   | 1.26  | 1.21   |         | 805                   | 0.89  | 0.85   |            | 675           | 38           |
| 231D-17        | 39038     |           | 1644                  | 2.75  | 2.64   |         | 1857                  | 2.04  | 1.96   |            | 800           | 57           |
| 239D-17        | 39054     |           | 2959                  | 5.00  | 4.80   |         | 3219                  | 3.54  | 3.40   |            | 900           | 96           |
| 247D-17        | 39070     |           | 5071                  | 8.49  | 8.15   |         | 5775                  | 6.34  | 6.10   |            | 1100          | 135          |
| 221D-20        | 39008     | 87        | 398                   | 0.57  | 0.55   | 57      | 411                   | 0.39  | 0.37   | 20.03      | 510           | 23           |
| 226D-20        | 39024     |           | 758                   | 1.09  | 1.05   |         | 838                   | 0.79  | 0.76   |            | 695           | 38           |
| 231D-20        | 39040     |           | 1679                  | 2.43  | 2.33   |         | 1916                  | 1.81  | 1.75   |            | 825           | 57           |
| 239D-20        | 39056     |           | 3022                  | 4.36  | 4.19   |         | 3299                  | 3.12  | 3.01   |            | 925           | 96           |
| 247D-20        | 39072     |           | 5198                  | 7.51  | 7.21   |         | 5862                  | 5.56  | 5.34   |            | 1125          | 135          |
| 221D-24        | 39010     | 73        | 414                   | 0.50  | 0.48   | 48      | 404                   | 0.31  | 0.31   | 23.95      | 525           | 23           |
| 226D-24        | 39026     |           | 809                   | 0.98  | 0.94   |         | 819                   | 0.65  | 0.62   |            | 715           | 38           |
| 231D-24        | 39042     |           | 1791                  | 2.17  | 2.08   |         | 1886                  | 1.50  | 1.44   |            | 850           | 57           |
| 239D-24        | 39058     |           | 3175                  | 3.83  | 3.68   |         | 3353                  | 2.66  | 2.55   |            | 950           | 96           |
| 247D-24        | 39074     |           | 5478                  | 6.61  | 6.35   |         | 5760                  | 4.57  | 4.39   |            | 1150          | 135          |

\* Overhung Load (O.H.L.) in (LB's) is at center of Output Shaft Extension and with no Thrust Load.

| Size | Shaft Dia. (Ins.) | Input Shaft                                                                                |     | Output Shaft                                           |
|------|-------------------|--------------------------------------------------------------------------------------------|-----|--------------------------------------------------------|
|      |                   | Allowable Overhung Load in Lbs.<br>(No Thrust) at 1 and 2<br>Shaft diameters from Oil Seal |     | Allowable Thrust Load<br>In Lbs.<br>(No Overhung Load) |
|      |                   | 1                                                                                          | 2   |                                                        |
| 221  | 1/2               | 80                                                                                         | 60  | 700                                                    |
| 226  | 5/8               | 100                                                                                        | 80  | 1000                                                   |
| 231  | 15/16             | 160                                                                                        | 120 | 1100                                                   |
| 239  | 1-3/8             | 325                                                                                        | 225 | 1200                                                   |
| 247  | 1-9/16            | 400                                                                                        | 300 | 1300                                                   |

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# 200 Series Ratio and Capacity Selection Tables

## Non-Flanged Reducers; Input Speeds 690 and 100 RPM Service Factor 1.0

ORDER BY CATALOG NUMBER OR ITEM CODE

| Catalog Number | Item Code | INPUT RPM |                       |       |        |         |                       |       |        | Gear Ratio | O.H.L. (LB.)* | Weight (Lb.) |
|----------------|-----------|-----------|-----------------------|-------|--------|---------|-----------------------|-------|--------|------------|---------------|--------------|
|                |           | 690       |                       |       |        | 100     |                       |       |        |            |               |              |
|                |           | O/P RPM   | Output Torque (LB-IN) | HP    |        | O/P RPM | Output Torque (LB-IN) | HP    |        |            |               |              |
|                |           |           |                       | Input | Output |         |                       | Input | Output |            |               |              |
| 221S-4         | 39012     | 170       | 313                   | .86   | 0.84   | 25      | 343                   | 0.14  | 0.13   | 4.06       | 465           | 25           |
| 226S-4         | 39028     |           | 624                   | 1.71  | 1.68   |         | 682                   | 0.28  | 0.27   |            | 620           | 40           |
| 231S-4         | 39044     |           | 1275                  | 3.51  | 3.44   |         | 1417                  | 0.56  | 0.55   |            | 730           | 58           |
| 239S-4         | 39060     |           | 2795                  | 7.69  | 7.54   |         | 3113                  | 1.24  | 1.22   |            | 810           | 96           |
| 247S-4         | 39076     |           | 4045                  | 11.14 | 10.91  |         | 4670                  | 1.86  | 1.83   |            | 995           | 137          |
| 221D-10        | 39002     | 70        | 405                   | .47   | 0.45   | 10      | 426                   | 0.07  | 0.07   | 9.84       | 530           | 23           |
| 226D-10        | 39018     |           | 798                   | .93   | 0.89   |         | 985                   | 0.17  | 0.16   |            | 720           | 38           |
| 231D-10        | 39034     |           | 1834                  | 2.12  | 2.04   |         | 2140                  | 0.36  | 0.35   |            | 860           | 60           |
| 239D-10        | 39050     |           | 3202                  | 3.71  | 3.56   |         | 3624                  | 0.61  | 0.58   |            | 860           | 99           |
| 247D-10        | 39066     |           | 5605                  | 6.49  | 6.24   |         | 6012                  | 1.01  | 0.97   |            | 1160          | 140          |
| 221D-14        | 39004     | 48        | 413                   | .32   | 0.31   | 7       | 431                   | 0.50  | 0.05   | 14.45      | 550           | 23           |
| 226D-14        | 39020     |           | 821                   | .65   | 0.62   |         | 1051                  | 0.13  | 0.12   |            | 750           | 38           |
| 231D-14        | 39036     |           | 1898                  | 1.50  | 1.44   |         | 2148                  | 0.25  | 0.24   |            | 900           | 57           |
| 239D-14        | 39052     |           | 3360                  | 2.66  | 2.55   |         | 3780                  | 0.43  | 0.42   |            | 1000          | 96           |
| 247D-14        | 39068     |           | 5868                  | 4.64  | 4.45   |         | 6060                  | 0.69  | 0.67   |            | 1200          | 140          |
| 221D-17        | 39006     | 40        | 403                   | .27   | 0.26   | 6       | 432                   | 0.04  | 0.04   | 17.28      | 550           | 23           |
| 226D-17        | 39022     |           | 834                   | .56   | 0.53   |         | 1068                  | 0.10  | 0.10   |            | 750           | 38           |
| 231D-17        | 39038     |           | 1986                  | 1.30  | 1.26   |         | 2153                  | 0.21  | 0.20   |            | 900           | 57           |
| 239D-17        | 39054     |           | 3421                  | 2.26  | 2.17   |         | 3790                  | 0.36  | 0.35   |            | 1000          | 96           |
| 247D-17        | 39070     |           | 5904                  | 3.90  | 3.74   |         | 6076                  | 0.58  | 0.56   |            | 1200          | 135          |
| 221D-20        | 39008     | 34        | 406                   | .23   | 0.22   | 5       | 434                   | 0.03  | 0.03   | 20.03      | 550           | 23           |
| 226D-20        | 39024     |           | 878                   | .50   | 0.48   |         | 1072                  | 0.09  | 0.08   |            | 750           | 38           |
| 231D-20        | 39040     |           | 2005                  | 1.14  | 1.10   |         | 2158                  | 0.18  | 0.17   |            | 900           | 57           |
| 239D-20        | 39056     |           | 3446                  | 1.96  | 1.88   |         | 3800                  | 0.31  | 0.30   |            | 1000          | 96           |
| 247D-20        | 39072     |           | 5958                  | 3.39  | 3.26   |         | 6094                  | 0.50  | 0.48   |            | 1200          | 135          |
| 221D-24        | 39010     | 29        | 409                   | .20   | 0.19   | 4       | 436                   | 0.03  | 0.03   | 23.95      | 550           | 23           |
| 226D-24        | 39026     |           | 893                   | .43   | 0.41   |         | 1080                  | 0.08  | 0.07   |            | 750           | 38           |
| 231D-24        | 39042     |           | 2046                  | .97   | 0.94   |         | 2162                  | 0.15  | 0.14   |            | 900           | 57           |
| 239D-24        | 39058     |           | 3492                  | 1.67  | 1.60   |         | 3811                  | 0.26  | 0.25   |            | 1000          | 96           |
| 247D-24        | 39074     |           | 5988                  | 2.85  | 2.74   |         | 6109                  | 0.43  | 0.40   |            | 1200          | 135          |

\* Overhung Load (O.H.L.) in (LB's) is at center of Output Shaft Extension and with no Thrust Load.

| Size | Shaft Dia. (Ins.) | Input Shaft                                                                                |     | Output Shaft                                           |
|------|-------------------|--------------------------------------------------------------------------------------------|-----|--------------------------------------------------------|
|      |                   | Allowable Overhung Load in Lbs.<br>(No Thrust) at 1 and 2<br>Shaft diameters from Oil Seal |     | Allowable Thrust Load<br>In Lbs.<br>(No Overhung Load) |
|      |                   | 1                                                                                          | 2   |                                                        |
| 221  | 1/2               | 80                                                                                         | 60  | 700                                                    |
| 226  | 5/8               | 100                                                                                        | 80  | 1000                                                   |
| 231  | 15/16             | 160                                                                                        | 120 | 1100                                                   |
| 239  | 1-3/8             | 325                                                                                        | 225 | 1200                                                   |
| 247  | 1-9/16            | 400                                                                                        | 300 | 1300                                                   |

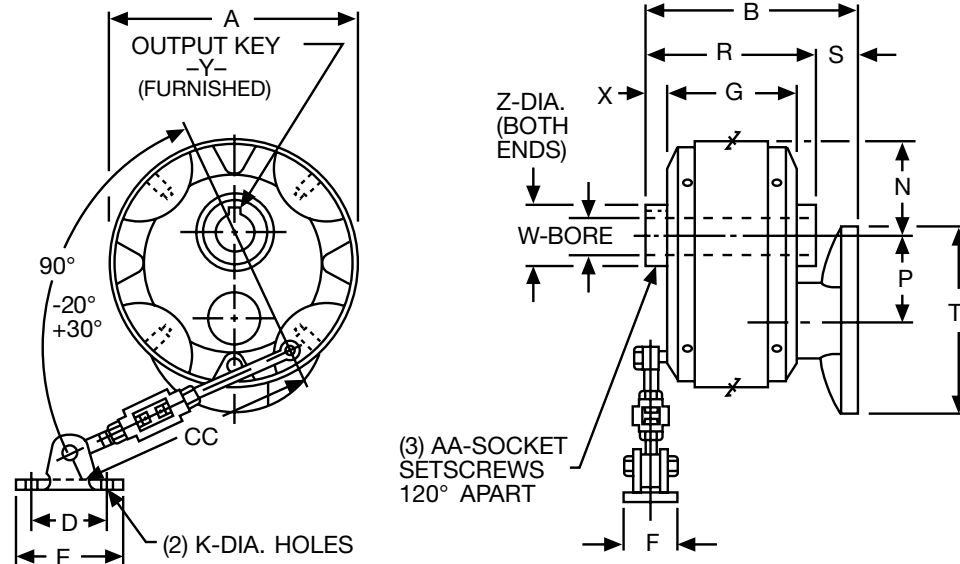


# 200 Series Flanged Reducer Dimensions

## F200 Series; F221-247 Sizes

### Hollow Shaft

For ordering information See Page 249.



ALL DIMENSIONS IN INCHES

| Size | A     | B             |       |       | D    | E    | F    | G    | K   | N    | P    | R    | S             |       |       |
|------|-------|---------------|-------|-------|------|------|------|------|-----|------|------|------|---------------|-------|-------|
|      |       | NEMA Mounting |       |       |      |      |      |      |     |      |      |      | NEMA Mounting |       |       |
|      |       | 56C<br>140TC  | 180TC | 210TC |      |      |      |      |     |      |      |      | 56C<br>140TC  | 180TC | 210TC |
| 221  | 6.19  | 6.13          | —     | —     | 2.25 | 3.31 | 1.06 | 3.31 | .41 | 2.19 | 2.12 | 4.31 | 1.81          | —     | —     |
| 226  | 7.50  | 6.69          | —     | —     | 2.25 | 3.31 | 1.06 | 4.06 | .41 | 2.81 | 2.60 | 5.19 | 1.50          | —     | —     |
| 231  | 8.88  | 7.19          | 8.06  | —     | 2.63 | 3.69 | 1.06 | 4.75 | .41 | 3.44 | 3.11 | 5.88 | 1.31          | 2.19  | —     |
| 239  | 11.19 | 7.94          | 9.06  | 9.06  | 2.63 | 3.69 | 1.06 | 5.44 | .41 | 4.03 | 3.89 | 6.69 | 1.25          | 2.38  | 2.38  |
| 247  | 12.88 | —             | 9.56  | 10.31 | 3.00 | 4.31 | 1.31 | 5.94 | .94 | 4.88 | 4.67 | 7.31 | —             | 2.25  | 3.00  |

| Size | T             |       |       | Output              |     |            |       | Z      | AA      | CC    | Optional Reaction Rod Kit |       |
|------|---------------|-------|-------|---------------------|-----|------------|-------|--------|---------|-------|---------------------------|-------|
|      | NEMA Mounting |       |       | W<br>+.001<br>-.000 | X   | Y          |       |        |         |       | Item<br>Catalog #         | Code  |
|      | 56C<br>140TC  | 180TC | 210TC |                     |     | Sq.        | LGTH. |        |         |       |                           |       |
| 221  | 6.56          | —     | —     | 1.0000              | .50 | 1/4 x 7/32 | 1-3/8 | 1.3750 | 10-32   | 18-12 | X221-76K                  | 24188 |
| 226  | 6.56          | —     | —     | 1.2500              | .56 | 1/4 x 7/32 | 1-1/2 | 1.7702 | 1/4-28  | 30-24 | X226-76K                  | 24190 |
| 231  | 6.56          | 9.25  | —     | 1.4375              | .56 | 3/8 x 5/16 | 1-3/4 | 2.1638 | 1/4-28  | 30-24 | X231-76K                  | 24192 |
| 239  | 6.56          | 9.25  | 10.13 | 1.9375              | .63 | 1/2 x 3/8  | 2     | 2.5575 | 5/16-24 | 30-24 | X239-76K                  | 24194 |
| 247  | —             | 9.25  | 10.13 | 2.1875              | .69 | 1/2 x 3/8  | 2-1/4 | 2.9512 | 3/8-24  | 30-24 | X247-76K                  | 24196 |

Refer to Page 264 for Shaft Kit and for Reaction Rod Kit.

**Note:** For external reference surfaces, refer to page 265.

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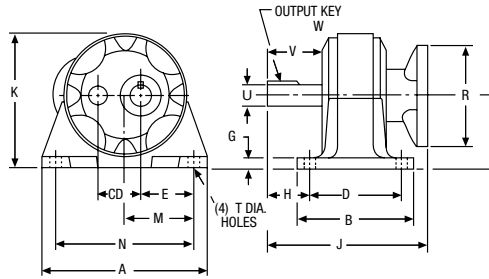
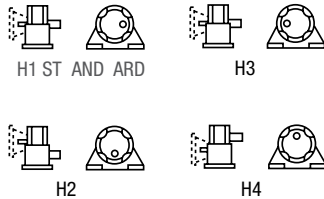
# 200 Series Flanged Reducer Dimensions

## F200 Series; Horizontal Base Projecting Shaft

For ordering information See Page 249.

### Parallel Shafts

ASSEMBLY TYPES\*



ALL DIMENSIONS IN INCHES

| NEMA Mounting | Input                    |             |
|---------------|--------------------------|-------------|
|               | Bore<br>+.0015<br>-.0000 | Keyway      |
| 56C           | .625                     | 3/16 × 3/32 |
| 140TC         | .875                     | 3/16 × 3/32 |
| 180TC         | 1.125                    | 1/4 × 1/8   |
| 210TC         | 1.375                    | 5/16 × 5/32 |

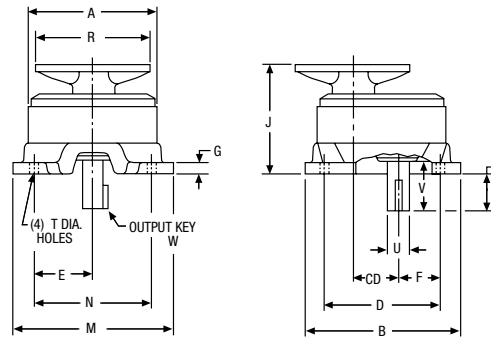
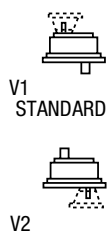
| Size | C.D. | A     | B     | D    | E    | G    | H    | J             |       |       |       | K     | M    | N     |
|------|------|-------|-------|------|------|------|------|---------------|-------|-------|-------|-------|------|-------|
|      |      |       |       |      |      |      |      | NEMA Mounting |       |       |       |       |      |       |
|      |      |       |       |      |      |      |      | 56C           | 140TC | 180TC | 210TC |       |      |       |
| 221  | 2.12 | 8.75  | 6.00  | 4.75 | 2.72 | .50  | 2.16 | 8.50          | —     | —     | —     | 6.84  | 3.63 | 7.25  |
| 226  | 2.60 | 11.00 | 7.38  | 5.75 | 3.56 | .63  | 2.59 | 9.56          | 9.56  | —     | —     | 8.38  | 4.50 | 9.00  |
| 231  | 3.11 | 12.50 | 8.50  | 6.75 | 4.13 | .75  | 2.72 | 10.34         | 10.84 | 11.22 | —     | 9.88  | 5.13 | 10.25 |
| 239  | 3.89 | 15.50 | 9.75  | 7.75 | 4.94 | .88  | 3.38 | —             | 11.84 | 12.97 | 12.97 | 12.34 | 6.50 | 13.00 |
| 247  | 4.67 | 17.50 | 10.75 | 8.50 | 5.94 | 1.00 | 3.81 | —             | 13.97 | 13.53 | 14.72 | 14.19 | 7.50 | 15.00 |

| Size | P    | R             |       |       |       | T<br>Holes | Low Speed Shaft     |      |       |        | Approx.<br>Weight<br>(Lbs.) | Optional                         |                                      |
|------|------|---------------|-------|-------|-------|------------|---------------------|------|-------|--------|-----------------------------|----------------------------------|--------------------------------------|
|      |      | NEMA Mounting |       |       |       |            | U<br>+.000<br>−.001 | V    | W-Key |        |                             | Base<br>Kit No.<br>(Ref. Pg 249) | Output<br>Shaft Kit<br>(Ref. Pg 248) |
|      |      | 56C           | 140TC | 180TC | 210TC |            |                     |      | Sq.   | LENGTH |                             |                                  |                                      |
| 221  | 3.75 | 6.56          | —     | —     | —     | 13/32      | 1.0000              | 2.25 | 1/4   | 1-1/4  | 28                          | X221-11HK                        | X221-3PK                             |
| 226  | 4.62 | 6.56          | 6.56  | —     | —     | 15/32      | 1.2500              | 2.75 | 1/4   | 1-5/8  | 43                          | X226-11HK                        | X226-3PK                             |
| 231  | 5.44 | 6.56          | 6.56  | 9.25  | —     | 17/32      | 1.3750              | 3.00 | 5/16  | 1-3/4  | 69                          | X231-11HK                        | X231-3PK                             |
| 239  | 6.75 | —             | 6.96  | 9.25  | 10.13 | 19/32      | 1.8750              | 3.75 | 1/2   | 2      | 124                         | X239-11HK                        | X239-3PK                             |
| 247  | 7.75 | —             | 9.25  | 10.13 | 10.13 | 21/32      | 2.1250              | 4.25 | 1/2   | 2-1/2  | 166                         | X247-11HK                        | X247-3PK                             |

## F200 Series; Vertical Base Projecting Shaft

### Parallel Shafts

ASSEMBLY TYPES\*



ALL DIMENSIONS IN INCHES

| NEMA Mounting | Input                    |             |
|---------------|--------------------------|-------------|
|               | Bore<br>+.0015<br>-.0000 | Keyway      |
| 56C           | .625                     | 3/16 × 3/32 |
| 140TC         | .875                     | 3/16 × 3/32 |
| 180TC         | 1.125                    | 1/4 × 1/8   |
| 210TC         | 1.375                    | 5/16 × 5/32 |

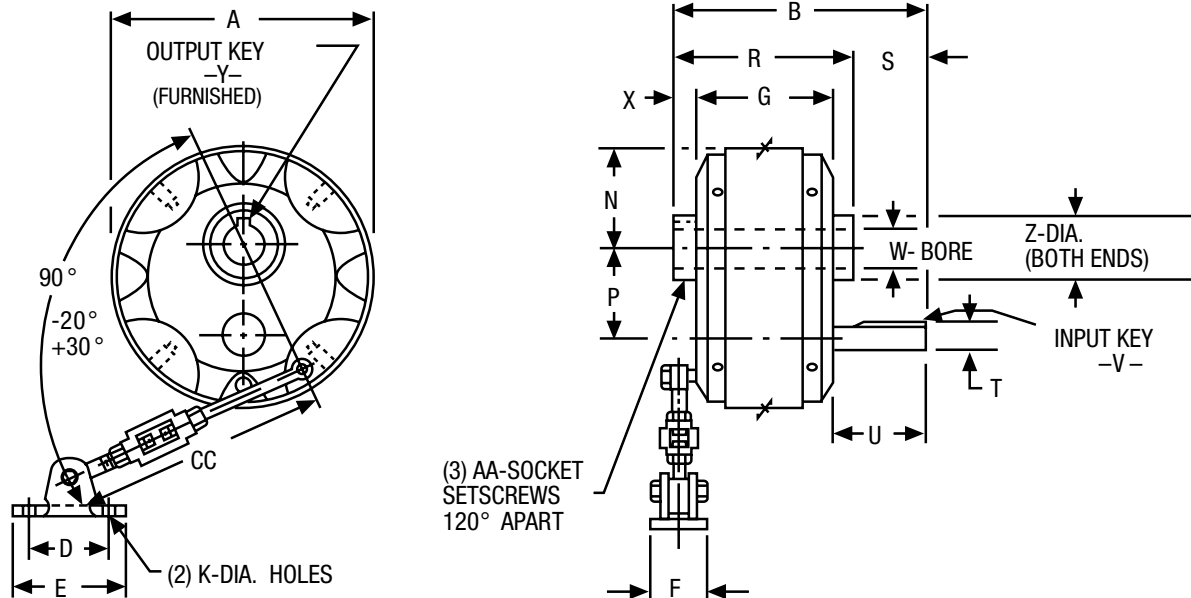
| Size | C.D. | A     | B     | D     | E    | F    | G    | J             |       |       |       | M     | N     |
|------|------|-------|-------|-------|------|------|------|---------------|-------|-------|-------|-------|-------|
|      |      |       |       |       |      |      |      | NEMA Mounting |       |       |       |       |       |
|      |      |       |       |       |      |      |      | 56C           | 140TC | 180TC | 210TC |       |       |
| 221  | 2.12 | 6.19  | 8.00  | 5.75  | 2.88 | 1.97 | .50  | 6.53          | —     | —     | —     | 8.25  | 5.75  |
| 226  | 2.60 | 7.50  | 9.63  | 7.00  | 3.50 | 2.56 | .63  | 7.13          | 7.13  | —     | —     | 9.88  | 7.00  |
| 231  | 3.11 | 8.88  | 11.00 | 8.25  | 4.13 | 3.13 | .75  | 7.69          | 8.19  | 8.88  | —     | 11.25 | 8.25  |
| 239  | 3.89 | 11.19 | 13.63 | 10.25 | 5.13 | 3.56 | .88  | —             | 8.75  | 9.88  | 9.88  | 13.88 | 10.25 |
| 247  | 4.67 | 12.88 | 15.50 | 11.75 | 5.88 | 4.31 | 1.00 | —             | —     | 10.31 | 9.88  | 16.00 | 11.75 |

| Size | P    | R             |       |       |       | T<br>Holes | Low Speed Shaft  |      |       |        | Approx.<br>Weight<br>(Lbs.) | Optional                         |                                      |
|------|------|---------------|-------|-------|-------|------------|------------------|------|-------|--------|-----------------------------|----------------------------------|--------------------------------------|
|      |      | NEMA Mounting |       |       |       |            | U +.000<br>-.001 | V    | W-Key |        |                             | Base<br>Kit No.<br>(Ref. Pg 249) | Output<br>Shaft Kit<br>(Ref. Pg 248) |
|      |      | 56C           | 140TC | 180TC | 210TC |            |                  |      | Sq.   | LENGTH |                             |                                  |                                      |
| 221  | 1.97 | 6.56          | —     | —     | —     | 13/32      | 1.0000           | 2.25 | 1/4   | 1-1/4  | 28                          | X221-11VK                        | X221-3PK                             |
| 226  | 2.44 | 6.56          | 6.56  | —     | —     | 15/32      | 1.2500           | 2.75 | 1/4   | 1-5/8  | 43                          | X226-11VK                        | X226-3PK                             |
| 231  | 2.66 | 6.56          | 6.56  | 9.25  | —     | 17/32      | 1.3750           | 3.00 | 5/16  | 1-3/4  | 69                          | X231-11VK                        | X231-3PK                             |
| 239  | 3.09 | —             | 6.96  | 9.25  | 10.13 | 19/32      | 1.8750           | 3.75 | 1/2   | 2      | 124                         | X239-11VK                        | X239-3PK                             |
| 247  | 3.66 | —             | 9.25  | 10.13 | 10.13 | 21/32      | 2.1250           | 4.25 | 1/2   | 2-1/2  | 166                         | X247-11VK                        | X247-3PK                             |

\*Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounting surface, viewed from end of output shaft. Input may be rotated clockwise or counterclockwise. Input and Output shafts of Single reduction (S) units rotate in opposite directions, Double reduction (D) units in the same direction.

## 200 Series; 221-247 Sizes

For ordering information See Page 249.



**ALL DIMENSIONS IN INCHES**

| Size | A     | B     | D    | E    | F    | G    | K   | N    | P    | R    | S    |
|------|-------|-------|------|------|------|------|-----|------|------|------|------|
| 221  | 6.19  | 5.88  | 2.25 | 3.31 | 1.06 | 3.31 | .41 | 2.19 | 2.12 | 4.31 | 1.50 |
| 226  | 7.50  | 7.50  | 2.25 | 3.31 | 1.06 | 4.06 | .41 | 2.19 | 2.60 | 5.18 | 2.31 |
| 231  | 8.88  | 8.37  | 2.62 | 3.69 | 1.06 | 4.75 | .41 | 3.44 | 3.11 | 5.88 | 2.50 |
| 239  | 11.19 | 10.25 | 2.62 | 3.69 | 1.06 | 5.44 | .41 | 4.03 | 3.89 | 6.69 | 3.56 |
| 247  | 12.88 | 10.88 | 3.00 | 4.31 | 1.31 | 5.94 | .41 | 4.88 | 4.67 | 7.31 | 3.56 |

| Size | High Speed Shaft    |      |      |        | Low Speed Shaft     |     |            |       | Z      | AA      | CC<br>Max-Min | Optional*<br>Reaction Rod Kit |              |
|------|---------------------|------|------|--------|---------------------|-----|------------|-------|--------|---------|---------------|-------------------------------|--------------|
|      | T<br>+.000<br>-.001 | U    | V    |        | W<br>+.001<br>-.000 | X   | Y          |       |        |         |               | Catalog<br>Number             | Item<br>Code |
|      |                     |      | Sq.  | Lgth.  |                     |     | Sq.        | Lgth. |        |         |               |                               |              |
| 221  | .5000               | 2.00 | 1/8  | 7/8    | 1.0000              | .50 | 1/4 x 7/32 | 1-3/8 | 1.3750 | #10-32  | 18-12         | X221-76K                      | 24188        |
| 226  | .6250               | 2.88 | 3/16 | 1      | 1.2500              | .56 | 1/4 x 7/32 | 1-1/2 | 1.7702 | 1/4-28  | 30-24         | X226-76K                      | 24190        |
| 231  | .9375               | 3.06 | 1/4  | 1-1/4  | 1.4375              | .56 | 3/8 x 5/16 | 1-3/4 | 2.1638 | 1/4-28  | 30-24         | X231-76K                      | 24192        |
| 239  | 1.3750              | 4.19 | 5/16 | 2-7/16 | 1.9375              | .62 | 1/2 x 3/8  | 2     | 2.5575 | 5/16-24 | 30-24         | X239-76K                      | 24194        |
| 247  | 1.5675              | 4.25 | 3/8  | 2-1/4  | 2.1875              | .69 | 1/2 x 3/8  | 2-1/4 | 2.9512 | 3/8-24  | 30-24         | X247-76K                      | 24196        |

\* See page 264 for dimensions

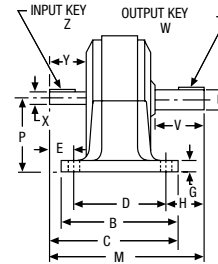
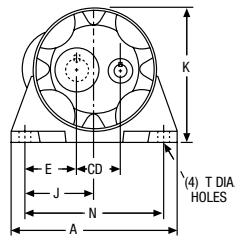
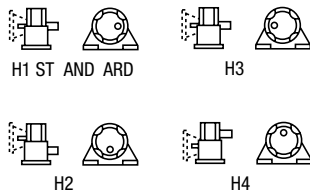
# 200 Series Non-Flanged Reducer Dimensions

## 200 Series; Horizontal Base Projecting Shaft

### Parallel Shafts

For ordering information See Page 249.

#### ASSEMBLY TYPES\*



#### ALL DIMENSIONS IN INCHES

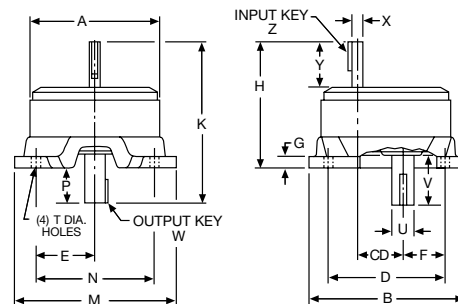
| Size | C.D. | A     | B     | C     | D    | E    | G    | H    | J    | K     | M     | N     | P    |
|------|------|-------|-------|-------|------|------|------|------|------|-------|-------|-------|------|
| 221  | 2.12 | 8.75  | 6.00  | 6.72  | 4.75 | 2.72 | .50  | 2.16 | 3.63 | 6.84  | 8.25  | 7.25  | 3.75 |
| 226  | 2.60 | 11.00 | 7.38  | 8.59  | 5.75 | 3.56 | .63  | 2.59 | 4.50 | 8.38  | 10.38 | 9.00  | 4.62 |
| 231  | 3.11 | 12.50 | 8.50  | 9.69  | 6.75 | 4.13 | .75  | 2.72 | 5.13 | 9.88  | 11.53 | 10.25 | 5.44 |
| 239  | 3.89 | 15.50 | 9.75  | 11.78 | 7.75 | 4.94 | .88  | 3.38 | 6.50 | 12.34 | 14.16 | 13.00 | 6.75 |
| 247  | 4.67 | 17.50 | 10.75 | 12.59 | 8.50 | 5.94 | 1.00 | 3.81 | 7.50 | 14.19 | 15.28 | 15.00 | 7.75 |

| Size | C.D. | T<br>Holes | Low Speed Shaft     |      |       |       | High Speed Shaft    |      |       |        | Approx.<br>Weight<br>(Lbs.) | Optional                           |                                            |
|------|------|------------|---------------------|------|-------|-------|---------------------|------|-------|--------|-----------------------------|------------------------------------|--------------------------------------------|
|      |      |            | U<br>+.000<br>-.001 | V    | W-Key |       | X<br>+.000<br>-.001 | Y    | Z-Key |        |                             | Base<br>Kit No.<br>(Ref. page 251) | Output Shaft<br>Kit No.<br>(Ref. page 250) |
|      |      |            |                     |      | Sq.   | Lgth. |                     |      | Sq.   | Lgth.  |                             |                                    |                                            |
| 221  | 2.12 | 13/32      | 1.0000              | 2.25 | 1/4   | 1-1/4 | .5000               | 2.06 | 1/8   | 7/8    | 22                          | X221-11HK                          | X221-3PK                                   |
| 226  | 2.60 | 15/32      | 1.2500              | 2.75 | 1/4   | 1-1/4 | .6250               | 2.88 | 3/16  | 1      | 39                          | X226-11HK                          | X226-3PK                                   |
| 231  | 3.11 | 17/32      | 1.3750              | 3.00 | 5/16  | 1-3/4 | .9375               | 3.06 | 1/4   | 1-1/4  | 60                          | X231-11HK                          | X231-3PK                                   |
| 239  | 3.89 | 19/32      | 1.8750              | 3.75 | 1/2   | 2     | 1.3750              | 4.19 | 5/16  | 2-7/16 | 104                         | X239-11HK                          | X239-3PK                                   |
| 247  | 4.67 | 21/32      | 2.1250              | 4.25 | 1/2   | 2-1/2 | 1.5625              | 4.25 | 3/8   | 2-1/4  | 148                         | X247-11HK                          | X247-3PK                                   |

## 200 Series; Vertical Base Projecting Shaft

### Parallel Shafts

#### ASSEMBLY TYPES\*



#### ALL DIMENSIONS IN INCHES

| Size | C.D. | A     | B     | D     | E    | F    | G    | H     | K     | M     | N     | P    |
|------|------|-------|-------|-------|------|------|------|-------|-------|-------|-------|------|
| 221  | 2.12 | 6.19  | 8.00  | 5.75  | 2.88 | 1.97 | .50  | 6.28  | 8.25  | 8.25  | 5.75  | 1.97 |
| 226  | 2.60 | 7.50  | 9.63  | 7.00  | 3.50 | 2.56 | .63  | 7.94  | 10.38 | 9.88  | 7.00  | 2.44 |
| 231  | 3.11 | 8.88  | 11.00 | 8.25  | 4.13 | 3.13 | .75  | 8.88  | 11.53 | 11.25 | 8.25  | 2.66 |
| 239  | 3.89 | 11.19 | 13.63 | 10.25 | 5.13 | 3.56 | .88  | 11.06 | 14.16 | 13.88 | 10.25 | 3.09 |
| 247  | 4.67 | 12.88 | 15.50 | 11.75 | 5.88 | 4.31 | 1.00 | 11.63 | 15.28 | 16.00 | 11.75 | 3.66 |

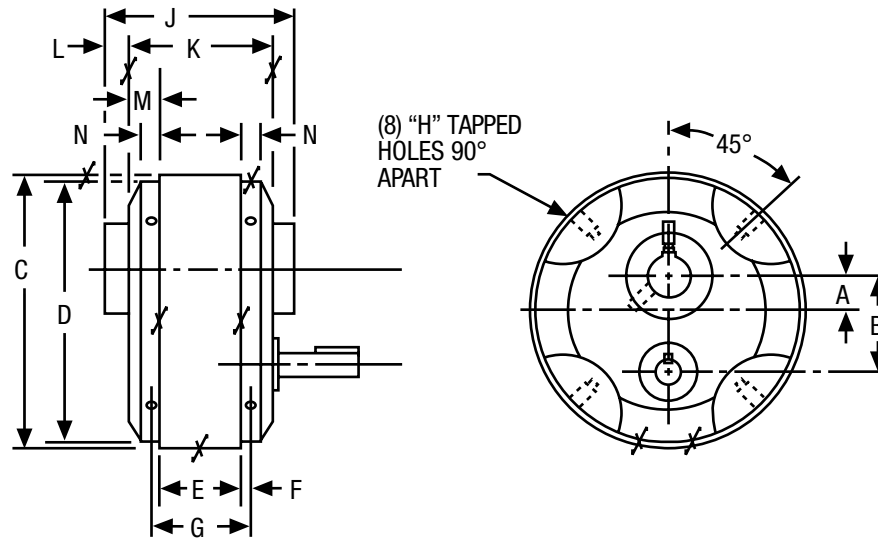
| Size | C.D. | T<br>Holes | Low Speed Shaft     |      |       |       | High Speed Shaft    |      |       |        | Approx.<br>Weight<br>(Lbs.) | Optional                           |                                            |
|------|------|------------|---------------------|------|-------|-------|---------------------|------|-------|--------|-----------------------------|------------------------------------|--------------------------------------------|
|      |      |            | U<br>+.000<br>−.001 | V    | W-Key |       | X<br>+.000<br>−.001 | Y    | Z-Key |        |                             | Base<br>Kit No.<br>(Ref. page 251) | Output Shaft<br>Kit No.<br>(Ref. page 250) |
|      |      |            |                     |      | Sq.   | Lgth. |                     |      | Sq.   | Lgth.  |                             |                                    |                                            |
| 221  | 2.12 | 13/32      | 1.0000              | 2.25 | 1/4   | 1-1/4 | .5000               | 2.06 | 1/8   | 7/8    | 22                          | X221-11VK                          | X221-3PK                                   |
| 226  | 2.60 | 15/32      | 1.2500              | 2.75 | 1/4   | 1-1/4 | .6250               | 2.88 | 3/16  | 1      | 39                          | X226-11VK                          | X226-3PK                                   |
| 231  | 3.11 | 17/32      | 1.3750              | 3.00 | 5/16  | 1-3/4 | .9375               | 3.06 | 1/4   | 1-1/4  | 60                          | X231-11VK                          | X231-3PK                                   |
| 239  | 3.89 | 19/32      | 1.8750              | 3.75 | 1/2   | 2     | 1.3750              | 4.19 | 5/16  | 2-7/16 | 104                         | X239-11VK                          | X239-3PK                                   |
| 247  | 4.67 | 21/32      | 2.1250              | 4.25 | 1/2   | 2-1/2 | 1.5625              | 4.25 | 3/8   | 2-1/4  | 148                         | X247-11VK                          | X247-3PK                                   |

\* Assemblies define output (slow speed) shaft projection with respect to input (high speed) shaft and mounting surface, viewed from end of output shaft. Input may be rotated clockwise or counterclockwise.

• Input and Output shafts of Single reduction (S) units rotate in opposite directions, Double reduction (D) units in the same direction.

# 200 Series Optimount® Dimensions

## 200 Series; 221-247 Sizes External Reference Surfaces



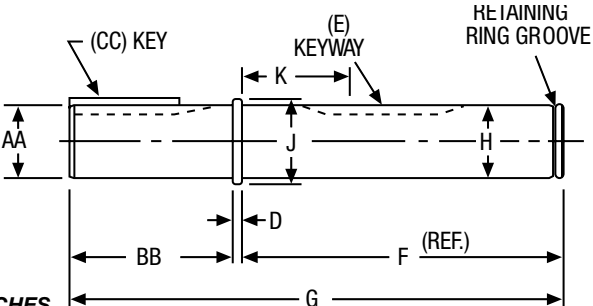
ALL DIMENSIONS IN INCHES

| Size | A<br>±.005 | B<br>+.002<br>-.000 | C*<br>+.000<br>-.010 | D*<br>+.000<br>-.003 | E*<br>+.000<br>-.004 | F   | G    | H       |       | J    | K    | L   | M    | N   |
|------|------------|---------------------|----------------------|----------------------|----------------------|-----|------|---------|-------|------|------|-----|------|-----|
|      |            |                     |                      |                      |                      |     |      | Size    | Depth |      |      |     |      |     |
| 221  | .904       | 2.123               | 6.193                | 5.998                | 2.000                | .19 | 2.38 | 1/4-20  | 9/16  | 4.31 | 3.31 | .50 | .66  | .44 |
| 226  | .936       | 2.595               | 7.495                | 7.248                | 2.062                | .38 | 2.81 | 5/16-18 | 5/8   | 5.19 | 4.06 | .56 | 1.00 | .69 |
| 231  | 1.000      | 3.114               | 8.870                | 8.624                | 2.625                | .34 | 3.31 | 3/8-16  | 3/4   | 5.88 | 4.75 | .56 | 1.06 | .69 |
| 239  | 1.560      | 3.893               | 11.182               | 10.936               | 3.312                | .34 | 4.00 | 3/8-16  | 3/4   | 6.69 | 5.44 | .62 | 1.06 | .69 |
| 247  | 1.560      | 4.671               | 12.870               | 12.624               | 3.687                | .38 | 4.44 | 7/16-14 | 7/8   | 7.31 | 5.94 | .69 | 1.12 | .75 |

\*Tolerance on Dimensions Apply Only to Housing before Painting.

# 200 Series Shaft Kits / Reaction Rod Kits

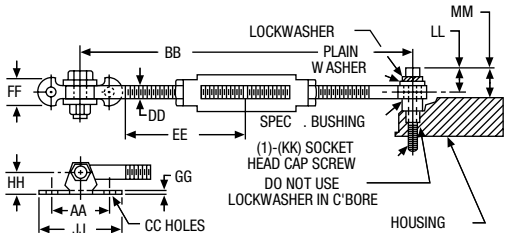
## Steel Projecting Output Shafts (Insertable)



ALL DIMENSIONS IN INCHES  
ORDER BY CATALOG NUMBER OR ITEM CODE

| Size | AA               | BB    | CC   |       | D   | E                    | F    | G     | H                | J    | K    | Kit Catalog Number | Item Code |
|------|------------------|-------|------|-------|-----|----------------------|------|-------|------------------|------|------|--------------------|-----------|
|      |                  |       | Sq.  | Lgth. |     |                      |      |       |                  |      |      |                    |           |
| 221  | .9995<br>.9985   | 2-1/4 | 1/4  | 1-1/4 | .12 | 1/4 x 1/8 x 1-13/32  | 4.47 | 6.84  | .9998<br>.9988   | 1.16 | 1.45 | X221-3PK           | 23888     |
| 226  | 1.2495<br>1.2485 | 2-3/4 | 1/4  | 1-1/4 | .12 | 1/4 x 1/8 x 1-17/32  | 5.38 | 8.25  | 1.2498<br>1.2488 | 1.41 | 1.83 | X226-3PK           | 23892     |
| 231  | 1.3745<br>1.3735 | 3     | 5/16 | 1-3/4 | .16 | 3/8 x 3/16 x 1-25/32 | 6.09 | 9.25  | 1.4373<br>1.4363 | 1.62 | 2.75 | X231A-3PK          | 63124     |
| 239  | 1.8745<br>1.8735 | 3-3/4 | 1/2  | 2     | .16 | 1/2 x 1/4 x 2-1/32   | 7.00 | 10.91 | 1.9373<br>1.9363 | 2.12 | 2.33 | X239-3PK           | 23904     |
| 247  | 2.1245<br>2.1235 | 4-1/4 | 1/2  | 2-1/2 | .16 | 1/2 x 1/4 x 2-9/32   | 7.26 | 12.03 | 2.1873<br>2.1863 | 2.44 | 2.51 | X247-3PK           | 23910     |

## Reaction Rod Kits



ALL DIMENSIONS IN INCHES  
ORDER BY CATALOG NUMBER OR ITEM CODE

| Size | AA   | BB*  |      | CC  | DD  | EE   | FF   | GG  | HH   | JJ   | KK                  | LL   | MM   | Kit Catalog Number | Item Code |
|------|------|------|------|-----|-----|------|------|-----|------|------|---------------------|------|------|--------------------|-----------|
|      |      | Max. | Min. |     |     |      |      |     |      |      |                     |      |      |                    |           |
| 221  | 2.25 | 18   | 12   | .41 | .38 | 4.50 | 1.06 | .16 | .78  | 3.31 | 1/4-20 x 1-3/4 lg.  | .62  | .64  | X221-76K           | 24188     |
| 226  | 2.25 | 30   | 24   | .41 | .50 | 10   | 1.06 | .16 | .78  | 3.31 | 1/4-20 x 2-1/4 lg.  | .66  | .94  | X226-76K           | 24190     |
| 231  | 2.62 | 30   | 24   | .41 | .62 | 10   | 1.06 | .19 | .94  | 3.69 | 5/16-18 x 2-1/2 lg. | .81  | 1.12 | X231-76K           | 24192     |
| 239  | 2.62 | 30   | 24   | .41 | .62 | 10   | 1.06 | .19 | .94  | 3.69 | 3/8-16 x 2-3/4 lg.  | .91  | 1.44 | X239-76K           | 24194     |
| 247  | 3.00 | 30   | 24   | .47 | .75 | 10   | 1.31 | .21 | 1.12 | 4.21 | 7/16-14 x 3 lg.     | 1.03 | 1.41 | X247-76K           | 24196     |

\* BB dimension can be reduced by cutting off threaded rods.

## INSTALLATION INFORMATION

The ideal position of the reaction rod is at 90° from a line drawn through the center of the hollow shaft and the point where reaction rod is attached to the housing or bracket. This is illustrated in Figure 1, along with allowable angular deviations.

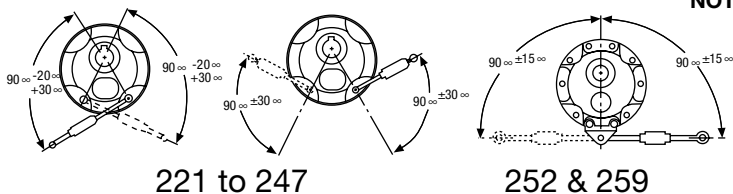
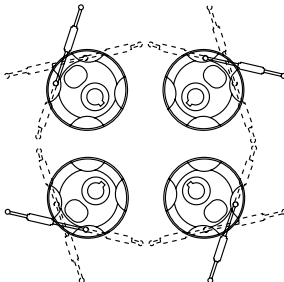


Figure 1

Figure 2 illustrates in a typical manner the possible reaction rod positions for shaft mounted reducers in horizontal or vertical positions.

**NOTE:** The reaction rod must be attached to the housing only at the screw locations identified by the spot faced surfaces or to the reaction rod bracket attached to the housing.

Figure 2





HORIZONTAL

| Kit Catalog No. | Item Code |
|-----------------|-----------|
| X221-11HK       | 68643     |
| X226-11HK       | 68654     |
| X231-11HK       | 68656     |
| X239-11HK       | 68658     |
| X247-11HK       | 68660     |



VERTICAL

| Kit Catalog No. | Item Code |
|-----------------|-----------|
| X221-11VK       | 68644     |
| X226-11VK       | 68655     |
| X231-11VK       | 68657     |
| X239-11VK       | 68659     |
| X247-11VK       | 68661     |



## 200 Series Optimount® Washdown Duty



### 200 SERIES – BOST-KLEEN™

- Washable and Scrubbable
- Stainless Steel Output Shafts
- Exposed hardware made of stainless steel
- Durable, Non-Absorbent, Non-Toxic White Epoxy Finish, USDA Approved
- Corrosion Resistant
- 1/4 to 20 Horsepower Range
- Single and Double Reducton Rations – 4:1 to 24:1
- Standard NEMA C-Face and Projecting Input Shaft Configurations
- Parallel Shafts
- Horizontal and Vertical Mounting Kits
- Projecting and Hollow Output Shafts

### STAINLESS BOST-KLEEN™

- Includes all features of the Standard WHITE BOST-KLEEN Reducers
- U.S.D.A. Approved for use in Food Processing and Handling Industry where incidental food contact may occur
- Durable Stainless Steel Epoxy Coating System Utilizes a unique #316L Stainless Steel Leafing Pigment. This catalyzed system creates a HARD, NON-TOXIC METALLIC FINISH

BISSC Certified Basic Model Numbers, Dimensions And Available Ratios

| White BOST-KLEEN |            | Stainless BOST-KLEEN |            | Center Distance | NEMA Mounting      | Input Shaft Dia.<br>+.000<br>-.001 | Output Shaft Dia.<br>+.000<br>-.001 | Available Ratios |
|------------------|------------|----------------------|------------|-----------------|--------------------|------------------------------------|-------------------------------------|------------------|
| NON-FLANGED Type | Quill Type | NON-FLANGED Type     | Quill Type |                 |                    |                                    |                                     |                  |
| BK221            | BKF221     | SBK221               | SBKF221    | 2.12            | 56C                | .500                               | 1.000                               | 4,10,14,17,20,24 |
| BK226            | BKF226     | SBK226               | SBKF226    | 2.60            | 56C,140TC          | .625                               | 1.2500                              | 4,10,14,17,20,24 |
| BK231            | BKF231     | SBK231               | SBKF231    | 3.11            | 56C,140TC,180TC    | .9375                              | 1.3750                              | 4,10,14,17,20,24 |
| BK239            | BKF239     | SBK239               | SBKF239    | 3.89            | 140TC,180TC, 210TC | 1.375                              | 1.8750                              | 4,10,14,17,20,24 |
| BK247            | BKF247     | SBK247               | SBKF247    | 4.67            | 180TC,210TC        | 1.5625                             | 2.1250                              | 4,10,14,17,20,24 |

## Installation, Lubrication and Operation Instructions

**Warning:** Boston Gear speed reducers are normally shipped without lubricant. They must be filled to the proper level with the recommended lubricant before operation.

### CAUTION

- For safe operation of any gear drive, all rotating shafts and auxiliary components must be shielded to conform with applicable safety standards. You must consider overall operational system safety at all times.
- When using a gear drive to raise or lower a load, such as in hoisting applications, provision must be made for external braking. Under no conditions should a speed reducer be considered self-locking.
- Mounting of speed reducers in overhead positions may be hazardous. Use of external guides or supports is strongly recommended for overhead mounting.

### General Instructions

1. When mounting, use maximum possible bolt size and secure gear drive to a rigid foundation. Periodic inspection of all bolts is recommended.
2. Align all shafts accurately. Improper alignment can result in failure. Use of flexible couplings is recommended to compensate for slight misalignment.
3. Arrange the drain and breather plug per your mounting position as indicated on page 268. The breather plug should also be located in the *Fill* position.
4. Auxiliary drive components (such as sprockets, gears and pulleys) should be mounted on the shafts as close as possible to the housing to minimize effects of overhung loads. Avoid force fits that might damage bearings or gears.
5. Gear drives are nameplated for 1750 RPM Input Speed and Class I Service. For lower Input Speeds and other Service Class, refer to catalog rating information.
6. Input Speeds of 1750 and lower are shown in catalog rating tables for speed reducing applications. This does not represent the maximum speed. Since speed limitation is based on pitching velocity and varies with size and ratio.

### Shaft Mounted Installation

Mount reducer on the shaft to be driven, as close to the supporting bearing as possible, and tighten end setscrews. For installations requiring an adapter bushing, the setscrews must pass through clearance holes in the bushing. For severe applications, the driven shaft should be spot drilled for these setscrews.

### Instructions for Flanged Models

#### F200 (Quill Type Input)

1. Assemble the key to the motor shaft and coat the shaft with anti-seize compound. Insert the motor shaft into the reducer input shaft.
2. Rotate the motor to proper position and firmly secure to flange with four hex-head cap screws.

**CAUTION** - If the motor does not readily seat itself, check to determine if key has moved axially along motor shaft, causing interference. Staking of the keyway adjacent to the motor key will facilitate this procedure.

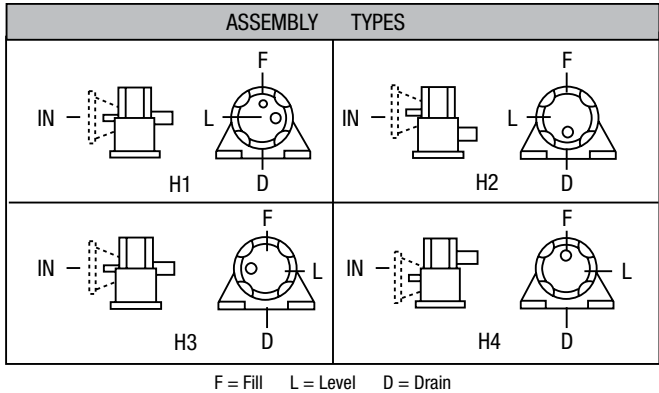
### Location of Filler, Level and Drain Plugs

Optimount reducers may be mounted in any position shown with the following exceptions:

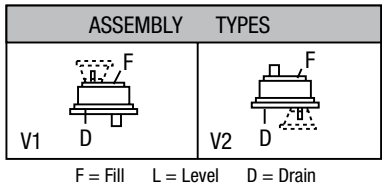
Filler, level and drain plugs are completely interchangeable and should be arranged to suit the required mounting positions. Four (4) pipe tapped holes for these plugs are located on the input shaft side of the housing and one (1) on the opposite side.

# 200 Series Optimount® Assembly Types & Lubrication

## 200 SERIES HORIZONTAL BASE



## 200 SERIES VERTICAL BASE



## Recommended Lubricants

The following tables indicate the type and viscosity of lubricant suitable for reducers operating at various temperatures.

Lubrication and maintenance instructions are provided with each speed reducer. These instructions should be followed for best results. It is important that the proper type of oil be used since many oils are not suitable for the lubrication of gears. Various types of gearing require different types of lubricants.

The lubricant must remain free from oxidation and contamination by water or debris since only a very thin film of oil stands between efficient operation and failure. To assure long service life, the reducer should be periodically drained (preferably while warm) and refilled to the proper level with a recommended gear oil. Under normal environmental conditions oil changes, are suggested after the initial 250 hours of operation, and thereafter, at regular intervals of 2500 hours or every 6 months. Synthetic lubricants will allow extended lubrication intervals due to its increased resistance to thermal and oxidation degradation. It is suggested that the initial oil change be made at 1500 hours and, thereafter, at 5000 hour intervals.

During the initial period of operation, higher than normal operating temperatures may be seen. This is due to the initial break-in of the gear set. The temperature of Helical Gear Reducers may reach 160°F.

## Enclosed Helical

| Recommended Oil (or equivalent) | Viscosity Range S&S @ 100°F | Oil Type | ISO Viscosity Grade No. |
|---------------------------------|-----------------------------|----------|-------------------------|
| Klubersynth* UH1 6-460          | 1950/2500                   | PAG      | 460                     |
| Mobile SHC634                   | 1950/2500                   | PAO      | 320 / 460               |

Ambient temperature range of -20F to +125F is suitable for standard configured products and ratings. Contact technical support for operating conditions beyond this range.

| Recommended Lubricant | Boston Gear Item Code Quart |
|-----------------------|-----------------------------|
| Klubersynth UH1 6-460 | 65159                       |
| Mobile SHC634         | 51493                       |

**CAUTION:** Relubricate more frequently, if drive is operated in high ambient temperatures or unusually contaminated atmospheres. High loads and operating temperatures will also require more frequent relubrication.

\* Synthetic recommendation is exclusively for Klubersynth UH1 6-460.

‡ The UH1 6-460 lubricant will perform at temperatures considerably higher than 225°F. However, the factory should always be consulted prior to operating at higher temperatures, as damage may occur to oil seals and other components.

**Drain Plug** must be installed in the lower most location of the housing. This plug will be on the input shaft side of the housing for positions H1, H3, H4 and V2. The opposite for position V1 and may be either side for H2.

The **Vented Filler Plug** should be installed in the uppermost location. This plug will be on the input shaft side for positions H1, H2, or H3, on either side for H4 and must be tightened into position with the arrow pointing upward.

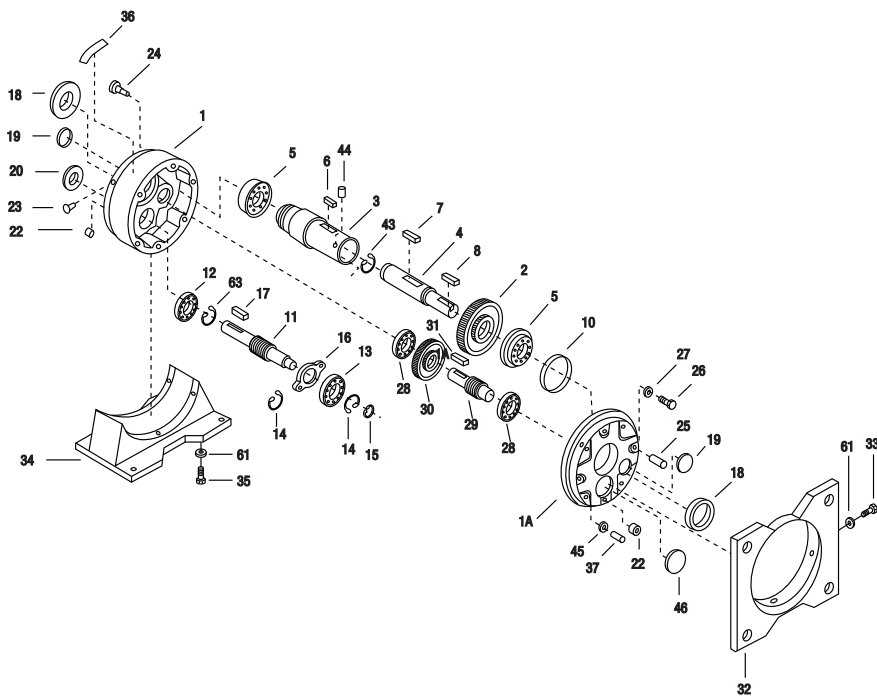
For vertical mounting (V1 and V2), this plug must be tightened with arrow pointing toward the center.

**Level Plug** position will be as indicated for horizontal positions. For vertical positions the oil level is established by an oil level distance measured from the outer surface of the housing from the oil filler hole.

| Size | Single Reduction   |                | Double Reduction   |                |
|------|--------------------|----------------|--------------------|----------------|
|      | Oil Dist. (Inches) | Capacity (Qts) | Oil Dist. (Inches) | Capacity (Qts) |
| 221  | 1.25               | .38            | 1.00               | .50            |
| 226  | 1.62               | .75            | 1.38               | 1.00           |
| 231  | 2.00               | 1.25           | 1.62               | 1.50           |
| 239  | 2.12               | 2.75           | 1.88               | 3.00           |
| 247  | 2.25               | 4.00           | 1.88               | 4.25           |

# 200 Series Parts List – Single and Double Reduction

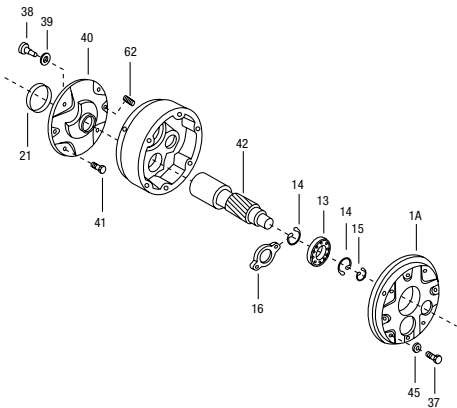
## Models 221-247



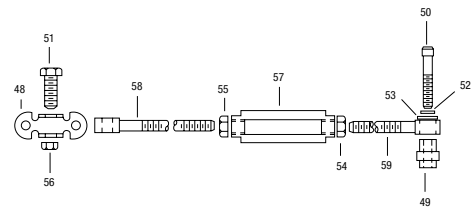
| Part No. | Description of Part            |
|----------|--------------------------------|
| 1        | HOUSING, BODY                  |
| 1A       | HOUSING, COVER                 |
| 2        | HELICAL GEAR (OUTPUT)          |
| 3        | HOLLOW OUTPUT SHAFT            |
| 4        | SOLID OUTPUT SHAFT, INSERT     |
| 4A       | N/A                            |
| 5        | BALL BEARING                   |
| 6        | KEY, OUTPUT GEAR               |
| 7        | KEY                            |
| 8        | KEY                            |
| 9        | N/A                            |
| 10       | SHIM                           |
| 11       | INPUT HELICAL PINION           |
| 12       | BALL BEARING                   |
| 13       | BALL BEARING                   |
| 14       | RETAINING RING (FOR 221 ONLY)  |
| 15       | RETAINING RING                 |
| 16       | BEARING RETAINER (FOR 226-247) |
| 17       | KEY                            |
| 18       | OIL SEAL                       |
| 19       | BORE PLUG                      |
| 20       | OIL SEAL                       |
| 21       | OIL SEAL                       |

| Part No. | Description of Part               |
|----------|-----------------------------------|
| 22       | PIPE PLUG                         |
| 23       | PLASTIC PLUG                      |
| 24       | VENTED OIL FILLER                 |
| 25       | DOWEL PIN                         |
| 26       | SOC. HEAD CAPSCREW                |
| 27       | LOCKWASHER                        |
| 28       | BALL BEARING                      |
| 29       | INTERM. HELICAL PINION            |
| 30       | INTERM. HELICAL GEAR              |
| 31       | KEY, INTERM. GEAR                 |
| 32       | VERTICAL BASE                     |
| 33       | SOC. HEAD CAPSCREW                |
| 34       | HORIZONTAL BASE                   |
| 35       | SOC. HEAD CAPSCREW                |
| 36       | NAMEPLATE                         |
| 37       | BUTTON HD. CAPSCREW (FOR 226-247) |
| 38       | SOC. HEAD CAPSCREW                |
| 39       | LOCKWASHER                        |
| 40       | MOTOR FLANGE                      |
| 41       | HEX HEAD CAPSCREW                 |
| 42       | MOTOR SHAFT (INPUT)               |
| 43       | RETAINING RING                    |
| 44       | HEX. SOC. SETSCREW                |

## Models F221-F247



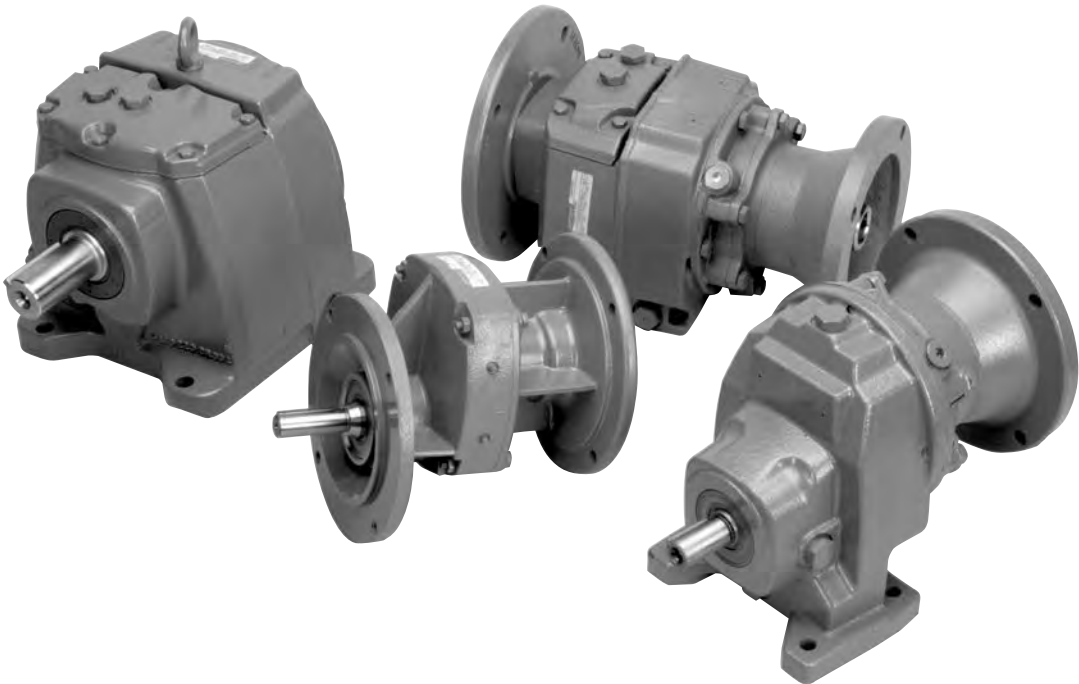
## Reaction Arm Kit



| Part No. | Description of Part          |
|----------|------------------------------|
| 45       | ROLLED WASHER (FOR 226-247)  |
| 46       | BORE PLUG                    |
| 47       | N/A                          |
| 48       | CLEVIS                       |
| 49       | BUSHING                      |
| 50       | SOC. HEAD CAPSCREW           |
| 51       | HEX HEAD CAPSCREW            |
| 52       | LOCKWASHER                   |
| 53       | FLATWASHER                   |
| 54       | NUT                          |
| 55       | NUT, LEFT HAND               |
| 56       | NUT, LOCK                    |
| 57       | TURNBUCKLE                   |
| 58       | EYEBOLT, ROD END (LEFT HAND) |
| 59       | EYEBOLT, ROD END             |
| 61       | LOCKWASHER                   |
| 62       | HEX. SOC. SETSCREW           |
| 63       | RETAINING RING               |

**PART ORDERING INFORMATION:** Be sure to provide complete Boston Gear catalog number from speed reducer nameplate, along with part description and number.





Section Contents

Product Reference Guide .....272

Numbering System / How To Order .....273

Selection Procedure.....274-275

Mounting Positions & Lubricants .....276

Overhung Load .....277

Output RPM Selection Tables .....278-290

Reducer Ratings.....291-296

Dimensions .....297-302

Washdown Duty .....303

## F600B Series Helical Gear Flanged Reducers

**Ordering Information** – Page 273

**Lubrication** – Page 276

**Selection/Rating Information** – Pages 278-290

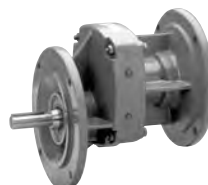
**Motor Selection** – Pages 340 and 342



**Single Reduction  
Foot Mounted, Flange Input**  
Dimensions - Page 297



**Double & Triple Reduction  
Foot Mounted, Flange Input**  
Dimensions - Page 298



**Single Reduction  
Output Flange Mounted**  
Dimensions - Page 299



**Double & Triple Reduction  
Output Flange Mounted**  
Dimensions - Page 300

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## 600B Series Helical Gear Non-Flanged Reducers

**Ordering Information** – Page 273

**Lubrication** – Page 276

**Selection/Rating Information** – Pages 278-290

**Motor Selection** – Pages 340 and 342



**Single Reduction  
Foot Mounted**  
Dimensions - Page 301

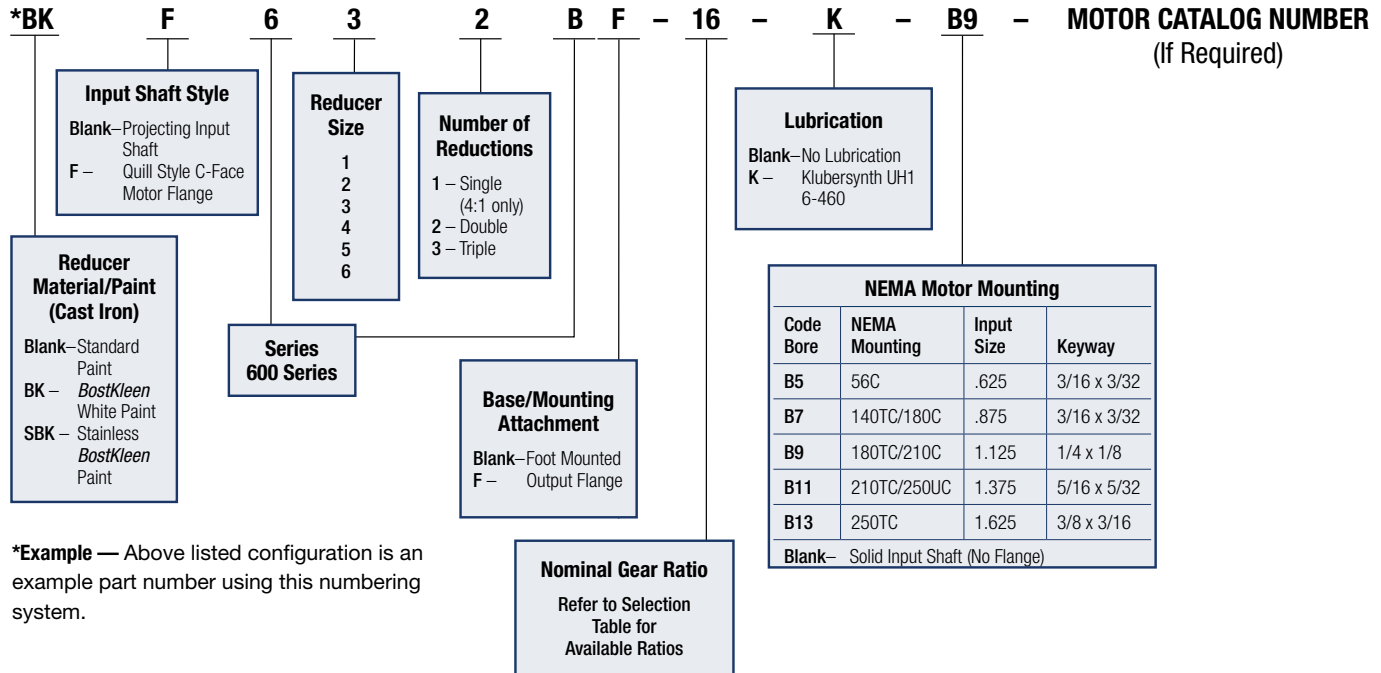


**Double & Triple Reduction  
Foot Mounted**  
Dimensions - Page 302



# 600 Series How to Order / Numbering System

## 600 Series Catalog Number



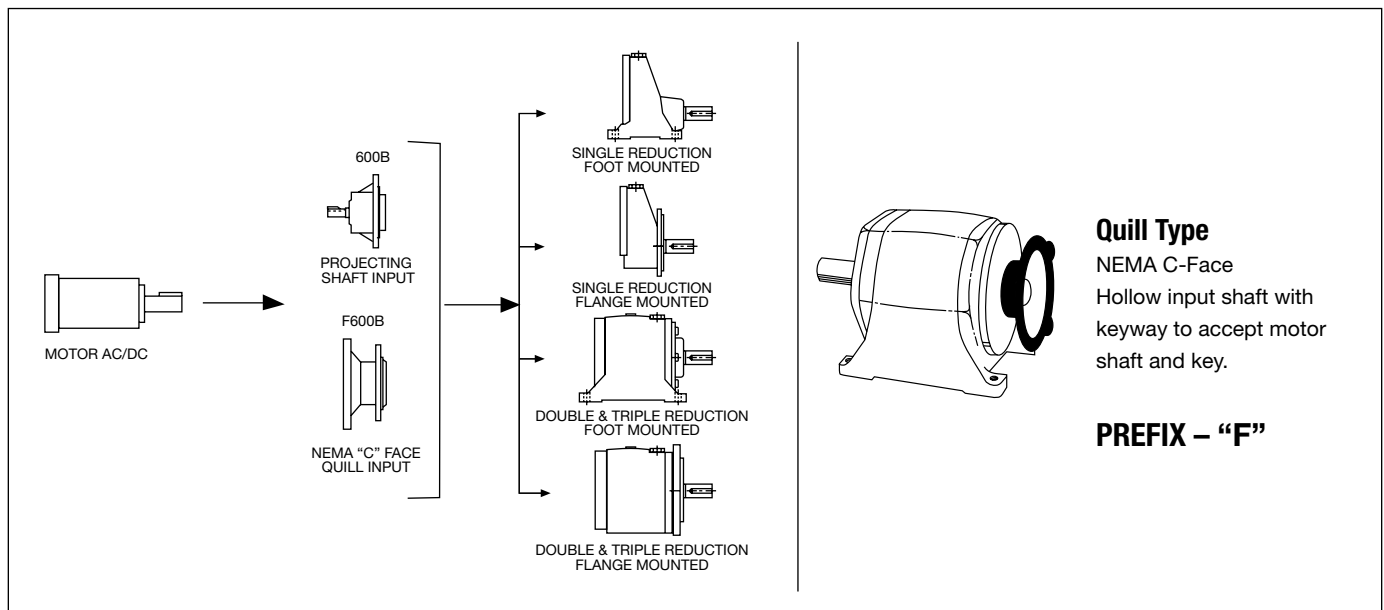
## How to Order

When ordering please note the complete catalog number and/or item code. With either of these two numbers your local distributor will have several alternatives to enter your order into the Boston Gear system.

**Example:** Required flanged input, reducer size 3, 16:1 ratio, double reduction, no lubrication, NEMA mounting 182TC motor to be 3 HP, 1750 RPM, 230/460 volt, 3 phase, 60 Hz totally enclosed fan cooled

**Order:** 1 pc F632B-16-B9 or 5 digit item code 28300  
1 pc LUTF, ref page 334.

## Available Configurations



**Note:** For applications requiring backstop or other special considerations, please consult factory.

# 600 Series Helical Gear Speed Reducers

To properly select a speed reducer, the following application information should be known.

1. Service Factor or AGMA Service class.
2. Output Horsepower or Torque
3. Output RPM or Ratio

## Non-Motorized Speed Reducer

1. Determine application service factor from table 1 or from application classification tables on pages 348-349.
2. Determine design Horsepower or Torque.  
– Design HP = Application HP x S.F.  
– Design Torque = Application Torque x S.F.
3. Select a Speed reducer that satisfies output RPM, service class and/or output torque requirement. Ref. rating tables pages 291-296.
4. Overhung shaft load should be checked when belt or chain drives are used, to prevent premature shaft or bearing failure. Reference page 275 for calculations.

## Example

Select an in-line 600B Series Speed Reducer for a continuous duty concrete mixer requiring 8000 lb-in. of torque at approx. 35 RPM, to operate up to 8 hrs/day. The Speed Reducer will be driven at 1160 input RPM.

1. Application Service Factor = 1.25
2. Design Torque = 8000 x 1.25  
= 10,000 lb-in.
3. Select at speed and torque level of 10,000 lb-ins. or greater
4. Order 652B-32 (Item Code 28698)

**NOTE:** The use of an auxiliary drive between the speed reducer and the driven machine reduces the torque required at the output shaft in direct proportion to the auxiliary drive ratio.

A 3:1 chain ratio would reduce the torque requirement at the output shaft of the reducer to one-third, resulting in a smaller unit size selection.

**SERVICE FACTOR TABLE 1**

| AGMA CLASS OF SERVICE | SERVICE FACTOR | OPERATING CONDITIONS                                                                                |
|-----------------------|----------------|-----------------------------------------------------------------------------------------------------|
| I                     | 1.00           | Moderate Shock-not more than 15 minutes in 2 hours.<br>Uniform Load-not more than 10 hours per day. |
| II                    | 1.25           | Moderate Shock-not more than 10 hours per day.<br>Uniform Load-more than 10 hours per day.          |
|                       | 1.50           | Heavy Shock-not more than 15 minutes in 2 hours.<br>Moderate Shock-more than 10 hours per day.      |
| III                   | 1.75           | Heavy Shock-not more than 10 hours per day.                                                         |
|                       | 2.00           | Heavy Shock-more than 10 hours per day.                                                             |

For complete AGMA Service Factors and Load Classifications, see Engineering Pages 348-349.

# 600 Series Ratio and Capacity Selection Tables

## Non-Flanged Reducers; Input Speeds 1750 and 1150 RPM Service Factor 1.0\*

| Catalog Number† | Item Code | Input Speed        |                             |                 |                    |                              |                 | Gear Ratio†† |
|-----------------|-----------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|--------------|
|                 |           | 1750 RPM           |                             |                 | 1160 RPM           |                              |                 |              |
|                 |           | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |              |
| 612C-32         | 28682     | 55                 | 791                         | 0.7             | 36                 | 821                          | .42             | 33.48        |
| 622B-32         | 28685     | 55                 | 1780                        | 1.68            | 36                 | 1799                         | 1.13            | 30.55        |
| 632B-32         | 28690     | 55                 | 3977                        | 3.79            | 36                 | 4023                         | 2.54            | 30.29        |
| 642B-32         | 28695     | 55                 | 5910                        | 5.4             | 36                 | 6416                         | 3.93            | 32.32        |
| 652B-32         | 28698     | 55                 | 13826                       | 12.52           | 36                 | 14014                        | 8.41            | 31.9         |
| 662B-32         | 28703     | 55                 | 26088                       | 25              | 36                 | 26487                        | 16.82           | 30.14        |
| 612C-40         | 28707     | 44                 | 794                         | 0.57            | 29                 | 799                          | 0.38            | 40.32        |
| 622B-40         | 28710     | 44                 | 1790                        | 1.33            | 29                 | 1804                         | 0.89            | 38.84        |
| 632B-40         | 28713     | 44                 | 4002                        | 2.95            | 29                 | 4038                         | 1.97            | 39.2         |

Reference Page 295

# 600 Series Helical Gear Speed Reducers

## Motorized Speed Reducer

1. Determine application service factor from table 1 page 274 or from pages 348-349.
2. Determine output speed required
3. Determine HP or output torque requirement.
4. Select based on output speed and horsepower requirement for given service class.
5. Check overhung load (Reference calculation).

## Example

Select an in-line motorized helical speed reducer and motor to drive a uniformly loaded line conveyor 24 hours/day requiring 3 HP at 35 RPM.

### Power Requirement

230/460 volt  
3 phase  
60 hertz

1. Select Service Factor class pages 348-349 or from Table 1 page 274. Service Class = II
2. Output RPM = 35
3. 5 HP
4. Select a 5 HP drive that will satisfy min. of II service class.
5. O.H.L. = 3670 # page 277
6. Order: 1 – F652B-50-B11 (28748) Ref. Pg. 287  
1 – NUTF Motor Ref. page 337 for specific motor mfg.

## Overhung Load

If the output shaft of a speed reducer is connected to the driven machine by other than a flexible coupling, an overhung load is imposed on the shaft. This load may be calculated as follows:

$$OHL = \frac{2TK}{D}$$

OHL = Overhung Load (LB.)  
T = Shaft Torque (LB.-INS.)  
D = PD of Sprocket, Pinion or Pulley (IN.)  
K = Load Connection Factor

## Load Connection Factor (K)

Sprocket or Timing Belt ..... 1.00  
Pinion and Gear Drive ..... 1.25  
Pulley and V-Belt Drive ..... 1.50  
Pulley and Flat Belt Drive ..... 2.50

An overhung load greater than permissible load value may be reduced to an acceptable value by the use of a sprocket, pinion or pulley of a larger PD. Relocation of the load closer to the center of reducer will also increase OHL capacity.

Permissible Overhung Loads and Output Shaft Thrust Loads are listed for each reducer in the Tables on Pages 277.

## 600 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 291-296.  
ORDER BY CATALOG NUMBER OR ITEM CODE

| Output<br>RPM | Ratio* | Non-Flanged Reducers         |       |        |                               | Flanged Reducers (Gearmotors) |                              |        |                                |                             | AC<br>Motors† | DC<br>Motors†† |
|---------------|--------|------------------------------|-------|--------|-------------------------------|-------------------------------|------------------------------|--------|--------------------------------|-----------------------------|---------------|----------------|
|               |        | Gear Capacity                |       |        | Catalog<br>No.<br>(Item Code) | Ratings                       |                              |        | Catalog Numbers<br>(Item Code) |                             |               |                |
|               |        | Output<br>Torque<br>(LB-IN.) | HP    |        |                               | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | S.C.** | Foot<br>Mounted                | Output<br>Flange<br>Mounted |               |                |
|               |        |                              | Input | Output |                               |                               |                              |        |                                |                             |               |                |
|               |        |                              |       |        |                               |                               |                              |        |                                |                             |               |                |
| 35            | 50     | 6100                         | 3.46  | 3.25   | 643B-50<br>(28742)            | 3                             | 5288                         | I      | F643B-50-B9<br>(28743)         | F643BF-50-B9<br>(28744)     | LUTF          | PM18300        |
|               |        |                              |       |        |                               | 2                             | 3525                         | II     | F643B-50-B7<br>(28745)         | F643BF-50-B7<br>(28746)     | KUTF          | PM18200        |
|               |        |                              |       |        |                               | 1.5                           | 2644                         | III    |                                |                             | JUTF          | PM18150        |
|               |        | 14004                        | 8.03  | 7.71   | 652B-50<br>(28747)            | 7.5                           | 13048                        | I      | F652B-50-B11<br>(28748)        | F652BF-50-B11<br>(28749)    | NUTF          | —              |
|               |        |                              |       |        |                               | 5                             | 8699                         | II     | F652B-50-B9<br>(28750)         | F652BF-50-B9<br>(28751)     | MUTF          | —              |
|               |        |                              |       |        |                               | 3                             | 5219                         | III    |                                |                             | LUTF          | PM18300        |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Page 291-296.

\*\* Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

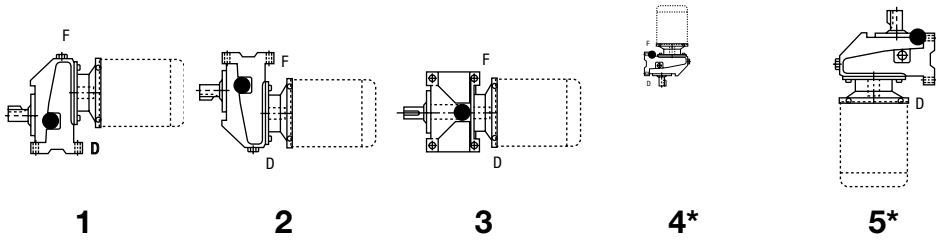
†† DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 334, 340 and 341.

Overhung Load Ratings refer to Pages 277.

# 600 Series Mounting Positions & Lubrication

K

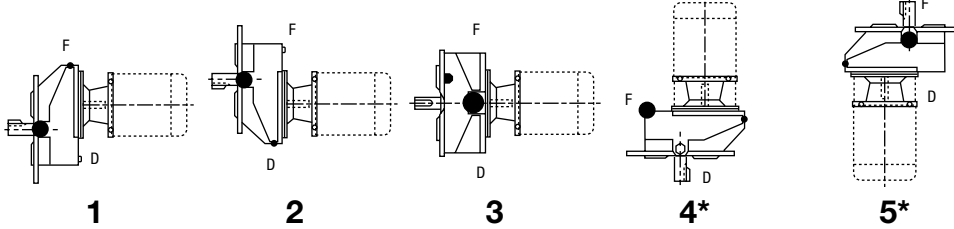
## Foot Mounted



### CAUTION

Mounting of speed reducers in overhead positions may be hazardous. Use of external guides or supports is strongly recommended for overhead mounting.

## Output Flange Mounted



Mounting positions are the same for multiple reduction units, and for non-flanged reducers.

F - Fill • - Oil Level, D - Drain.

\* Position 4 and 5, Level Should be 1/2" Below Top Fill.

## Recommended Lubricant

Synthetic lubricants are recommended for 600B Series reducers, and at all times, the lubricant must remain free from contamination. During the initial break-in of the gear set, higher than normal operating temperatures may result.

An initial oil change should be made after the first 1,500-hours of operation and at 5,000-hour intervals thereafter. Relubrication should be performed at shorter intervals if the reducer operates in high ambient temperatures or unusually contaminated environments.

For operating temperatures in excess of 225°F special seal considerations may be necessary.

| Recommended Lubricant | Ambient (Room) Temperature    | ISO Viscosity Grade No. | Boston Gear Item Code |
|-----------------------|-------------------------------|-------------------------|-----------------------|
|                       |                               |                         | Quart                 |
| Klubersynth UH1 6-460 | -20° to 225°F (-29° TO 107°C) | 460                     | 65159                 |
| Mobil SHC634          | -30° to 225°F (-34° TO 107°C) | 320/460                 | 51493                 |

### FOOT MOUNTED REDUCERS†

| Frame Size | Quarts per Mounting Position |       |       |       |       |
|------------|------------------------------|-------|-------|-------|-------|
|            | 1                            | 2     | 3     | 4     | 5     |
| 611C       | *                            | *     | *     | *     | *     |
| 621B       | 0.37                         | 0.74  | 0.53  | 0.58  | 1.06  |
| 631B       | 0.26                         | 1.06  | 0.63  | 0.69  | 1.27  |
| 641B       | 0.95                         | 2.01  | 1.48  | 2.22  | 2.22  |
| 651B       | 2.09                         | 4.42  | 3.33  | 4.05  | 3.15  |
| 661B       | 3.38                         | 7.71  | 6.34  | 6.13  | 8.03  |
| 612C/613C  | *                            | *     | *     | *     | *     |
| 622B/623B  | 0.63                         | 1.16  | 0.90  | 1.22  | 1.48  |
| 632B/633B  | 1.00                         | 2.38  | 2.43  | 2.38  | 2.85  |
| 642B/643B  | 1.69                         | 4.76  | 4.62  | 4.76  | 4.65  |
| 652B/653B  | 3.49                         | 7.08  | 7.08  | 7.93  | 7.93  |
| 662B/663B  | 5.49                         | 13.95 | 13.21 | 15.53 | 14.48 |

### OUTPUT FLANGE MOUNTED REDUCERS†

| Frame Size  | Quarts per Mounting Position |      |      |       |       |
|-------------|------------------------------|------|------|-------|-------|
|             | 1                            | 2    | 3    | 4     | 5     |
| 611CF       | *                            | *    | *    | *     | *     |
| 621BF       | 0.37                         | 0.74 | 0.53 | 0.58  | 1.06  |
| 631BF       | 0.26                         | 1.06 | 0.63 | 0.69  | 1.27  |
| 641BF       | 0.95                         | 2.01 | 1.48 | 2.22  | 2.22  |
| 651BF       | 2.09                         | 4.42 | 3.33 | 4.05  | 3.15  |
| 661BF       | 3.38                         | 7.71 | 6.34 | 6.13  | 8.03  |
| 612CF/613CF | *                            | *    | *    | *     | *     |
| 622BF/623BF | 0.63                         | ††   | ††   | 1.22  | 1.48  |
| 632BF/633BF | 1.00                         | ††   | ††   | 2.38  | 2.85  |
| 642BF/643BF | 1.69                         | ††   | ††   | 4.76  | 4.65  |
| 652BF/653BF | 3.49                         | ††   | ††   | 7.93  | 7.93  |
| 662BF/663BF | 5.49                         | ††   | ††   | 15.53 | 14.48 |

\* Prelubricated for life.

† Oil capacities apply to non-flanged reducers as well.

†† Use mounting position number 1. Cannot use on mounting position 2 & 3.

## Single Reduction Overhung Load (lbs.)\*

| Output RPM | Reducer Size |     |     |     |      |      |
|------------|--------------|-----|-----|-----|------|------|
|            | 611          | 621 | 631 | 641 | 651  | 661  |
| >1000      | 84           | 222 | 230 | 500 | 580  | 802  |
| 801-1000   | 80           | 229 | 250 | 600 | 615  | 757  |
| 551-800    | 75           | 240 | 288 | 648 | 674  | 1041 |
| 451-550    | 54           | 320 | 360 | 668 | 874  | 1234 |
| 351-450    | 33           | 334 | 370 | 806 | 1244 | 1495 |
| <350       | 153          | 366 | 457 | 786 | 1560 | 1744 |

\* Load is assumed to be in the center of the shaft extension

## Multiple Reduction Overhung Load (lbs.)

| Output RPM | Reducer Size |      |      |      |      |      |
|------------|--------------|------|------|------|------|------|
|            | 610          | 620  | 630  | 640  | 650  | 660  |
| 301-450    | ----         | 455  | 460  | 890  | 1755 | 1983 |
| 201-300    | ----         | 469  | 557  | 1200 | 1829 | 2065 |
| 151-200    | 129          | 591  | 670  | 1233 | 2013 | 2065 |
| 101-150    | 138          | 603  | 685  | 1296 | 2015 | 2163 |
| 51-100     | 388          | 701  | 850  | 1305 | 2472 | 2213 |
| 31-50      | 600          | 1030 | 1105 | 1305 | 3424 | 3733 |
| 16-30      | 600          | 1297 | 1357 | 1905 | 3670 | 4580 |
| <15        | 600          | 1345 | 1610 | 1905 | 4340 | 4580 |

# 600 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 291-296.  
ORDER BY CATALOG NUMBER OR ITEM CODE.

| Output<br>RPM | Ratio* | Non-Flanged Reducers         |       |        |                               | Flanged Reducers (Gearmotors) |                              |        |                                |                             | AC<br>Motors† | DC<br>Motors†† |
|---------------|--------|------------------------------|-------|--------|-------------------------------|-------------------------------|------------------------------|--------|--------------------------------|-----------------------------|---------------|----------------|
|               |        | Gear Capacity                |       |        | Catalog<br>No.<br>(Item Code) | Ratings                       |                              |        | Catalog Numbers<br>(Item Code) |                             |               |                |
|               |        | Output<br>Torque<br>(LB-IN.) | HP    |        |                               | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | S.C.** | Foot<br>Mounted                | Output<br>Flange<br>Mounted |               |                |
|               |        |                              | Input | Output |                               |                               |                              |        |                                |                             |               |                |
| 1094          | 1.6    | 338                          | 6.15  | 6.03   | 621B-1.6<br>(28000)           | 5                             | 275                          | I      | F621B-1.6-B9<br>(28001)        | F621BF-1.6-B9<br>(28002)    | MUTF          | PM18500        |
|               |        |                              |       |        |                               | 3                             | 165                          | III    | F621B-1.6-B7<br>(28003)        | F621BF-1.6-B7<br>(28004)    | LUTF          | PM18300        |
|               |        | 623                          | 11.39 | 11.16  | 631B-1.6<br>(28005)           | 10                            | 547                          | I      | F631B-1.6-B11<br>(28006)       | F631BF-1.6-B11<br>(28007)   | PUTF          | —              |
|               |        |                              |       |        |                               | 7.5                           | 410                          | II     | F631B-1.6-B9<br>(28008)        | F631BF-1.6-B9<br>(28009)    | NUTF          | —              |
|               |        | 761                          | 13.43 | 13.16  | 641B-1.6<br>(28010)           | 5                             | 273                          | III    | F631B-1.6-B9<br>(28008)        | F631BF-1.6-B9<br>(28009)    | MUTF          | PM18500        |
|               |        |                              |       |        |                               | 10                            | 568                          | I      | F641B-1.6-B11<br>(28011)       | F641BF-1.6-B11<br>(28012)   | PUTF          | —              |
|               |        |                              |       |        |                               | 7.5                           | 426                          | II     | F641B-1.6-B11<br>(28011)       | F641BF-1.6-B11<br>(28012)   | NUTF          | —              |
|               |        |                              |       |        |                               | 5                             | 284                          | III    | F641B-1.6-B9<br>(28013)        | F641BF-1.6-B9<br>(28014)    | MUTF          | PM18500        |
|               |        |                              |       |        |                               | 20                            | 1101                         | III    | F651B-1.6-B13<br>(28016)       | —                           | SUTF          | —              |
|               |        |                              |       |        |                               |                               | 20                           | 1129   | III                            | F661B-1.6-B13<br>(28018)    | —             | SUTF           |
| 875           | 2.0    | 212                          | 3.06  | 3.00   | 611C-2<br>(28019)             | 2                             | 138                          | II     | F611C-2-B7<br>(28020)          | F611CF-2-B7<br>(28021)      | KUTF          | PM18200        |
|               |        |                              |       |        |                               | 1.5                           | 104                          | III    | F611C-2-B7<br>(28020)          | F611CF-2-B7<br>(28021)      | JUTF          | PM18150        |
|               |        | 399                          | 5.65  | 5.54   | 621B-2<br>(28022)             | 5                             | 353                          | I      | F621B-2-B9<br>(28023)          | F621BF-2-B9<br>(28024)      | MUTF          | PM18500        |
|               |        |                              |       |        |                               | 3                             | 212                          | II     | F621B-2-B9<br>(28023)          | F621BF-2-B9<br>(28024)      | KUTF          | PM18300        |
|               |        | 708                          | 10.35 | 10.14  | 631B-2<br>(28027)             | 2                             | 141                          | III    | F621B-2-B7<br>(28025)          | F621BF-2-B7<br>(28026)      | KUTF          | PM18200        |
|               |        |                              |       |        |                               | 10                            | 684                          | I      | F631B-2-B11<br>(28028)         | F631BF-2-B11<br>(28029)     | PUTF          | —              |
|               |        |                              |       |        |                               | 7.5                           | 513                          | II     | F631B-2-B11<br>(28028)         | F631BF-2-B11<br>(28029)     | NUTF          | —              |
|               |        |                              |       |        |                               | 5                             | 342                          | III    | F631B-2-B9<br>(28030)          | F631BF-2-B9<br>(28031)      | MUTF          | PM18500        |
|               |        |                              |       |        |                               | 10                            | 720                          | I      | F641B-2-B11<br>(28033)         | F641BF-2-B11<br>(28034)     | PUTF          | —              |
|               |        | 1030                         | 14.33 | 14.04  | 641B-2<br>(28032)             | 7.5                           | 540                          | II     | F641B-2-B11<br>(28033)         | F641BF-2-B11<br>(28034)     | NUTF          | —              |
|               |        |                              |       |        |                               | 5                             | 360                          | III    | F641B-2-B9<br>(28035)          | F641BF-2-B9<br>(28036)      | MUTF          | PM18500        |
|               |        | 2521                         | 36.29 | 35.56  | 651B-2<br>(28037)             | 20                            | 1390                         | II     | F651B-2-B13<br>(28038)         | —                           | SUTF          | —              |
| 15            | 1043   |                              |       |        |                               | III                           | F651B-2-B13<br>(28038)       | —      | RUTF                           | —                           |               |                |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Page 291-296.

\*\* Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

†† DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 334, 340 and 341.

Overhung Load Ratings refer to Pages 277.

# 600 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 291-296.  
ORDER BY CATALOG NUMBER OR ITEM CODE.

| Output<br>RPM | Ratio*     | Non-Flanged Reducers         |       |        |                               | Flanged Reducers (Gearmotors) |                              |           |                                |                             | AC<br>Motors†           | DC<br>Motors††           |              |                    |
|---------------|------------|------------------------------|-------|--------|-------------------------------|-------------------------------|------------------------------|-----------|--------------------------------|-----------------------------|-------------------------|--------------------------|--------------|--------------------|
|               |            | Gear Capacity                |       |        | Catalog<br>No.<br>(Item Code) | Ratings                       |                              |           | Catalog Numbers<br>(Item Code) |                             |                         |                          |              |                    |
|               |            | Output<br>Torque<br>(LB-IN.) | HP    |        |                               | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | S.C.**    | Foot<br>Mounted                | Output<br>Flange<br>Mounted |                         |                          |              |                    |
|               |            |                              | Input | Output |                               |                               |                              |           |                                |                             |                         |                          |              |                    |
| 875<br>(Cont) | 2.0        | 3735                         | 52.88 | 51.82  | 661B-2<br>(28039)             | 20                            | 1411                         | III       | F661B-2-B13<br>(28040)         | —                           | SUTF                    | —                        |              |                    |
| 700           | 2.5        | 275                          | 3.06  | 3.00   | 611C-2.5<br>(28041)           | 2<br>1.5                      | 180<br>135                   | II<br>III | F611C-2.5-B7<br>(28042)        | F611CF-2.5-B7<br>(28043)    | KUTF<br>JUTF            | PM18200<br>PM18150       |              |                    |
|               |            | 442                          | 4.86  | 4.76   | 621B-2.5<br>(28044)           | 3                             | 273                          | II        | F621B-2.5-B9<br>(28045)        | F621BF-2.5-B9<br>(28046)    | LUTF                    | PM18300                  |              |                    |
|               |            |                              |       |        |                               | 2                             | 182                          | III       | F621B-2.5-B7<br>(28047)        | F621BF-2.5-B7<br>(28048)    | KUTF                    | PM18200                  |              |                    |
|               |            | 708                          | 7.88  | 7.22   | 631B-2.5<br>(28049)           | 7.5                           | 675                          | I         | F631B-2.5-B11<br>(28050)       | F631BF-2.5-B11<br>(28051)   | NUTF                    | —                        |              |                    |
|               |            |                              |       |        |                               | 5<br>3                        | 450<br>270                   | II<br>III | F631B-2.5-B9<br>(28052)        | F631BF-2.5-B9<br>(28053)    | MUTF<br>LUTF            | PM18500<br>PM18300       |              |                    |
|               |            | 1273                         | 13.96 | 13.68  | 641B-2.5<br>(28054)           | 10<br>7.5                     | 910<br>683                   | I<br>II   | F641B-2.5-B11<br>(28055)       | F641BF-2.5-B11<br>(28056)   | PUTF<br>NUTF            | —<br>—                   |              |                    |
|               |            |                              |       |        |                               | 5                             | 455                          | III       | F641B-2.5-B9<br>(28057)        | F641BF-2.5-B9<br>(28058)    | MUTF                    | PM18500                  |              |                    |
|               |            | 4152                         | 48.17 | 47.21  | 661B-2.5<br>(28062)           | 20                            | 1722                         | III       | F661B-2.5-B13<br>(28063)       | —                           | SUTF                    | —                        |              |                    |
|               |            | 557                          | 3.2   | 340    | 2.98                          | 2.92                          | 611C-3.2<br>(28064)          | 2<br>1.5  | 229<br>171                     | II<br>III                   | F611C-3.2-B7<br>(28065) | F611CF-3.2-B7<br>(28066) | KUTF<br>JUTF | PM18200<br>PM18150 |
|               |            |                              |       | 442    | 3.86                          | 3.78                          | 621B-3.2<br>(28067)          | 3         | 344                            | I                           | F621B-3.2-B9<br>(28069) | F621BF-3.2-B9<br>(28070) | LUTF         | PM18300            |
| 2<br>1.5      | 229<br>172 |                              |       |        |                               |                               |                              | II<br>III | F621B-3.2-B7<br>(28071)        | F621BF-3.2-B7<br>(28072)    | KUTF<br>JUTF            | PM18200<br>PM18150       |              |                    |
| 708           | 6.50       |                              |       | 6.37   | 631B-3.2<br>(28073)           | 5<br>3                        | 545<br>327                   | I<br>III  | F631B-3.2-B9<br>(28074)        | F631BF-3.2-B9<br>(28075)    | MUTF<br>LUTF            | PM18500<br>PM18300       |              |                    |
|               |            |                              |       |        |                               |                               |                              |           |                                |                             |                         |                          |              |                    |
|               |            |                              |       |        |                               |                               |                              |           |                                |                             |                         |                          |              |                    |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Page 291-296.

\*\* Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

†† DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 334, 340 and 341.

Overhung Load Ratings refer to Pages 277.



# 600 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 291-296.  
ORDER BY CATALOG NUMBER OR ITEM CODE.

| Output<br>RPM | Ratio* | Non-Flanged Reducers         |                     |        |                               | Flanged Reducers (Gearmotors) |                              |                           |                                |                             | AC<br>Motors† | DC<br>Motors††        |
|---------------|--------|------------------------------|---------------------|--------|-------------------------------|-------------------------------|------------------------------|---------------------------|--------------------------------|-----------------------------|---------------|-----------------------|
|               |        | Gear Capacity                |                     |        | Catalog<br>No.<br>(Item Code) | Ratings                       |                              |                           | Catalog Numbers<br>(Item Code) |                             |               |                       |
|               |        | Output<br>Torque<br>(LB-IN.) | HP                  |        |                               | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | S.C.**                    | Foot<br>Mounted                | Output<br>Flange<br>Mounted |               |                       |
|               |        |                              | Input               | Output |                               |                               |                              |                           |                                |                             |               |                       |
| 557<br>(Cont) | 3.2    | 1127                         | 10.10               | 9.90   | 641B-3.2<br>(28076)           | 10                            | 1115                         | I                         | F641B-3.2-B11<br>(28077)       | F641BF-3.2-B11<br>(28078)   | PUTF          | —                     |
|               |        |                              |                     |        |                               | 7.5                           | 836                          | II                        |                                |                             | LUTF          | —                     |
|               |        | 2894                         | 25.76               | 25.24  | 651B-3.2<br>(28081)           | 5                             | 557                          | III                       | F641B-3.2-B9<br>(28079)        | F641BF-3.2-B9<br>(28080)    | MUTF          | PM18500               |
|               |        |                              |                     |        |                               | 20                            | 2244                         | I                         | F651B-3.2-B13<br>(28082)       | —                           | SUTF          | —                     |
|               |        |                              |                     |        |                               | 15                            | 1683                         | II                        |                                |                             | RUTF          | —                     |
| 4655          | 42.96  | 42.10                        | 661B-3.2<br>(28086) | 10     | 1122                          | III                           | F651B-3.2-B11<br>(28084)     | F651BF-3.2-B11<br>(28085) | PUTF                           | —                           |               |                       |
|               |        |                              |                     | 20     | 2166                          | III                           | F661B-3.2-B13<br>(28087)     | —                         | SUTF                           | —                           |               |                       |
| 438           | 4.0    | 372                          | 2.58                | 2.53   | 611C-4<br>(28088)             | 2                             | 288                          | I                         | F611C-4-B7<br>(28089)          | F611CF-4-B7<br>(28092)      | KUTF          | PM18200               |
|               |        |                              |                     |        |                               | 1.5                           | 216                          | II                        |                                |                             | JUTF          | PM18150               |
|               |        | 442                          | 3.19                | 3.1262 | 621B-4<br>(28093)             | 1                             | 144                          | III                       | F611C-4-B5<br>(28091)          | F611CF-4-B5<br>(28090)      | HUTF-5/8      | PM18100<br>PM9100-5/8 |
|               |        |                              |                     |        |                               | 3                             | 416                          | I                         | F621B-4-B9<br>(28094)          | F621BF-4-B9<br>(28095)      | LUTF          | PM18300               |
|               |        |                              |                     |        |                               | 2                             | 277                          | II                        | F621B-4-B7<br>(28096)          | F621BF-4-B7<br>(28097)      | KUTF          | PM18200               |
|               |        | 708                          | 5.15                | 5.05   | 631B-4<br>(28098)             | 1.5                           | 208                          | III                       |                                |                             | JUTF          | PM18150               |
|               |        |                              |                     |        |                               | 5                             | 686                          | I                         | F631B-4-B9<br>(28099)          | F631BF-4-B9<br>(28100)      | MUTF          | PM18500               |
|               |        |                              |                     |        |                               | 3                             | 412                          | II                        |                                |                             | LUTF          | PM18300               |
|               |        | 1315                         | 9.42                | 9.23   | 641B-4<br>(28108)             | 2                             | 274                          | III                       | F631B-4-B7<br>(28106)          | F631BF-4-B7<br>(28107)      | JUTF          | PM18150               |
|               |        |                              |                     |        |                               | 7.5                           | 1045                         | I                         | F641B-4-B11<br>(28109)         | F641BF-4-B11<br>(28110)     | NUTF          | —                     |
|               |        | 2903                         | 20                  | 19.60  | 651B-4<br>(28113)             | 5                             | 697                          | II                        | F641B-4-B9<br>(28111)          | F641BF-4-B9<br>(28112)      | MUTF          | PM18500               |
|               |        |                              |                     |        |                               | 3                             | 418                          | III                       |                                |                             | LUTF          | PM18300               |
|               |        |                              |                     |        |                               | 20                            | 2900                         | I                         | F651B-4-B13<br>(28114)         | F651BF-4-B13<br>(28115)     | SUTF          | —                     |
|               |        |                              |                     |        |                               | 15                            | 2175                         | II                        |                                |                             | RUTF          | —                     |
|               |        |                              |                     |        |                               | 10                            | 1450                         | III                       | F651B-4-B11<br>(28116)         | F651BF-4-B11<br>(28118)     | PUTF          | —                     |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Page 291-296.

\*\* Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

†† DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 334, 340 and 341.  
Overhung Load Ratings refer to Pages 277.

# 600 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 291-296.  
ORDER BY CATALOG NUMBER OR ITEM CODE.

| Output<br>RPM | Ratio* | Non-Flanged Reducers         |       |        |                               | Flanged Reducers (Gearmotors) |                              |                |                                |                             | AC<br>Motors†            | DC<br>Motors††                                        |                   |                    |                          |                           |                       |                        |              |                           |
|---------------|--------|------------------------------|-------|--------|-------------------------------|-------------------------------|------------------------------|----------------|--------------------------------|-----------------------------|--------------------------|-------------------------------------------------------|-------------------|--------------------|--------------------------|---------------------------|-----------------------|------------------------|--------------|---------------------------|
|               |        | Gear Capacity                |       |        | Catalog<br>No.<br>(Item Code) | Ratings                       |                              |                | Catalog Numbers<br>(Item Code) |                             |                          |                                                       |                   |                    |                          |                           |                       |                        |              |                           |
|               |        | Output<br>Torque<br>(LB-IN.) | HP    |        |                               | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | S.C.**         | Foot<br>Mounted                | Output<br>Flange<br>Mounted |                          |                                                       |                   |                    |                          |                           |                       |                        |              |                           |
|               |        |                              | Input | Output |                               |                               |                              |                |                                |                             |                          |                                                       |                   |                    |                          |                           |                       |                        |              |                           |
| 438<br>(Cont) | 4.0    | 5221                         | 38.16 | 37.40  | 661B-4<br>(28119)             | 20<br>15                      | 2738<br>2053                 | II<br>III      | F661B-4-B13<br>(28120)         | —                           | SUTF<br>RUTF             | —<br>—                                                |                   |                    |                          |                           |                       |                        |              |                           |
| 350           | 5.0    | 192                          | 1.05  | 1.03   | 611C-5<br>(28121)             | 1<br>.75<br>.5                | 182<br>137<br>91             | I<br>II<br>III | F611C-5-B5<br>(28122)          | F611CF-5-B5<br>(28123)      | HUTF-5/8<br>GUTF<br>FUTF | PM9100-5/8<br>PM18100-5/8<br>PM975<br>PM1875<br>PM950 |                   |                    |                          |                           |                       |                        |              |                           |
|               |        |                              |       |        |                               | 442                           | 2.55                         | 2.50           |                                |                             |                          |                                                       | 621B-5<br>(28124) | 2<br>1.5           | 347<br>260               | I<br>II                   | F621B-5-B7<br>(28125) | F621BF-5-B7<br>(28126) | KUTF<br>JUTF | PM18200<br>PM18150        |
|               |        |                              |       |        |                               |                               |                              |                |                                |                             |                          |                                                       |                   | 1                  | 174                      | III                       | F621B-5-B5<br>(28127) | F621BF-5-B5<br>(28128) | HUTF-5/8     | PM9100-5/8<br>PM18100-5/8 |
|               |        | 708                          | 4.11  | 4.03   | 631B-5<br>(28129)             | 3<br>2                        | 516<br>344                   | II<br>III      | F631B-5-B9<br>(28130)          | F631BF-5-B9<br>(28131)      | LUTF                     | PM18300                                               |                   |                    |                          |                           |                       |                        |              |                           |
|               |        |                              |       |        |                               | F631B-5-B7<br>(28132)         | F631BF-5-B7<br>(28133)       | KUTF           | PM18200                        |                             |                          |                                                       |                   |                    |                          |                           |                       |                        |              |                           |
|               |        | 1327                         | 7.73  | 7.575  | 641B-5<br>(28134)             | 7.5<br>5<br>3                 | 1289<br>859<br>515           | I<br>II<br>III | F641B-5-B11<br>(28135)         | F641BF-5-B11<br>(28137)     | NUTF                     | —                                                     |                   |                    |                          |                           |                       |                        |              |                           |
|               |        |                              |       |        |                               | F641B-5-B9<br>(28138)         | F641BF-5-B9<br>(28139)       | MUTF<br>LUTF   | PM18500<br>PM18300             |                             |                          |                                                       |                   |                    |                          |                           |                       |                        |              |                           |
|               |        | 2903                         | 16.01 | 15.69  | 651B-5<br>(28140)             | 15<br>10<br>7.5               | 2715<br>1810<br>1357         | I<br>II<br>III | F651B-5-B13<br>(28141)         | —                           | RUTF                     | —                                                     |                   |                    |                          |                           |                       |                        |              |                           |
|               |        |                              |       |        |                               | F651B-5-B11<br>(28143)        | F651BF-5-B11<br>(28144)      | PUTF<br>NUTF   | —<br>—                         |                             |                          |                                                       |                   |                    |                          |                           |                       |                        |              |                           |
|               |        | 5221                         | 30.49 | 29.88  | 661B-5<br>(28145)             | 20<br>15                      | 3422<br>2567                 | II<br>III      | F661B-5-B13<br>(28146)         | —                           | SUTF<br>RUTF             | —<br>—                                                |                   |                    |                          |                           |                       |                        |              |                           |
|               |        |                              |       |        |                               |                               |                              |                |                                |                             |                          |                                                       |                   |                    |                          |                           |                       |                        |              |                           |
|               |        | 278                          | 6.3   | 1251   | 5.63                          | 5.52                          | 622B-6.3<br>(28147)          | 5<br>3<br>2    | 1109<br>666<br>444             | I<br>II<br>III              | F622B-6.3-B9<br>(28148)  | F622BF-6.3-B9<br>(28149)                              | MUTF<br>LUTF      | PM18500<br>PM18300 |                          |                           |                       |                        |              |                           |
|               |        |                              |       |        |                               |                               |                              | 2208           | 10.45                          | 10.03                       | 632B-6.3<br>(28152)      | 10<br>7.5                                             | 2108<br>1581      | I<br>II            | F632B-6.3-B11<br>(28153) | F632BF-6.3-B11<br>(28154) | PUTF<br>NUTF          | —<br>—                 |              |                           |
|               |        |                              |       |        |                               |                               |                              |                |                                |                             |                          | 5                                                     | 1054              | III                | F632B-6.3-B9<br>(28155)  | F632BF-6.3-B9<br>(28159)  | MUTF                  | PM18500                |              |                           |
|               |        |                              |       |        |                               |                               |                              |                |                                |                             |                          |                                                       |                   |                    |                          |                           |                       |                        |              |                           |
|               |        |                              |       |        |                               |                               |                              |                |                                |                             |                          |                                                       |                   |                    |                          |                           |                       |                        |              |                           |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Page 291-296.

\*\* Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

†† DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 334, 340 and 341.

Overhung Load Ratings refer to Pages 277.

# 600 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 291-296.  
ORDER BY CATALOG NUMBER OR ITEM CODE.

| Output<br>RPM | Ratio* | Non-Flanged Reducers         |       |        |                               | Flanged Reducers (Gearmotors) |                              |        |                                |                             | AC<br>Motors†          | DC<br>Motors††            |
|---------------|--------|------------------------------|-------|--------|-------------------------------|-------------------------------|------------------------------|--------|--------------------------------|-----------------------------|------------------------|---------------------------|
|               |        | Gear Capacity                |       |        | Catalog<br>No.<br>(Item Code) | Ratings                       |                              |        | Catalog Numbers<br>(Item Code) |                             |                        |                           |
|               |        | Output<br>Torque<br>(LB-IN.) | HP    |        |                               | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | S.C.** | Foot<br>Mounted                | Output<br>Flange<br>Mounted |                        |                           |
|               |        |                              | Input | Output |                               |                               |                              |        |                                |                             |                        |                           |
| 278<br>(Cont) | 6.3    | 3615                         | 16.28 | 15.63  | 642B-6.3<br>(28157)           | 15                            | 3323                         | I      | F642B-6.3-B13<br>(28158)       | —                           | SUTF                   | —                         |
|               |        |                              |       |        |                               | 10                            | 2215                         | II     | F642B-6.3-B11<br>(28160)       | F642BF-6.3-B11<br>(28161)   | PUTF<br>NUTF           | —<br>—                    |
|               |        | 7883                         | 36.83 | 35.36  | 652B-6.3<br>(28162)           | 20                            | 4292                         | II     | F652B-6.3-B13<br>(28163)       | —                           | SUTF                   | —                         |
|               |        |                              |       |        |                               | 15                            | 3219                         | III    |                                | RUTF                        | —                      |                           |
|               |        | 11903                        | 53.87 | 51.72  | 662B-6.3<br>(28164)           | 20                            | 4410                         | III    | F662B-6.3-B13<br>(28165)       | —                           | SUTF                   | —                         |
| 219           | 8      | 762                          | 2.69  | 2.58   | 612C-8<br>(28166)             | 2                             | 564                          | I      | F612C-8-B7<br>(28167)          | F612CF-8-B7<br>(28168)      | KUTF                   | PM18200                   |
|               |        |                              |       |        |                               | 1.5                           | 423                          | II     |                                | JUTF                        | PM181500               |                           |
|               |        |                              |       |        |                               | 1                             | 282                          | III    | F612C-8-B5<br>(28169)          | F612CF-8-B5<br>(28170)      | HUTF-5/8               | PM9100-5/8<br>PM18100-5/8 |
|               |        | 1252                         | 4.37  | 4.20   | 622B-8<br>(28171)             | 3                             | 858                          | I      | F622B-8-B9<br>(28172)          | F622BF-8-B9<br>(28173)      | LUTF                   | PM18300                   |
|               |        |                              |       |        |                               | 2                             | 572                          | III    | F622B-8-B7<br>(28174)          | F622BF-8-B7<br>(28175)      | KUTF                   | PM18200                   |
|               |        | 2208                         | 7.95  | 7.63   | 632B-8<br>(28176)             | 7.5                           | 2079                         | I      | F632B-8-B11<br>(28177)         | F632BF-8-B11<br>(28178)     | NUTF                   | —                         |
|               |        |                              |       |        |                               | 5                             | 1386                         | II     | F632B-8-B9<br>(28179)          | F632BF-8-B9<br>(28180)      | MUTF                   | PM18500                   |
|               |        |                              |       |        |                               | 3                             | 832                          | III    |                                | LUTF                        | PM18300                |                           |
|               |        | 3615                         | 12.83 | 12.32  | 642B-8<br>(28181)             | 10                            | 2813                         | I      | F642B-8-B11<br>(28184)         | F642BF-8-B11<br>(28185)     | PUTF                   | —                         |
|               |        |                              |       |        |                               | 7.5                           | 2110                         | II     |                                | NUTF                        |                        |                           |
|               |        |                              |       |        |                               | 5                             | 1407                         | III    | F642B-8-B9<br>(28182)          | F642BF-8-B9<br>(28183)      | MUTF                   | PM18500                   |
|               |        | 10329                        | 38.77 | 37.22  | 652B-8<br>(28186)             | 20                            | 5315                         | II     | F652B-8-B13<br>(28187)         | —                           | SUTF                   | —                         |
|               |        |                              |       |        |                               | 15                            | 3986                         | III    |                                | RUTF                        | —                      |                           |
|               |        |                              |       | 18252  | 66.63                         | 63.96                         | 662B-8<br>(28188)            | 20     | 5474                           | III                         | F662B-8-B13<br>(28199) | —                         |
| 175           | 10     | 768                          | 2.17  | 2.08   | 612C-10<br>(28190)            | 2                             | 705                          | I      | F612C-10-B7<br>(28191)         | F612CF-10-B7<br>(28192)     | KUTF                   | PM18200                   |
|               |        |                              |       |        |                               | 1.5                           | 529                          | II     |                                | JUTF                        | PM18150                |                           |
|               |        |                              |       |        |                               | 1                             | 353                          | III    | F612C-10-B5<br>(28193)         | F612CF-10-B5<br>(28194)     | HUTF-5/8               | PM9100-5/8<br>PM18100-5/8 |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Page 291-296.

\*\* Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

†† DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 334, 340 and 341.

Overhung Load Ratings refer to Pages 277.

# 600 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 291-296.  
ORDER BY CATALOG NUMBER OR ITEM CODE.

| Output<br>RPM | Ratio* | Non-Flanged Reducers         |       |        |                               | Flanged Reducers (Gearmotors) |                              |        |                                |                             | AC<br>Motors†    | DC<br>Motors††                               |
|---------------|--------|------------------------------|-------|--------|-------------------------------|-------------------------------|------------------------------|--------|--------------------------------|-----------------------------|------------------|----------------------------------------------|
|               |        | Gear Capacity                |       |        | Catalog<br>No.<br>(Item Code) | Ratings                       |                              |        | Catalog Numbers<br>(Item Code) |                             |                  |                                              |
|               |        | Output<br>Torque<br>(LB-IN.) | HP    |        |                               | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | S.C.** | Foot<br>Mounted                | Output<br>Flange<br>Mounted |                  |                                              |
|               |        |                              | Input | Output |                               |                               |                              |        |                                |                             |                  |                                              |
| 175<br>(Cont) | 10     | 1252                         | 3.46  | 3.32   | 622B-10<br>(28195)            | 3                             | 1081                         | I      | F622B-10-B9<br>(28196)         | F622BF-10-B9<br>(28198)     | LUTF             | PM18300                                      |
|               |        |                              |       |        |                               | 2                             | 721                          | II     | F622B-10-B7<br>(28199)         | F622BF-10-B7<br>(28200)     | KUTF<br>JUTF     | PM18200<br>PM18150                           |
|               |        |                              |       |        |                               | 1.5                           | 541                          | III    |                                |                             |                  |                                              |
|               |        | 2208                         | 6.56  | 6.30   | 632B-10<br>(28201)            | 5                             | 1680                         | II     | F632B-10-B9<br>(28202)         | F632BF-10-B9<br>(28203)     | MUTF<br>LUTF     | PM18500<br>PM18300                           |
|               |        |                              |       |        |                               | 3                             | 1008                         | III    |                                |                             |                  |                                              |
|               |        | 3615                         | 10.49 | 10.07  | 642B-10<br>(28204)            | 10                            | 3449                         | I      | F642B-10-B11<br>(28207)        | F642BF-10-B11<br>(28208)    | PUTF<br>NUTF     | —<br>—                                       |
|               |        |                              |       |        |                               | 7.5                           | 2587                         | II     |                                |                             |                  |                                              |
|               |        | 11933                        | 35.65 | 34.22  | 652B-10<br>(28209)            | 5                             | 1719                         | III    | F642B-10-B9<br>(28861)         | F642BF-10-B5<br>(28862)     | MUTF             | PM18500                                      |
|               |        |                              |       |        |                               | 20                            | 6684                         | II     | F652B-10-B13<br>(28210)        | —                           | SUTF<br>RUTF     | —<br>—                                       |
|               |        | 20956                        | 60.86 | 58.43  | 662B-10<br>(28211)            | 15                            | 5013                         | III    |                                |                             |                  |                                              |
| 140           | 12.5   | 772                          | 1.82  | 1.75   | 612C-12.5<br>(28213)          | 20                            | 6871                         | III    | F662B-10-B13<br>(28212)        | —                           | SUTF             | —                                            |
|               |        |                              |       |        |                               | 1.5                           | 634                          | I      | F612C-12.5-B7<br>(28214)       | F612CF-12.5-B7<br>(28215)   | JUTF             | PM18150                                      |
|               |        |                              |       |        |                               | 1                             | 423                          | II     | F612C-12.5-B5<br>(28216)       | F612CF-12.5-B5<br>(28217)   | HUTF-5/8<br>GUTF | PM9100-5/8<br>PM18100-5/8<br>PM975<br>PM1875 |
|               |        | 1252                         | 2.87  | 2.76   | 622B-12.5<br>(28218)          | 2                             | 872                          | I      | F622B-12.5-B7<br>(28219)       | F622BF-12.5-B7<br>(28220)   | KUTF<br>JUTF     | PM18200<br>PM18150                           |
|               |        |                              |       |        |                               | 1.5                           | 654                          | II     |                                |                             |                  |                                              |
|               |        |                              |       |        |                               | 1                             | 436                          | III    | F622B-12.5-B5<br>(28221)       | F622BF-12.5-B5<br>(28222)   | HUTF-5/8         | PM9100 5/8<br>PM18100 5/8                    |
|               |        | 2208                         | 5.2   | 4.99   | 632B-12.5<br>(28223)          | 5                             | 2120                         | I      | F632B-12.5-B9<br>(28224)       | F632BF-12.5-B9<br>(28225)   | MUTF<br>LUTF     | PM18500<br>PM18300                           |
|               |        |                              |       |        |                               | 3                             | 1272                         | II     |                                |                             |                  |                                              |
|               |        |                              |       |        |                               | 2                             | 848                          | III    | F632B-12.5-B7<br>(28226)       | F632BF-12.5-B7<br>(28227)   | KUTF             | PM18200                                      |
|               |        | 3615                         | 8.39  | 8.05   | 642B-12.5<br>(28228)          | 7.5                           | 3227                         | I      | F642B-12.5-B11<br>(28231)      | F642BF-12.5-B11<br>(28863)  | NUTF             | —                                            |
|               |        |                              |       |        |                               | 5                             | 2151                         | II     | F642B-12.5-B9<br>(28876)       | F642BF-12.5-B9<br>(28864)   | MUTF<br>LUTF     | PM18500<br>PM18300                           |
|               |        |                              |       |        |                               | 3                             | 1291                         | III    |                                |                             |                  |                                              |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Page 291-296.

\*\* Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

†† DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 334, 340 and 341.

Overhung Load Ratings refer to Pages 277.

# 600 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 291-296.  
ORDER BY CATALOG NUMBER OR ITEM CODE.

| Output<br>RPM | Ratio* | Non-Flanged Reducers         |       |        |                               | Flanged Reducers (Gearmotors) |                              |                |                                                    |                                                    |                          | AC<br>Motors†                                         | DC<br>Motors††           |                                                       |                        |                         |                                                  |                                                    |                          |                                                         |
|---------------|--------|------------------------------|-------|--------|-------------------------------|-------------------------------|------------------------------|----------------|----------------------------------------------------|----------------------------------------------------|--------------------------|-------------------------------------------------------|--------------------------|-------------------------------------------------------|------------------------|-------------------------|--------------------------------------------------|----------------------------------------------------|--------------------------|---------------------------------------------------------|
|               |        | Gear Capacity                |       |        | Catalog<br>No.<br>(Item Code) | Ratings                       |                              |                | Catalog Numbers<br>(Item Code)                     |                                                    |                          |                                                       |                          |                                                       |                        |                         |                                                  |                                                    |                          |                                                         |
|               |        | Output<br>Torque<br>(LB-IN.) | HP    |        |                               | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | S.C.**         | Foot<br>Mounted                                    | Output<br>Flange<br>Mounted                        |                          |                                                       |                          |                                                       |                        |                         |                                                  |                                                    |                          |                                                         |
|               |        |                              | Input | Output |                               |                               |                              |                |                                                    |                                                    |                          |                                                       |                          |                                                       |                        |                         |                                                  |                                                    |                          |                                                         |
| 140<br>(Cont) | 12.5   | 12844                        | 30.33 | 29.12  | 652B-12.5<br>(28232)          | 20<br>15                      | 8453<br>6340                 | II<br>III      | F652B-12.5-B13<br>(28234)                          | —                                                  | SUTF<br>RUTF             | —<br>—                                                |                          |                                                       |                        |                         |                                                  |                                                    |                          |                                                         |
|               |        | 23128                        | 47.77 | 45.86  | 662B-12.5<br>(28235)          | 20                            | 8592                         | III            | F662B-12.5-B13<br>(28236)                          | —                                                  | SUTF                     | —                                                     |                          |                                                       |                        |                         |                                                  |                                                    |                          |                                                         |
| 109           | 16     | 777                          | 1.46  | 1.40   | 612C-16<br>(28251)            | 1<br>.75<br>.5                | 530<br>398<br>265            | I<br>II<br>III | F612C-16-B5<br>(28252)                             | F612CF-16-B5<br>(28254)                            | HUTF-5/8<br>GUTF<br>FUTF | PM9100-5/8<br>PM18100-5/8<br>PM975<br>PM1875<br>PM950 |                          |                                                       |                        |                         |                                                  |                                                    |                          |                                                         |
|               |        |                              |       |        |                               | 1252                          | 2.29                         | 2.20           |                                                    |                                                    | 622B-16<br>(28256)       | 2<br>1.5                                              | 1091<br>819              | I<br>II                                               | F622B-16-B7<br>(28265) | F622BF-16-B7<br>(28276) | KUTF<br>JUTF                                     | PM18200<br>PM18150                                 |                          |                                                         |
|               |        |                              |       |        |                               |                               |                              |                |                                                    |                                                    |                          | 1                                                     | 546                      | III                                                   | F622B-16-B5<br>(28277) | F622BF-16-B5<br>(28284) | HUTF-5/8                                         | PM9100 5/8<br>PM18100 5/8                          |                          |                                                         |
|               |        | 2208                         | 4.15  | 3.98   | 632B-16<br>(28291)            | 3<br>2                        | 1593<br>1062                 | II<br>III      | F632B-16-B9<br>(28300)<br>F632B-16-B7<br>(28306)   | F632BF-16-B9<br>(28302)<br>F632BF-16-B7<br>(28328) | LUTF<br>KUTF             | PM18300<br>PM18200                                    |                          |                                                       |                        |                         |                                                  |                                                    |                          |                                                         |
|               |        |                              |       |        |                               | 3615                          | 6.81                         | 6.54           | 642B-16<br>(28330)                                 | 5<br>3                                             | 2649<br>1589             | I<br>III                                              | F642B-16-B9<br>(28355)   | F642BF-16-B9<br>(28360)                               | MUTF<br>LUTF           | PM18500<br>PM18300      |                                                  |                                                    |                          |                                                         |
|               |        | 13452                        | 24.63 | 23.64  | 652B-16<br>(28366)            | 20<br>15<br>10                | 10900<br>8175<br>5450        | I<br>II<br>III | F652B-16-B13<br>(28384)<br>F652B-16-B11<br>(28385) | —<br>F652BF-16-B11<br>(28388)                      | SUTF<br>RUTF<br>PUTF     | —<br>—<br>—                                           |                          |                                                       |                        |                         |                                                  |                                                    |                          |                                                         |
|               |        |                              |       |        |                               | 23788                         | 45.28                        | 43.47          | 662B-16<br>(28390)                                 | 20                                                 | 10486                    | III                                                   | F662B-16-B13<br>(28395)  | —                                                     | SUTF                   | —                       |                                                  |                                                    |                          |                                                         |
|               |        | 88                           | 20    | 783    | 1.12                          | 1.08                          | 612C-20<br>(28396)           | 1<br>.75<br>.5 | 699<br>525<br>350                                  | I<br>II<br>III                                     | F612C-20-B5<br>(28538)   | F612CF-20-B5<br>(28564)                               | HUTF-5/8<br>GUTF<br>FUTF | PM9100-5/8<br>PM18100-5/8<br>PM975<br>PM1875<br>PM950 |                        |                         |                                                  |                                                    |                          |                                                         |
|               |        |                              |       |        |                               |                               |                              | 1252           | 1.80                                               | 1.73                                               |                          |                                                       | 622B-20<br>(28570)       | 1.5<br>1                                              | 1040<br>694<br>520     | I<br>II<br>III          | F622B-20-B7<br>(28573)<br>F622B-20-B5<br>(28587) | F622BF-20-B7<br>(28586)<br>F622BF-20-B5<br>(28588) | JUTF<br>HUTF-5/8<br>GUTF | PM18150<br>PM9100 5/8<br>PM18100 5/8<br>PM975<br>PM1875 |
|               |        |                              |       |        |                               |                               |                              |                |                                                    |                                                    |                          |                                                       |                          |                                                       |                        |                         |                                                  |                                                    |                          |                                                         |
|               |        |                              |       |        |                               |                               |                              |                |                                                    |                                                    |                          |                                                       |                          |                                                       |                        |                         |                                                  |                                                    |                          |                                                         |
|               |        |                              |       |        |                               |                               |                              |                |                                                    |                                                    |                          |                                                       |                          |                                                       |                        |                         |                                                  |                                                    |                          |                                                         |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Page 291-296.

\*\* Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

†† DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 334, 340 and 341.

Overhung Load Ratings refer to Pages 277.

# 600 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 291-296.  
ORDER BY CATALOG NUMBER OR ITEM CODE.

| Output<br>RPM | Ratio* | Non-Flanged Reducers         |       |        |                               | Flanged Reducers (Gearmotors) |                              |        |                                |                             | AC<br>Motors†            | DC<br>Motors††                                        |          |
|---------------|--------|------------------------------|-------|--------|-------------------------------|-------------------------------|------------------------------|--------|--------------------------------|-----------------------------|--------------------------|-------------------------------------------------------|----------|
|               |        | Gear Capacity                |       |        | Catalog<br>No.<br>(Item Code) | Ratings                       |                              |        | Catalog Numbers<br>(Item Code) |                             |                          |                                                       |          |
|               |        | Output<br>Torque<br>(LB-IN.) | HP    |        |                               | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | S.C.** | Foot<br>Mounted                | Output<br>Flange<br>Mounted |                          |                                                       |          |
|               |        |                              | Input | Output |                               |                               |                              |        |                                |                             |                          |                                                       |          |
| 88<br>(Cont)  | 20     | 2208                         | 3.21  | 3.08   | 632B-20<br>(28589)            | 3                             | 2060                         | I      | F632B-20-B9<br>(28590)         | F632BF-20-B9<br>(28591)     | LUTF                     | PM18300                                               |          |
|               |        |                              |       |        |                               | 2                             | 1373                         | II     | F632B-20-B7<br>(28592)         | F632BF-20-B7<br>(28593)     | KUTF<br>JUTF             | PM18200<br>PM18150                                    |          |
|               |        |                              |       |        |                               | 1.5                           | 1030                         | III    |                                |                             |                          |                                                       |          |
|               |        | 3615                         | 6     | 5.76   | 642B-20<br>(28594)            | 5                             | 2995                         | I      | F642B-20-B9<br>(28597)         | F642BF-20-B9<br>(28598)     | MUTF<br>LUTF             | PM18500<br>PM18300                                    |          |
|               |        |                              |       |        |                               | 3                             | 1797                         | III    |                                |                             |                          |                                                       |          |
|               |        |                              |       |        |                               |                               |                              |        |                                |                             |                          |                                                       |          |
|               |        | 13601                        | 19.86 | 19.07  | 652B-20<br>(28650)            | 15                            | 10249                        | I      | F652B-20-B13<br>(28651)        | —                           | RUTF                     | —                                                     |          |
|               |        |                              |       |        |                               | 10                            | 6833                         | II     | F652B-20-B11<br>(28652)        | F652BF-20-B11<br>(28653)    | PUTF<br>NUTF             | —<br>—                                                |          |
|               |        |                              |       |        |                               | 7.5                           | 5124                         | III    |                                |                             |                          |                                                       |          |
|               |        | 24111                        | 36.51 | 35.05  | 662B-20<br>(28654)            | 20                            | 13181                        | II     | F662B-20-B13<br>(28655)        | —                           | SUTF<br>RUTF             | —<br>—                                                |          |
| 15            | 9886   |                              |       |        |                               | III                           |                              |        |                                |                             |                          |                                                       |          |
| 70            | 25     | 787                          | .89   | 0.85   | 612C-25<br>(28656)            | .75                           | 663                          | I      | F612C-25-B5<br>(28657)         | F612CF-25-B5<br>(28658)     | GUTF<br>FUTF<br>EUTF     | PM975<br>PM1875<br>PM950<br>PM933                     |          |
|               |        |                              |       |        |                               | .5                            | 442                          | II     |                                |                             |                          |                                                       |          |
|               |        |                              |       |        |                               | .33                           | 292                          | III    |                                |                             |                          |                                                       |          |
|               |        | 877                          | 1     | 0.96   | 622B-25<br>(28659)            | 1                             | 877                          | I      | F622B-25-B5<br>(28660)         | F622BF-25-B5<br>(28662)     | HUTF-5/8<br>GUTF<br>FUTF | PM9100 5/8<br>PM18100 5/8<br>PM975<br>PM1875<br>PM950 |          |
|               |        |                              |       |        |                               | .75                           | 658                          | II     |                                |                             |                          |                                                       |          |
|               |        |                              |       |        |                               | .5                            | 439                          | III    |                                |                             |                          |                                                       |          |
|               |        | 2208                         | 2.51  | 2.41   | 632B-25<br>(28663)            | 2                             | 1758                         | I      | F632B-25-B7<br>(28664)         | F632BF-25-B7<br>(28665)     | KUTF<br>JUTF             | PM18200<br>PM18150                                    |          |
|               |        |                              |       |        |                               | 1.5                           | 1319                         | II     |                                |                             |                          |                                                       |          |
|               |        |                              |       |        |                               | 1                             | 879                          | III    |                                |                             | F632B-25-B5<br>(28666)   | F632BF-25-B5<br>(28667)                               | HUTF-5/8 |
|               |        | 3615                         | 4.23  | 4.23   | 642B-25<br>(28668)            | 3                             | 2559                         | I      | F642B-25-B9<br>(28672)         | F642BF-25-B9<br>(28673)     | LUTF                     | PM18300                                               |          |
|               |        |                              |       |        |                               | 2                             | 1706                         | III    | F642B-25-B7<br>(28877)         | F642BF-25-B7<br>(28878)     | KUTF                     | PM18200                                               |          |
|               |        | 13727                        | 15.52 | 14.90  | 652B-25<br>(28674)            | 15                            | 13245                        | I      | F652B-25-B13<br>(28675)        | —                           | RUTF                     | —                                                     |          |
|               |        |                              |       |        |                               | 10                            | 8830                         | II     | F652B-25-B11<br>(28676)        | F652BF-25-B11<br>(28677)    | PUTF<br>NUTF             | —<br>—                                                |          |
|               |        |                              |       |        |                               |                               | 7.5                          | 6623   |                                |                             |                          |                                                       |          |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Page 291-296.

\*\* Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

†† DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 334, 340 and 341.

Overhung Load Ratings refer to Pages 277.

# 600 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 291-296.  
ORDER BY CATALOG NUMBER OR ITEM CODE.

| Output<br>RPM | Ratio* | Non-Flanged Reducers         |       |        |                               | Flanged Reducers (Gearmotors) |                              |                  |                                |                             |                        | AC<br>Motors†                               | DC<br>Motors††           |                                                       |
|---------------|--------|------------------------------|-------|--------|-------------------------------|-------------------------------|------------------------------|------------------|--------------------------------|-----------------------------|------------------------|---------------------------------------------|--------------------------|-------------------------------------------------------|
|               |        | Gear Capacity                |       |        | Catalog<br>No.<br>(Item Code) | Ratings                       |                              |                  | Catalog Numbers<br>(Item Code) |                             |                        |                                             |                          |                                                       |
|               |        | Output<br>Torque<br>(LB-IN.) | HP    |        |                               | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | S.C.**           | Foot<br>Mounted                | Output<br>Flange<br>Mounted |                        |                                             |                          |                                                       |
|               |        |                              | Input | Output |                               |                               |                              |                  |                                |                             |                        |                                             |                          |                                                       |
| 70<br>(Cont)  | 25     | 25876                        | 31.03 | 29.79  | 662B-25<br>(28679)            | 20<br>15                      | 16644<br>12483               | II<br>III        | F662B-25-B13<br>(28681)        | —                           | SUTF<br>RUTF           | —<br>—                                      |                          |                                                       |
| 55            | 32     | 791                          | .7    | 0.67   | 612C-32<br>(28682)            | .5<br>.33                     | 579<br>382                   | II<br>III        | F612C-32-B5<br>(28683)         | F612CF-32-B5<br>(28684)     | FUTF<br>DUTF           | PM950<br>PM925                              |                          |                                                       |
|               |        | 1780                         | 1.68  | 1.61   | 622B-32<br>(28685)            | 1.5                           | 1584                         | I                | F622B-32-B7<br>(28686)         | F622BF-32-B7<br>(28687)     | JUTF                   | PM18150                                     |                          |                                                       |
|               |        |                              |       |        |                               | 1<br>.75                      | 1056<br>792                  | II<br>III        | F622B-32-B5<br>(28688)         | F622BF-32-B5<br>(28689)     | HUTF-5/8<br>GUTF       | PM9100-5/8<br>PM1800-5/8<br>PM975<br>PM1875 |                          |                                                       |
|               |        | 3977                         | 3.79  | 3.64   | 632B-32<br>(28690)            | 3                             | 3140                         | I                | F632B-32-B9<br>(28691)         | F632BF-32-B9<br>(28692)     | LUTF                   | PM18300                                     |                          |                                                       |
|               |        |                              |       |        |                               | 2<br>1.5                      | 2094<br>1570                 | II<br>III        | F632B-32-B7<br>(28693)         | F632BF-32-B7<br>(28694)     | KUTF<br>DUTF           | PM18200<br>PM18150                          |                          |                                                       |
|               |        | 5910                         | 5.40  | 5.18   | 642B-32<br>(28695)            | 5<br>3                        | 5585<br>3351                 | I<br>II          | F643B-32-B9<br>(28696)         | F642BF-32-B9<br>(28697)     | MUTF<br>LUTF           | PM18500<br>PM18300                          |                          |                                                       |
|               |        |                              |       |        |                               | 2                             | 2234                         | III              | F643B-32-B7<br>(28879)         | F643BF-32-B7<br>(28880)     | KUTF                   | PM18200                                     |                          |                                                       |
|               |        | 13826                        | 12.52 | 12.02  | 652B-32<br>(28698)            | 10<br>7.5                     | 11025<br>8268                | I<br>II          | F652B-32-B11<br>(28699)        | F652BF-32-B11<br>(28700)    | PUTF<br>NUTF           | —<br>—                                      |                          |                                                       |
|               |        |                              |       |        |                               | 5                             | 5512                         | III              | F652B-32-B9<br>(28701)         | F652BF-32-B9<br>(28702)     | MUTF                   | PM18500                                     |                          |                                                       |
|               |        | 26088                        | 25    | 24.00  | 662B-32<br>(28703)            | 20<br>15                      | 20833<br>15625               | I<br>II          | F662B-32-B13<br>(28704)        | —                           | SUTF<br>RUTF           | —<br>—                                      |                          |                                                       |
|               |        |                              |       |        |                               | 10                            | 10416                        | III              | F662B-32-B11<br>(28705)        | F662BF-32-B11<br>(28706)    | PUTF                   | —                                           |                          |                                                       |
|               |        | 44                           | 40    | 794    | .57                           | 0.55                          | 612C-40<br>(28707)           | .5<br>.33<br>.25 | 697<br>460<br>348              | I<br>II<br>III              | F612C-40-B5<br>(28708) | F612CF-40-B5<br>(28709)                     | FUTF<br>EUTF<br>DUTF     | PM950<br>PM933<br>PM925                               |
|               |        |                              |       | 1790   | 1.33                          | 1.28                          | 622B-40<br>(28710)           | 1<br>.75<br>.5   | 1342<br>1007<br>671            | I<br>II<br>III              | F622B-40-B5<br>(28711) | F622BF-40-B5<br>(28712)                     | HUTF-5/8<br>GUTF<br>FUTF | PM9100-5/8<br>PM18100-5/8<br>PM975<br>PM1875<br>PM950 |
|               |        |                              |       |        |                               |                               |                              |                  |                                |                             |                        |                                             |                          |                                                       |
|               |        |                              |       |        |                               |                               |                              |                  |                                |                             |                        |                                             |                          |                                                       |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Page 291-296.

\*\* Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

†† DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 334, 340 and 341.

Overhung Load Ratings refer to Pages 277.



# 600 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 291-296.  
ORDER BY CATALOG NUMBER OR ITEM CODE.

| Output<br>RPM          | Ratio*                  | Non-Flanged Reducers         |       |              |                               | Flanged Reducers (Gearmotors) |                              |                |                                |                             | AC<br>Motors†            | DC<br>Motors††                                     |                         |                          |                        |                         |              |                           |
|------------------------|-------------------------|------------------------------|-------|--------------|-------------------------------|-------------------------------|------------------------------|----------------|--------------------------------|-----------------------------|--------------------------|----------------------------------------------------|-------------------------|--------------------------|------------------------|-------------------------|--------------|---------------------------|
|                        |                         | Gear Capacity                |       |              | Catalog<br>No.<br>(Item Code) | Ratings                       |                              |                | Catalog Numbers<br>(Item Code) |                             |                          |                                                    |                         |                          |                        |                         |              |                           |
|                        |                         | Output<br>Torque<br>(LB-IN.) | HP    |              |                               | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | S.C.**         | Foot<br>Mounted                | Output<br>Flange<br>Mounted |                          |                                                    |                         |                          |                        |                         |              |                           |
|                        |                         |                              | Input | Output       |                               |                               |                              |                |                                |                             |                          |                                                    |                         |                          |                        |                         |              |                           |
| 44<br>(Cont)           | 40                      | 4002                         | 2.95  | 2.83         | 632B-40<br>(28713)            | 2<br>1.5                      | 2710<br>2032                 | I<br>III       | F632B-40-B7<br>(28714)         | F632BF-40-B7<br>(28715)     | KUTF<br>JUTF             | PM18200<br>PM18150                                 |                         |                          |                        |                         |              |                           |
|                        |                         | 6010                         | 4.3   | 4.04         | 643B-40<br>(28716)            | 3                             | 4172                         | II             | F643B-40-B9<br>(28717)         | F643BF-40-B9<br>(28718)     | LUTF                     | PM18300                                            |                         |                          |                        |                         |              |                           |
|                        |                         |                              |       |              |                               | 2                             | 2782                         | III            | F643B-40-B7<br>(28719)         | F643BF-40-B7<br>(28720)     | KUTF                     | PM18200                                            |                         |                          |                        |                         |              |                           |
|                        |                         | 13901                        | 10.5  | 10.08        | 652B-40<br>(28721)            | 10<br>7.5                     | 13216<br>9912                | I<br>II        | F652B-40-B11<br>(28722)        | F652BF-40-B11<br>(28723)    | PUTF<br>NUTF             | —<br>—                                             |                         |                          |                        |                         |              |                           |
|                        |                         |                              |       |              |                               | 5                             | 6608                         | III            | F652B-40-B9<br>(28724)         | F652BF-40-B9<br>(28725)     | MUTF                     | PM18500                                            |                         |                          |                        |                         |              |                           |
|                        |                         | 26314                        | 19.37 | 18.60        | 662B-40<br>(28726)            | 15                            | 20337                        | II             | F662B-40-B13<br>(28727)        | —                           | RUTF                     | —                                                  |                         |                          |                        |                         |              |                           |
|                        |                         |                              |       |              |                               | 10<br>7.5                     | 13558<br>10168               | III            | F662B-40-B11<br>(28728)        | F662BF-40-B11<br>(28729)    | PUTF<br>NUTF             | —<br>—                                             |                         |                          |                        |                         |              |                           |
|                        |                         | 35                           | 50    | 796          | .45                           | 0.42                          | 613C-50<br>(28730)           | .33<br>.25     | 549<br>416                     | II<br>III                   | F613C-50-B5<br>(28731)   | F613CF-50-B5<br>(28732)                            | EUTF<br>DUTF            | PM933<br>PM925           |                        |                         |              |                           |
| 1699                   | 1                       |                              |       | 0.96         | 622B-50<br>(28733)            | 1<br>.75<br>.5                | 1699<br>1274<br>849          | I<br>II<br>III | F622B-50-B5<br>(28734)         | F622BF-50-B5<br>(28735)     | HUTF-5/8<br>GUTF<br>FUTF | PM9100-5/8<br>PM18100-5/8<br>PM975/PM1875<br>PM950 |                         |                          |                        |                         |              |                           |
|                        |                         |                              |       |              |                               | 4024                          | 2.32                         | 2.23           |                                |                             | 632B-50<br>(28736)       | 2<br>1.5                                           | 3469<br>2602            | I<br>II                  | F632B-50-B7<br>(28737) | F632BF-50-B7<br>(28738) | KUTF<br>JUTF | PM18200<br>PM18150        |
|                        |                         |                              |       |              |                               |                               |                              |                |                                |                             |                          | 1                                                  | 1735                    | III                      | F632B-50-B5<br>(28740) | F632BF-50-B5<br>(28741) | HUTF-5/8     | PM9100-5/8<br>PM18100-5/8 |
| 6100                   | 3.46                    |                              |       | 3.25         | 643B-50<br>(28742)            | 3                             | 5288                         | I              | F643B-50-B9<br>(28743)         | F643BF-50-B9<br>(28744)     | LUTF                     | PM18300                                            |                         |                          |                        |                         |              |                           |
|                        |                         |                              |       |              |                               | 2<br>1.5                      | 3525<br>2644                 | II<br>III      | F643B-50-B7<br>(28745)         | F643BF-50-B7<br>(28746)     | KUTF<br>JUTF             | PM18200<br>PM18150                                 |                         |                          |                        |                         |              |                           |
|                        |                         |                              |       |              |                               | 14004                         | 8.03                         | 7.71           | 652B-50<br>(28747)             | 7.5<br>5<br>3               | 13048<br>8699<br>5219    | I<br>II<br>III                                     | F652B-50-B11<br>(28748) | F652BF-50-B11<br>(28749) | NUTF                   | —                       |              |                           |
| F652B-50-B9<br>(28750) | F652BF-50-B9<br>(28751) |                              |       | MUTF<br>LUTF | —<br>PM18300                  |                               |                              |                |                                |                             |                          |                                                    |                         |                          |                        |                         |              |                           |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Page 291-296.

\*\* Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

†† DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 334, 340 and 341.

Overhung Load Ratings refer to Pages 277.

# 600 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 291-296.  
ORDER BY CATALOG NUMBER OR ITEM CODE.

| Output<br>RPM | Ratio* | Non-Flanged Reducers         |       |        |                               | Flanged Reducers (Gearmotors) |                              |        |                                |                             | AC<br>Motors† | DC<br>Motors†† |
|---------------|--------|------------------------------|-------|--------|-------------------------------|-------------------------------|------------------------------|--------|--------------------------------|-----------------------------|---------------|----------------|
|               |        | Gear Capacity                |       |        | Catalog<br>No.<br>(Item Code) | Ratings                       |                              |        | Catalog Numbers<br>(Item Code) |                             |               |                |
|               |        | Output<br>Torque<br>(LB-IN.) | HP    |        |                               | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | S.C.** | Foot<br>Mounted                | Output<br>Flange<br>Mounted |               |                |
|               |        |                              | Input | Output |                               |                               |                              |        |                                |                             |               |                |
| 35<br>(Cont)  | 50     | 26496                        | 15.39 | 14.77  | 662B-50<br>(28752)            | 15                            | 25770                        | I      | F662B-50-B13<br>(28753)        | —                           | RUTF          | —              |
|               |        |                              |       |        |                               | 10                            | 17180                        | II     | F662B-50-B11<br>(28754)        | F662BF-50-B11<br>(28755)    | PUTF          | —              |
|               |        |                              |       |        |                               | 7.5                           | 12885                        | III    |                                |                             | NUTF          | PM18500        |
| 28            | 63     | 800                          | .4    | 0.38   | 613C-63<br>(28756)            | .33                           | 715                          | I      | F613C-63-B5<br>(28757)         | F613CF-63-B5<br>(28758)     | EUTF          | PM933          |
|               |        |                              |       |        |                               | .25                           | 542                          | II     |                                |                             | DUTF          | PM925          |
|               |        | 1406                         | .63   | 0.59   | 623B-63<br>(28759)            | .5                            | 1104                         | I      | F623B-63-B5<br>(28760)         | F623BF-63-B5<br>(28761)     | FUTF          | PM950          |
|               |        |                              |       |        |                               | .33                           | 729                          | II     |                                |                             | EUTF          | PM933          |
|               |        |                              |       |        |                               | .25                           | 552                          | III    |                                |                             | DUTF          | PM925          |
|               |        | 4038                         | 1.85  | 1.74   | 633B-63<br>(28762)            | 1.5                           | 3259                         | I      | F633B-63-B7<br>(28763)         | F633BF-63-B7<br>(28764)     | JUTF          | PM18150        |
|               |        |                              |       |        |                               | 1                             | 2173                         | II     | F633B-63-B5<br>(28765)         | F633BF-63-B5<br>(28766)     | HUTF-5/8      | PM9100-5/8     |
|               |        |                              |       |        |                               | .75                           | 1629                         | III    |                                |                             | GUTF          | PM18100-5/8    |
|               |        |                              |       |        |                               |                               |                              |        |                                |                             | PM975         |                |
|               |        | 6100                         | 2.73  | 2.57   | 643B-63<br>(28767)            | 2                             | 4474                         | I      | F643B-63-B7<br>(28768)         | F643BF-63-B7<br>(28769)     | KUTF          | PM18200        |
|               |        |                              |       |        |                               | 1.5                           | 3356                         | II     |                                |                             | JUTF          | PM18150        |
|               |        |                              |       |        |                               | 1                             | 2237                         | III    | F643B-63-B5<br>(28770)         | F643BF-63-B5<br>(28771)     | HUTF-5/8      | PM9100 5/8     |
|               |        | 14084                        | 6.48  | 6.09   | 653B-63<br>(28772)            | 5                             | 10817                        | II     | F653B-63-B9<br>(28773)         | F653BF-63-B9<br>(28774)     | MUTF          | PM18500        |
|               |        |                              |       |        |                               | 3                             | 6490                         | III    |                                |                             | LUTF          | PM18300        |
|               |        | 23239                        | 11.13 | 10.46  | 663B-63<br>(28775)            | 10                            | 20791                        | I      | F663B-63-B11<br>(28776)        | F663BF-63-B11<br>(28777)    | PUTF          | —              |
|               |        |                              |       |        |                               | 7.5                           | 15593                        | II     |                                |                             | NUTF          | —              |
|               |        |                              |       |        |                               | 5                             | 10396                        | II     | F663B-63-B9<br>(28778)         | F663BF-63-B9<br>(28779)     | MUTF          | PM18500        |
| 22            | 80     | 1519                         | .54   | 0.51   | 623B-80<br>(28780)            | .5                            | 1375                         | I      | F623B-80-B5<br>(28781)         | F623BF-80-B5<br>(28782)     | FUTF          | PM950          |
|               |        |                              |       |        |                               | .33                           | 908                          | II     |                                |                             | EUTF          | PM933          |
|               |        |                              |       |        |                               | .25                           | 688                          | III    |                                |                             | DUTF          | PM925          |
|               |        | 4038                         | 1.53  | 1.44   | 633B-80<br>(28783)            | 1.5                           | 3952                         | I      | F633B-80-B7<br>(28784)         | F633BF-80-B7<br>(28785)     | JUTF          | PM18150        |
|               |        |                              |       |        |                               | 1                             | 2635                         | II     | F633B-80-B5<br>(28786)         | F633BF-80-B5<br>(28787)     | HUTF-5/8      | PM9100-5/8     |
|               |        |                              |       |        |                               | .75                           | 1976                         | III    |                                |                             | GUTF          | PM18100-5/8    |
|               |        |                              |       |        |                               |                               |                              |        |                                | PM975                       |               |                |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Page 291-296.

\*\* Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

†† DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 334, 340 and 341.

Overhung Load Ratings refer to Pages 277.

# 600 Series Output RPM and Capacity Selection Tables

@ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 291-296.  
ORDER BY CATALOG NUMBER OR ITEM CODE.

| Output<br>RPM | Ratio* | Non-Flanged Reducers         |       |        |                               | Flanged Reducers (Gearmotors) |                              |                |                                |                             | AC<br>Motors†            | DC<br>Motors††                                     |                         |                          |                  |                                              |
|---------------|--------|------------------------------|-------|--------|-------------------------------|-------------------------------|------------------------------|----------------|--------------------------------|-----------------------------|--------------------------|----------------------------------------------------|-------------------------|--------------------------|------------------|----------------------------------------------|
|               |        | Gear Capacity                |       |        | Catalog<br>No.<br>(Item Code) | Ratings                       |                              |                | Catalog Numbers<br>(Item Code) |                             |                          |                                                    |                         |                          |                  |                                              |
|               |        | Output<br>Torque<br>(LB-IN.) | HP    |        |                               | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | S.C.**         | Foot<br>Mounted                | Output<br>Flange<br>Mounted |                          |                                                    |                         |                          |                  |                                              |
|               |        |                              | Input | Output |                               |                               |                              |                |                                |                             |                          |                                                    |                         |                          |                  |                                              |
| 22<br>(Cont)  | 80     | 6100                         | 2.2   | 2.07   | 643B-80<br>(28788)            | 2<br>1.5                      | 5473<br>4104                 | I<br>II        | F643B-80-B7<br>(28789)         | F643BF-80-B7<br>(28790)     | KUTF<br>JUTF             | PM18200<br>PM18150                                 |                         |                          |                  |                                              |
|               |        |                              |       |        |                               | 1                             | 2736                         | III            | F643B-80-B5<br>(28791)         | F643BF-80-B5<br>(28792)     | HUTF-5/8                 | PM9100-5/8<br>PM18100-5/8                          |                         |                          |                  |                                              |
|               |        | 14152                        | 5.2   | 4.89   | 653B-80<br>(28793)            | 5<br>3                        | 13558<br>8135                | I<br>II        | F653B-80-B9<br>(28794)         | F653BF-80-B9<br>(28796)     | MUTF<br>LUTF             | PM18500<br>PM18300                                 |                         |                          |                  |                                              |
|               |        |                              |       |        |                               | 2                             | 5423                         | III            | F653B-80-B7<br>(28797)         | F653BF-80-B7<br>(28798)     | KUTF                     | PM18200                                            |                         |                          |                  |                                              |
|               |        | 25562                        | 9.74  | 9.16   | 663B-80<br>(28799)            | 7.5                           | 19604                        | I              | F663B-80-B11<br>(28800)        | F663BF-80-B11<br>(28801)    | MUTF                     | PM18500                                            |                         |                          |                  |                                              |
|               |        |                              |       |        |                               | 5                             | 13069                        | III            | F663B-80-B9<br>(28802)         | F663BF-80-B9<br>(28803)     | LUTF                     | PM18300                                            |                         |                          |                  |                                              |
| 18            | 100    | 1618                         | .48   | 0.45   | 623B-100<br>(28804)           | .33<br>.25                    | 1110<br>841                  | I<br>III       | F623B-100-B5<br>(28805)        | F623BF-100-B5<br>(28806)    | EUTF<br>DUTF             | PM933<br>PM925                                     |                         |                          |                  |                                              |
|               |        | 4038                         | 1.21  | 1.14   | 633B-100<br>(28808)           | 1<br>.75<br>.5                | 3324<br>2493<br>1662         | I<br>II<br>III | F633B-100-B5<br>(28809)        | F633BF-100-B5<br>(28810)    | HUTF-5/8<br>GUTF<br>FUTF | PM9100-5/8<br>PM18100-5/8<br>PM975/PM1875<br>PM950 |                         |                          |                  |                                              |
|               |        |                              |       |        |                               | 6100                          | 1.78                         | 1.67           | 643B-100<br>(28811)            | 1.5                         | 5133                     | I                                                  | F643B-100-B7<br>(28812) | F643BF-100-B7<br>(28813) | JUTF             | PM18150                                      |
|               |        |                              |       |        |                               |                               |                              |                |                                | 1<br>.75                    | 3422<br>2567             | II<br>III                                          | F643B-100-B5<br>(28814) | F643BF-100-B5<br>(28815) | HUTF-5/8<br>GUTF | PM9100-5/8<br>PM18100-5/8<br>PM975<br>PM1875 |
|               |        | 14222                        | 4.04  | 3.80   | 653B-100<br>(28816)           | 2<br>1.5                      | 7008<br>5256                 | I<br>II        | F653B-100-B7<br>(28817)        | F653BF-100-B7<br>(28818)    | KUTF<br>JUTF             | PM18200<br>PM18150                                 |                         |                          |                  |                                              |
|               |        |                              |       |        |                               | 1                             | 3504                         | III            | F653B-100-B5<br>(28819)        | F653BF-100-B5<br>(28820)    | HUTF-5/8                 | PM9100-5/8<br>PM18100-5/8                          |                         |                          |                  |                                              |
|               |        | 26602                        | 8.03  | 7.55   | 663B-100<br>(28821)           | 7.5                           | 24753                        | I              | F663B-100-B11<br>(28822)       | F663BF-100-B11<br>(28823)   | NUTF                     | —                                                  |                         |                          |                  |                                              |
|               |        |                              |       |        |                               | 5<br>3                        | 16502<br>9901                | II<br>III      | F663B-100-B9<br>(28824)        | F663BF-100-B9<br>(28825)    | MUTF<br>LUTF             | PM18500<br>PM18300                                 |                         |                          |                  |                                              |
|               |        | 14                           | 125   | 1744   | .41                           | 0.39                          | 623B-125<br>(28826)          | .33<br>.25     | 1389<br>1052                   | I<br>II                     | F623B-125-B5<br>(28827)  | F623BF-125-B5<br>(28828)                           | EUTF<br>DUTF            | PM933<br>PM925           |                  |                                              |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Page 291-296.

\*\* Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

†† DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 334, 340 and 341.

Overhung Load Ratings refer to Pages 277.

# 600 Series Output RPM and Capacity Selection Tables

## @ 1750 RPM Input

FOR RATINGS AT OTHER INPUT SPEEDS, SEE TABLES ON PAGES 291-296.  
ORDER BY CATALOG NUMBER OR ITEM CODE.

| Output<br>RPM | Ratio* | Non-Flanged Reducers         |       |        |                               | Flanged Reducers (Gearmotors) |                              |        |                                |                             |                          | AC<br>Motors†                                         | DC<br>Motors††            |
|---------------|--------|------------------------------|-------|--------|-------------------------------|-------------------------------|------------------------------|--------|--------------------------------|-----------------------------|--------------------------|-------------------------------------------------------|---------------------------|
|               |        | Gear Capacity                |       |        | Catalog<br>No.<br>(Item Code) | Ratings                       |                              |        | Catalog Numbers<br>(Item Code) |                             |                          |                                                       |                           |
|               |        | Output<br>Torque<br>(LB-IN.) | HP    |        |                               | Motor<br>HP                   | Output<br>Torque<br>(LB-IN.) | S.C.** | Foot<br>Mounted                | Output<br>Flange<br>Mounted |                          |                                                       |                           |
|               |        |                              | Input | Output |                               |                               |                              |        |                                |                             |                          |                                                       |                           |
| 14            | 125    | 4038                         | .97   | 0.91   | 633B-125<br>(28829)           | .75                           | 3121                         | I      | F633B-125-B5<br>(28830)        | F633BF-125-B5<br>(28831)    | GUTF<br>FUTF<br>EUTF     | PM975<br>PM1875<br>PM950<br>PM933                     |                           |
|               |        |                              |       |        |                               | .5                            | 2080                         | II     |                                |                             |                          |                                                       |                           |
|               |        |                              |       |        |                               | .33                           | 1373                         | III    |                                |                             |                          |                                                       |                           |
|               |        | 6100                         | 1.45  | 1.36   | 643B-125<br>(28832)           | 1                             | 4214                         | I      | F643B-125-B5<br>(28833)        | F643BF-125-B5<br>(28834)    | HUTF-5/8<br>GUTF<br>FUTF | PM9100-5/8<br>PM18100-5/8<br>PM975<br>PM1875<br>PM950 |                           |
|               |        |                              |       |        |                               | .75                           | 3161                         | II     |                                |                             |                          |                                                       |                           |
|               |        |                              |       |        |                               | .5                            | 2107                         | III    |                                |                             |                          |                                                       |                           |
|               |        | 14277                        | 3.25  | 3.06   | 653B-125<br>(28835)           | 3                             | 13125                        | I      | F653B-125-B9<br>(28836)        | F653BF-125-B9<br>(28839)    | LUTF<br>KUTF             | PM18300<br>PM18200                                    |                           |
|               |        |                              |       |        |                               | 2                             | 8750                         | II     |                                |                             |                          |                                                       |                           |
|               |        |                              |       |        |                               |                               | 1.5                          | 6562   | III                            | F653B-125-B7<br>(28840)     | F653BF-125-B7<br>(28841) | JUTF                                                  | PM18150                   |
|               |        |                              |       |        |                               |                               | 5                            | 20653  | II                             |                             |                          |                                                       |                           |
|               |        |                              |       |        |                               |                               | 3                            | 12392  | III                            |                             |                          |                                                       |                           |
| 11            | 160    | 6100                         | 1.10  | 1.03   | 643B-160<br>(28847)           | 1                             | 5485                         | I      | F643B-160-B5<br>(28848)        | F643BF-160-B5<br>(28849)    | HUTF-5/8<br>GUTF<br>FUTF | PM9100-5/8<br>PM18100-5/8<br>PM975<br>PM1875<br>PM950 |                           |
|               |        |                              |       |        |                               | .75                           | 4114                         | II     |                                |                             |                          |                                                       |                           |
|               |        |                              |       |        |                               | .5                            | 2743                         | III    |                                |                             |                          |                                                       |                           |
|               |        | 14317                        | 2.72  | 2.56   | 653B-160<br>(28850)           | 2                             | 10489                        | I      | F653B-160-B7<br>(28851)        | F653BF-160-B7<br>(28853)    | KUTF<br>JUTF             | PM18200<br>PM18150                                    |                           |
|               |        |                              |       |        |                               | 1.5                           | 7867                         | II     |                                |                             |                          |                                                       |                           |
|               |        |                              |       |        |                               |                               | 1                            | 5245   | III                            | F653B-160-B5<br>(28854)     | F653BF-160-B5<br>(28855) | HUTF-5/8                                              | PM9100-5/8<br>PM18100-5/8 |
|               |        |                              |       |        |                               |                               | 5                            | 26881  | I                              |                             |                          |                                                       |                           |
|               |        |                              |       |        |                               |                               | 3                            | 16128  | II                             |                             |                          |                                                       |                           |
|               |        |                              |       |        |                               |                               | 2                            | 10752  | III                            | F663B-160-B7<br>(28859)     | F663BF-160-B7<br>(28860) | KUTF                                                  | PM18200                   |
|               |        |                              |       |        |                               |                               |                              |        |                                |                             |                          |                                                       |                           |

\* Gear Ratio is Approximate. For Actual Gear Ratio Reference Page 291-296.

\*\* Class I (S.F. = 1.00) Class II (S.F. = 1.50) Class III (S.F. = 2.00)

† AC Motors – 230/460-3-60 TEFC, for specific motor manufacturers and 5 digit item code refer to pages 337-339.

†† DC Motors – 90 VDC or 180 VDC where applicable, for specific motor manufacturers and 5 digit item code ref. pages 334, 340 and 341.

Overhung Load Ratings refer to Pages 277.

# 600 Series Ratio and Capacity Selection Tables

## Non-Flanged Reducers; Input Speeds 1750 and 1160 RPM

Service Factor 1.0\*

| Catalog Number† | Item Code | Input Speed        |                             |                 |                    |                              |                 | Gear Ratio†† |
|-----------------|-----------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|--------------|
|                 |           | 1750 RPM           |                             |                 | 1160 RPM           |                              |                 |              |
|                 |           | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |              |
| 621B-1.6        | 28000     | 1094               | 338                         | 6.15            | 725                | 399                          | 4.8             | 1.56         |
| 631B-1.6        | 28005     | 1094               | 623                         | 11.39           | 725                | 708                          | 8.58            | 1.55         |
| 641B-1.6        | 28010     | 1094               | 761                         | 13.43           | 725                | 897                          | 10.49           | 1.61         |
| 651B-1.6        | 28015     | 1094               | 2292                        | 41.74           | 725                | 2378                         | 28.7            | 1.56         |
| 661B-1.6        | 28017     | 1094               | 3230                        | 57.18           | 725                | 3677                         | 43.14           | 1.6          |
| 611C-2          | 28019     | 875                | 212                         | 3.06            | 580                | 212                          | 2.03            | 1.96         |
| 621B-2          | 28022     | 875                | 399                         | 5.65            | 580                | 442                          | 4.14            | 2            |
| 631B-2          | 28027     | 875                | 708                         | 10.35           | 580                | 708                          | 6.86            | 1.94         |
| 641B-2          | 28032     | 875                | 1030                        | 14.33           | 580                | 1214                         | 11.2            | 2.04         |
| 651B-2          | 28037     | 875                | 2521                        | 36.29           | 580                | 2610                         | 24.9            | 1.97         |
| 661B-2          | 28039     | 875                | 3735                        | 52.88           | 580                | 4256                         | 39.95           | 2            |
| 611C-2.5        | 28041     | 700                | 275                         | 3.06            | 464                | 276                          | 2.03            | 2.55         |
| 621B-2.5        | 28044     | 700                | 442                         | 4.86            | 464                | 442                          | 3.22            | 2.58         |
| 631B-2.5        | 28049     | 700                | 708                         | 7.88            | 464                | 708                          | 5.22            | 2.55         |
| 641B-2.5        | 28054     | 700                | 1273                        | 13.96           | 464                | 1327                         | 9.65            | 2.58         |
| 651B-2.5        | 28059     | 700                | 2745                        | 30.62           | 464                | 2835                         | 20.96           | 2.54         |
| 661B-2.5        | 28062     | 700                | 4152                        | 48.17           | 464                | 4731                         | 36.38           | 2.44         |
| 611C-3.2        | 28064     | 557                | 340                         | 2.98            | 368                | 348                          | 2.02            | 3.24         |
| 621B-3.2        | 28067     | 557                | 442                         | 3.86            | 368                | 442                          | 2.56            | 3.25         |
| 631B-3.2        | 28073     | 557                | 708                         | 6.50            | 368                | 708                          | 4.31            | 3.09         |
| 641B-3.2        | 28076     | 557                | 1127                        | 10.10           | 368                | 1327                         | 7.89            | 3.16         |
| 651B-3.2        | 28081     | 557                | 2894                        | 25.76           | 368                | 2903                         | 17.13           | 3.18         |
| 661B-3.2        | 28086     | 557                | 4655                        | 42.96           | 368                | 5221                         | 31.94           | 3.07         |
| 611C-4          | 28088     | 438                | 372                         | 2.58            | 290                | 380                          | 1.75            | 4.08         |
| 621B-4          | 28093     | 438                | 442                         | 3.19            | 290                | 442                          | 2.11            | 3.93         |
| 631B-4          | 28098     | 438                | 708                         | 5.15            | 290                | 708                          | 3.41            | 3.89         |
| 641B-4          | 28108     | 438                | 1315                        | 9.42            | 290                | 1327                         | 6.31            | 3.95         |
| 651B-4          | 28113     | 438                | 2903                        | 20              | 290                | 2903                         | 13.26           | 4.11         |
| 661B-4          | 28119     | 438                | 5221                        | 38.16           | 290                | 5221                         | 25.3            | 3.88         |
| 611C-5          | 28121     | 350                | 192                         | 1.05            | 230                | 179                          | 0.65            | 5.17         |
| 621B-5          | 28124     | 350                | 442                         | 2.55            | 230                | 442                          | 1.69            | 4.92         |
| 631B-5          | 28129     | 350                | 708                         | 4.11            | 230                | 708                          | 2.73            | 4.88         |
| 641B-5          | 28134     | 350                | 1327                        | 7.73            | 230                | 1327                         | 5.12            | 4.87         |
| 651B-5          | 28140     | 350                | 2903                        | 16.01           | 230                | 2903                         | 10.62           | 5.13         |
| 661B-5          | 28145     | 350                | 5221                        | 30.49           | 230                | 5221                         | 20.21           | 4.85         |
| 622B-6.3        | 28147     | 278                | 1251                        | 5.63            | 183                | 1252                         | 3.73            | 6.43         |
| 632B-6.3        | 28152     | 278                | 2208                        | 10.45           | 183                | 2208                         | 6.92            | 6.1          |
| 642B-6.3        | 28157     | 278                | 3615                        | 16.28           | 183                | 3615                         | 10.79           | 6.41         |
| 652B-6.3        | 28162     | 278                | 7883                        | 36.83           | 183                | 8159                         | 25.13           | 6.21         |
| 662B-6.3        | 28164     | 278                | 11903                       | 53.87           | 183                | 12354                        | 37.06           | 6.38         |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 348-349, before selection.

† Reducer dimensions can be found on pages 297-302.

†† Gear Ratio is the actual ratio rounded to the nearest hundredth.

# 600 Series Ratio and Capacity Selection Tables

## Non-Flanged Reducers; Input Speeds 690 and 100 RPM

Service Factor 1.0\*

| Catalog Number† | Item Code | Input Speed        |                             |                 |                    |                              |                 | Gear Ratio†† |
|-----------------|-----------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|--------------|
|                 |           | 690 RPM            |                             |                 | 100 RPM            |                              |                 |              |
|                 |           | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |              |
| 621B-1.6        | 28000     | 431                | 425                         | 3.04            | 63                 | 425                          | 0.44            | 1.56         |
| 631B-1.6        | 28005     | 431                | 708                         | 5.10            | 63                 | 708                          | 0.74            | 1.55         |
| 641B-1.6        | 28010     | 431                | 959                         | 6.65            | 63                 | 959                          | 0.96            | 1.61         |
| 651B-1.6        | 28015     | 431                | 2411                        | 17.27           | 63                 | 2411                         | 2.50            | 1.56         |
| 661B-1.6        | 28017     | 431                | 3677                        | 25.67           | 63                 | 3677                         | 3.72            | 1.6          |
| 611C-2          | 28019     | 345                | 210                         | 1.20            | 50                 | 210                          | 0.17            | 1.96         |
| 621B-2          | 28022     | 345                | 442                         | 2.47            | 50                 | 442                          | 0.36            | 2            |
| 631B-2          | 28027     | 345                | 708                         | 4.08            | 50                 | 708                          | 0.59            | 1.94         |
| 641B-2          | 28032     | 345                | 1327                        | 7.27            | 50                 | 1327                         | 1.05            | 2.04         |
| 651B-2          | 28037     | 345                | 2870                        | 16.28           | 50                 | 2870                         | 2.36            | 1.97         |
| 661B-2          | 28039     | 345                | 4731                        | 26.43           | 50                 | 4731                         | 3.83            | 2            |
| 611C-2.5        | 28041     | 276                | 276                         | 1.21            | 40                 | 276                          | 0.18            | 2.55         |
| 621B-2.5        | 28044     | 276                | 442                         | 1.91            | 40                 | 442                          | 0.28            | 2.58         |
| 631B-2.5        | 28049     | 276                | 708                         | 3.10            | 40                 | 708                          | 0.45            | 2.55         |
| 641B-2.5        | 28054     | 276                | 1327                        | 5.75            | 40                 | 1327                         | 0.83            | 2.58         |
| 651B-2.5        | 28059     | 276                | 2870                        | 12.62           | 40                 | 2870                         | 1.83            | 2.54         |
| 661B-2.5        | 28062     | 276                | 4731                        | 21.66           | 40                 | 4731                         | 3.14            | 2.44         |
| 611C-3.2        | 28064     | 240                | 350                         | 1.21            | 31                 | 350                          | 0.17            | 3.24         |
| 621B-3.2        | 28067     | 216                | 442                         | 1.52            | 31                 | 442                          | 0.22            | 3.25         |
| 631B-3.2        | 28073     | 216                | 708                         | 2.56            | 31                 | 708                          | 0.37            | 3.09         |
| 641B-3.2        | 28076     | 216                | 1327                        | 4.69            | 31                 | 1327                         | 0.68            | 3.16         |
| 651B-3.2        | 28081     | 216                | 2903                        | 10.20           | 31                 | 2903                         | 1.48            | 3.18         |
| 661B-3.2        | 28086     | 216                | 5221                        | 19.00           | 31                 | 5221                         | 2.75            | 3.07         |
| 611C-4          | 28088     | 173                | 375                         | 1.03            | 25                 | 375                          | 0.15            | 4.08         |
| 621B-4          | 28093     | 173                | 442                         | 1.26            | 25                 | 442                          | 0.18            | 3.93         |
| 631B-4          | 28098     | 173                | 708                         | 2.03            | 25                 | 708                          | 0.29            | 3.89         |
| 641B-4          | 28108     | 173                | 1327                        | 3.75            | 25                 | 1327                         | 0.54            | 3.95         |
| 651B-4          | 28113     | 173                | 2903                        | 7.89            | 25                 | 2903                         | 1.14            | 4.11         |
| 661B-4          | 28119     | 173                | 5221                        | 15.03           | 25                 | 5221                         | 2.18            | 3.88         |
| 611C-5          | 28121     | 138                | 178                         | 0.38            | 20                 | 178                          | 0.06            | 5.17         |
| 621B-5          | 28124     | 138                | 442                         | 1.00            | 20                 | 442                          | 0.15            | 4.92         |
| 631B-5          | 28129     | 138                | 708                         | 1.62            | 20                 | 708                          | 0.23            | 4.88         |
| 641B-5          | 28134     | 138                | 1327                        | 3.04            | 20                 | 1327                         | 0.44            | 4.87         |
| 651B-5          | 28140     | 138                | 2903                        | 6.32            | 20                 | 2903                         | 0.92            | 5.13         |
| 661B-5          | 28145     | 138                | 5221                        | 12.03           | 20                 | 5221                         | 1.74            | 4.85         |
| 622B-6.3        | 28147     | 110                | 1252                        | 2.22            | 16                 | 1252                         | 0.32            | 6.43         |
| 632B-6.3        | 28152     | 110                | 2208                        | 4.13            | 16                 | 2208                         | 0.60            | 6.1          |
| 642B-6.3        | 28157     | 110                | 3615                        | 6.43            | 16                 | 3615                         | 0.93            | 6.41         |
| 652B-6.3        | 28162     | 110                | 8267                        | 15.18           | 16                 | 8267                         | 2.20            | 6.21         |
| 662B-6.3        | 28164     | 110                | 12531                       | 22.40           | 16                 | 12531                        | 3.25            | 6.38         |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 348-349, before selection.

† Reducer dimensions can be found on pages 297-302.

†† Gear Ratio is the actual ratio rounded to the nearest hundredth.

# 600 Series Ratio and Capacity Selection Tables

## Non-Flanged Reducers; Input Speeds 1750 and 1160 RPM

Service Factor 1.0\*

| Catalog Number† | Item Code | Input Speed        |                             |                 |                    |                              |                 | Gear Ratio†† |
|-----------------|-----------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|--------------|
|                 |           | 1750 RPM           |                             |                 | 1160 RPM           |                              |                 |              |
|                 |           | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |              |
| 612C-8          | 28166     | 219                | 762                         | 2.69            | 144                | 775                          | 1.82            | 8.16         |
| 622B-8          | 28171     | 219                | 1252                        | 4.37            | 144                | 1252                         | 2.89            | 8.28         |
| 632B-8          | 28176     | 219                | 2208                        | 7.95            | 144                | 2208                         | 5.27            | 8.02         |
| 642B-8          | 28181     | 219                | 3615                        | 12.83           | 144                | 3615                         | 8.5             | 8.14         |
| 652B-8          | 28186     | 219                | 10329                       | 38.77           | 144                | 10729                        | 26.69           | 7.69         |
| 662B-8          | 28188     | 219                | 18252                       | 66.63           | 144                | 18254                        | 44.17           | 7.92         |
| 612C-10         | 28190     | 175                | 768                         | 2.17            | 115                | 777                          | 1.46            | 10.2         |
| 622B-10         | 28195     | 175                | 1252                        | 3.46            | 115                | 1252                         | 2.3             | 10.43        |
| 632B-10         | 28201     | 175                | 2208                        | 6.56            | 115                | 2208                         | 4.35            | 9.72         |
| 642B-10         | 28204     | 175                | 3615                        | 10.49           | 115                | 3615                         | 6.95            | 9.95         |
| 652B-10         | 28209     | 175                | 11933                       | 35.65           | 115                | 13476                        | 26.68           | 9.67         |
| 662B-10         | 28211     | 175                | 20956                       | 60.86           | 115                | 22907                        | 44.17           | 9.94         |
| 612C-12.5       | 28213     | 140                | 772                         | 1.82            | 92                 | 776                          | 1.22            | 12.23        |
| 622B-12.5       | 28218     | 140                | 1252                        | 2.87            | 92                 | 1252                         | 1.9             | 12.61        |
| 632B-12.5       | 28223     | 140                | 2208                        | 5.2             | 92                 | 2208                         | 3.44            | 12.27        |
| 642B-12.5       | 28228     | 140                | 3615                        | 8.39            | 92                 | 3615                         | 5.56            | 12.45        |
| 652B-12.5       | 28232     | 140                | 12844                       | 30.33           | 92                 | 13603                        | 21.29           | 12.23        |
| 662B-12.5       | 28235     | 140                | 23128                       | 47.77           | 92                 | 24062                        | 37.06           | 12.43        |
| 612C-16         | 28251     | 109                | 777                         | 1.46            | 72                 | 785                          | 0.98            | 15.35        |
| 622B-16         | 28256     | 109                | 1252                        | 2.29            | 72                 | 1252                         | 1.52            | 15.79        |
| 632B-16         | 28291     | 109                | 2208                        | 4.15            | 72                 | 2208                         | 2.75            | 15.36        |
| 642B-16         | 28330     | 109                | 3615                        | 6.81            | 72                 | 3615                         | 4.51            | 15.33        |
| 652B-16         | 28366     | 109                | 13452                       | 24.63           | 72                 | 13728                        | 16.66           | 15.77        |
| 662B-16         | 28390     | 109                | 23788                       | 45.28           | 72                 | 25221                        | 31.82           | 15.17        |
| 612C-20         | 28396     | 88                 | 783                         | 1.12            | 58                 | 792                          | 0.75            | 20.24        |
| 622B-20         | 28570     | 88                 | 1252                        | 1.8             | 58                 | 1252                         | 1.19            | 20.07        |
| 632B-20         | 28589     | 88                 | 2208                        | 3.21            | 58                 | 2208                         | 2.13            | 19.87        |
| 642B-20         | 28594     | 88                 | 3615                        | 6               | 58                 | 3615                         | 3.47            | 17.33        |
| 652B-20         | 28650     | 88                 | 13601                       | 19.86           | 58                 | 13829                        | 13.39           | 19.77        |
| 662B-20         | 28654     | 88                 | 24111                       | 36.51           | 58                 | 24929                        | 25.02           | 19.07        |
| 612C-25         | 28656     | 70                 | 787                         | 0.89            | 46                 | 787                          | 0.59            | 25.59        |
| 622B-25         | 28659     | 70                 | 877                         | 1               | 46                 | 867                          | 0.65            | 25.39        |
| 632B-25         | 28663     | 70                 | 2208                        | 2.51            | 46                 | 2208                         | 1.66            | 25.44        |
| 642B-25         | 28668     | 70                 | 3615                        | 4.23            | 46                 | 3615                         | 2.8             | 24.68        |
| 652B-25         | 28674     | 70                 | 13727                       | 15.52           | 46                 | 13932                        | 10.44           | 25.55        |
| 662B-25         | 28679     | 70                 | 25876                       | 31.03           | 46                 | 26310                        | 20.91           | 24.08        |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 348-349, before selection.

† Reducer dimensions can be found on pages 297-302.

†† Gear Ratio is the actual ratio rounded to the nearest hundredth.

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# 600 Series Ratio and Capacity Selection Tables

## Non-Flanged Reducers; Input Speeds 690 and 100 RPM

Service Factor 1.0\*

| Catalog Number† | Item Code | Input Speed        |                             |                 |                    |                              |                 | Gear Ratio†† |
|-----------------|-----------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|--------------|
|                 |           | 690 RPM            |                             |                 | 100 RPM            |                              |                 |              |
|                 |           | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |              |
| 612C-8          | 28166     | 86                 | 779                         | 1.09            | 13                 | 779                          | 0.16            | 8.16         |
| 622B-8          | 28171     | 86                 | 1252                        | 1.72            | 13                 | 1252                         | 0.25            | 8.28         |
| 632B-8          | 28176     | 86                 | 2208                        | 3.14            | 13                 | 2208                         | 0.46            | 8.02         |
| 642B-8          | 28181     | 86                 | 3615                        | 5.06            | 13                 | 3615                         | 0.73            | 8.14         |
| 652B-8          | 28186     | 86                 | 10887                       | 16.15           | 13                 | 10887                        | 2.34            | 7.69         |
| 662B-8          | 28188     | 86                 | 18250                       | 26.28           | 13                 | 18250                        | 3.81            | 7.92         |
| 612C-10         | 28190     | 69                 | 783                         | 0.88            | 10                 | 783                          | 0.13            | 10.2         |
| 622B-10         | 28195     | 69                 | 1252                        | 1.37            | 10                 | 1252                         | 0.20            | 10.43        |
| 632B-10         | 28201     | 69                 | 2208                        | 2.59            | 10                 | 2208                         | 0.38            | 9.72         |
| 642B-10         | 28204     | 69                 | 3615                        | 4.14            | 10                 | 3615                         | 0.60            | 9.95         |
| 652B-10         | 28209     | 69                 | 13589                       | 16.03           | 10                 | 13589                        | 2.32            | 9.67         |
| 662B-10         | 28211     | 69                 | 22902                       | 26.28           | 10                 | 22902                        | 3.81            | 9.94         |
| 612C-12.5       | 28213     | 55                 | 786                         | 0.73            | 8                  | 786                          | 0.11            | 12.23        |
| 622B-12.5       | 28218     | 55                 | 1252                        | 1.13            | 8                  | 1252                         | 0.16            | 12.61        |
| 632B-12.5       | 28223     | 55                 | 2208                        | 2.05            | 8                  | 2208                         | 0.30            | 12.27        |
| 642B-12.5       | 28228     | 55                 | 3615                        | 3.31            | 8                  | 3615                         | 0.48            | 12.45        |
| 652B-12.5       | 28232     | 55                 | 13706                       | 12.78           | 8                  | 13706                        | 1.85            | 12.23        |
| 662B-12.5       | 28235     | 55                 | 24410                       | 22.40           | 8                  | 24410                        | 3.25            | 12.43        |
| 612C-16         | 28251     | 43                 | 790                         | 0.59            | 6                  | 790                          | 0.09            | 15.35        |
| 622B-16         | 28256     | 43                 | 1252                        | 0.90            | 6                  | 1252                         | 0.13            | 15.79        |
| 632B-16         | 28291     | 43                 | 2208                        | 1.64            | 6                  | 2208                         | 0.24            | 15.36        |
| 642B-16         | 28330     | 43                 | 3615                        | 2.69            | 6                  | 3615                         | 0.39            | 15.33        |
| 652B-16         | 28366     | 43                 | 13821                       | 9.99            | 6                  | 13821                        | 1.45            | 15.77        |
| 662B-16         | 28390     | 43                 | 25563                       | 19.22           | 6                  | 25563                        | 2.79            | 15.17        |
| 612C-20         | 28396     | 35                 | 794                         | 0.45            | 5                  | 794                          | 0.06            | 20.24        |
| 622B-20         | 28570     | 35                 | 1252                        | 0.71            | 5                  | 1252                         | 0.10            | 20.07        |
| 632B-20         | 28589     | 35                 | 2208                        | 1.27            | 5                  | 2208                         | 0.18            | 19.87        |
| 642B-20         | 28594     | 35                 | 3615                        | 2.38            | 5                  | 3615                         | 0.34            | 17.33        |
| 652B-20         | 28650     | 35                 | 13914                       | 8.03            | 5                  | 13914                        | 1.16            | 19.77        |
| 662B-20         | 28654     | 35                 | 25248                       | 15.10           | 5                  | 25248                        | 2.19            | 19.07        |
| 612C-25         | 28656     | 28                 | 798                         | 0.36            | 4                  | 798                          | 0.05            | 25.59        |
| 622B-25         | 28659     | 28                 | 861                         | 0.39            | 4                  | 861                          | 0.06            | 25.39        |
| 632B-25         | 28663     | 28                 | 2208                        | 0.99            | 4                  | 2208                         | 0.14            | 25.44        |
| 642B-25         | 28668     | 28                 | 3615                        | 1.67            | 4                  | 3615                         | 0.24            | 24.68        |
| 652B-25         | 28674     | 28                 | 14008                       | 6.25            | 4                  | 14008                        | 0.91            | 25.55        |
| 662B-25         | 28679     | 28                 | 26475                       | 12.54           | 4                  | 26475                        | 1.82            | 24.08        |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 348-349, before selection.

† Reducer dimensions can be found on pages 297-302.

†† Gear Ratio is the actual ratio rounded to the nearest hundredth.



# 600 Series Ratio and Capacity Selection Tables

## Non-Flanged Reducers; Input Speeds 1750 and 1160 RPM

Service Factor 1.0\*

| Catalog Number† | Item Code | Input Speed        |                             |                 |                    |                              |                 | Gear Ratio†† |
|-----------------|-----------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|--------------|
|                 |           | 1750 RPM           |                             |                 | 1160 RPM           |                              |                 |              |
|                 |           | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |              |
| 612C-32         | 28682     | 55                 | 791                         | 0.7             | 36                 | 821                          | .42             | 33.48        |
| 622B-32         | 28685     | 55                 | 1780                        | 1.68            | 36                 | 1799                         | 1.13            | 30.55        |
| 632B-32         | 28690     | 55                 | 3977                        | 3.79            | 36                 | 4023                         | 2.54            | 30.29        |
| 642B-32         | 28695     | 55                 | 5910                        | 5.4             | 36                 | 6416                         | 3.93            | 32.32        |
| 652B-32         | 28698     | 55                 | 13826                       | 12.52           | 36                 | 14014                        | 8.41            | 31.9         |
| 662B-32         | 28703     | 55                 | 26088                       | 25              | 36                 | 26487                        | 16.82           | 30.14        |
| 612C-40         | 28707     | 44                 | 794                         | 0.57            | 29                 | 799                          | 0.38            | 40.32        |
| 622B-40         | 28710     | 44                 | 1790                        | 1.33            | 29                 | 1804                         | 0.89            | 38.84        |
| 632B-40         | 28713     | 44                 | 4002                        | 2.95            | 29                 | 4038                         | 1.97            | 39.2         |
| 643B-40         | 28716     | 44                 | 6010                        | 4.3             | 29                 | 6100                         | 2.9             | 41.1         |
| 652B-40         | 28721     | 44                 | 13901                       | 10.5            | 29                 | 14074                        | 7.04            | 38.24        |
| 662B-40         | 28726     | 44                 | 26314                       | 19.37           | 29                 | 26673                        | 13.02           | 39.23        |
| 613C-50         | 28730     | 35                 | 796                         | 0.45            | 23                 | 803                          | 0.32            | 49.16        |
| 622B-50         | 28733     | 35                 | 1699                        | 1               | 23                 | 1666                         | 0.65            | 49.15        |
| 632B-50         | 28736     | 35                 | 4024                        | 2.32            | 23                 | 4038                         | 1.54            | 50.19        |
| 643B-50         | 28742     | 35                 | 6100                        | 3.46            | 23                 | 6100                         | 2.29            | 52.09        |
| 652B-50         | 28747     | 35                 | 14004                       | 8.03            | 23                 | 14158                        | 5.38            | 50.34        |
| 662B-50         | 28752     | 35                 | 26496                       | 15.39           | 23                 | 26823                        | 10.33           | 49.71        |
| 613C-63         | 28756     | 28                 | 800                         | 0.4             | 18                 | 785                          | 0.24            | 64.07        |
| 623B-63         | 28759     | 28                 | 1406                        | 0.63            | 18                 | 1657                         | 0.5             | 65.25        |
| 633B-63         | 28762     | 28                 | 4038                        | 1.85            | 18                 | 4038                         | 1.23            | 64.2         |
| 643B-63         | 28767     | 28                 | 6100                        | 2.73            | 18                 | 6100                         | 1.9             | 66.11        |
| 653B-63         | 28772     | 28                 | 14084                       | 6.48            | 18                 | 14223                        | 4.34            | 63.93        |
| 663B-63         | 28775     | 28                 | 23239                       | 11.13           | 18                 | 26947                        | 8.56            | 61.44        |
| 623B-80         | 28780     | 22                 | 1519                        | 0.54            | 14                 | 1790                         | 0.42            | 81.29        |
| 633B-80         | 28783     | 22                 | 4038                        | 1.53            | 14                 | 4038                         | 1.01            | 77.86        |
| 643B-80         | 28788     | 22                 | 6100                        | 2.2             | 14                 | 6100                         | 1.52            | 80.86        |
| 653B-80         | 28793     | 22                 | 14152                       | 5.2             | 14                 | 14278                        | 3.48            | 80.13        |
| 663B-80         | 28799     | 22                 | 25562                       | 9.74            | 14                 | 27062                        | 6.84            | 77.24        |
| 623B-100        | 28804     | 18                 | 1618                        | 0.48            | 12                 | 1804                         | 0.35            | 99.4         |
| 633B-100        | 28808     | 18                 | 4038                        | 1.21            | 12                 | 4038                         | 0.8             | 98.24        |
| 643B-100        | 28811     | 18                 | 6100                        | 1.78            | 12                 | 6100                         | 1.23            | 101.13       |
| 653B-100        | 28816     | 18                 | 14222                       | 4.04            | 12                 | 14334                        | 2.7             | 103.54       |
| 663B-100        | 28821     | 18                 | 26602                       | 8.03            | 12                 | 27177                        | 5.44            | 97.53        |
| 623B-125        | 28826     | 14                 | 1744                        | 0.41            | 9                  | 1804                         | 0.28            | 124.4        |
| 633B-125        | 28829     | 14                 | 4038                        | 0.97            | 9                  | 4038                         | 0.64            | 122.96       |
| 643B-125        | 28832     | 14                 | 6100                        | 1.45            | 9                  | 6100                         | 0.96            | 124.53       |
| 653B-125        | 28835     | 14                 | 14277                       | 3.25            | 9                  | 14378                        | 2.17            | 129.28       |
| 663B-125        | 28842     | 14                 | 27049                       | 6.52            | 9                  | 27265                        | 4.36            | 122.06       |
| 643B-160        | 28847     | 11                 | 6100                        | 1.1             | 7                  | 6100                         | 0.77            | 162.1        |
| 653B-160        | 28850     | 11                 | 14317                       | 2.72            | 7                  | 14410                        | 1.81            | 154.98       |
| 663B-160        | 28856     | 11                 | 27173                       | 5.03            | 7                  | 27372                        | 3.36            | 158.87       |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 348-349, before selection.

† Reducer dimensions can be found on pages 297-302.

†† Gear Ratio is the actual ratio rounded to the nearest hundredth.

# 600 Series Ratio and Capacity Selection Tables

## Non-Flanged Reducers; Input Speeds 690 and 100 RPM

Service Factor 1.0\*

K

| Catalog Number† | Item Code | Input Speed        |                             |                 |                    |                              |                 | Gear Ratio†† |
|-----------------|-----------|--------------------|-----------------------------|-----------------|--------------------|------------------------------|-----------------|--------------|
|                 |           | 690 RPM            |                             |                 | 100 RPM            |                              |                 |              |
|                 |           | Approx. Output RPM | Output Torque (LB-IN)(Max.) | Input HP (Max.) | Approx. Output RPM | Output Torque (LB-IN) (Max.) | Input HP (Max.) |              |
| 612C-32         | 28682     | 22                 | 800                         | 0.27            | 3                  | 800                          | 0.04            | 33.48        |
| 623B-32         | 28685     | 22                 | 1804                        | 0.67            | 3                  | 1804                         | 0.10            | 30.55        |
| 633B-32         | 28690     | 22                 | 4023                        | 1.51            | 3                  | 4023                         | 0.22            | 30.29        |
| 642B-32         | 28695     | 22                 | 6100                        | 2.15            | 3                  | 6100                         | 0.31            | 32.32        |
| 652B-32         | 28698     | 22                 | 14083                       | 5.03            | 3                  | 14083                        | 0.73            | 31.9         |
| 662B-32         | 28703     | 22                 | 26634                       | 10.08           | 3                  | 26634                        | 1.46            | 30.14        |
| 613C-40         | 28707     | 17                 | 800                         | 0.23            | 2.5                | 800                          | 0.03            | 40.32        |
| 623B-40         | 28710     | 17                 | 1804                        | 0.54            | 2.5                | 1804                         | 0.08            | 38.84        |
| 633B-40         | 28713     | 17                 | 4038                        | 1.20            | 2.5                | 4038                         | 0.17            | 39.2         |
| 643B-40         | 28716     | 17                 | 6100                        | 1.73            | 2.5                | 6100                         | 0.25            | 41.1         |
| 653B-40         | 28721     | 17                 | 14138                       | 4.31            | 2.5                | 14138                        | 0.62            | 38.24        |
| 663B-40         | 28726     | 17                 | 26802                       | 7.96            | 2.5                | 26802                        | 1.15            | 39.23        |
| 613C-50         | 28730     | 14                 | 796                         | 0.19            | 2                  | 796                          | 0.03            | 49.16        |
| 623B-50         | 28733     | 14                 | 1804                        | 0.43            | 2                  | 1804                         | 0.06            | 49.15        |
| 633B-50         | 28736     | 14                 | 4038                        | 0.94            | 2                  | 4038                         | 0.14            | 50.19        |
| 643B-50         | 28742     | 14                 | 6100                        | 1.36            | 2                  | 6100                         | 0.20            | 52.09        |
| 653B-50         | 28747     | 14                 | 14215                       | 3.29            | 2                  | 14215                        | 0.48            | 50.34        |
| 663B-50         | 28752     | 14                 | 26941                       | 6.31            | 2                  | 26941                        | 0.91            | 49.71        |
| 613C-63         | 28756     | 11                 | 800                         | 0.15            | 1.6                | 800                          | 0.02            | 64.07        |
| 623B-63         | 28759     | 11                 | 1804                        | 0.32            | 1.6                | 1804                         | 0.05            | 65.25        |
| 633B-63         | 28762     | 11                 | 4038                        | 0.73            | 1.6                | 4038                         | 0.11            | 64.2         |
| 643B-63         | 28767     | 11                 | 6100                        | 1.07            | 1.6                | 6100                         | 0.16            | 66.11        |
| 653B-63         | 28772     | 11                 | 14274                       | 2.60            | 1.6                | 14274                        | 0.38            | 63.93        |
| 663B-63         | 28775     | 11                 | 27053                       | 5.13            | 1.6                | 27053                        | 0.74            | 61.44        |
| 623B-80         | 28780     | 9                  | 1804                        | 0.26            | 1.3                | 1804                         | 0.04            | 81.29        |
| 633B-80         | 28783     | 9                  | 4038                        | 0.60            | 1.3                | 4038                         | 0.09            | 77.86        |
| 643B-80         | 28788     | 9                  | 6100                        | 0.88            | 1.3                | 6100                         | 0.13            | 80.86        |
| 653B-80         | 28793     | 9                  | 14324                       | 2.08            | 1.3                | 14324                        | 0.30            | 80.13        |
| 663B-80         | 28799     | 9                  | 27162                       | 4.10            | 1.3                | 27162                        | 0.59            | 77.24        |
| 623B-100        | 28804     | 7                  | 1804                        | 0.21            | 1                  | 1804                         | 0.03            | 99.4         |
| 633B-100        | 28808     | 7                  | 4038                        | 0.48            | 1                  | 4038                         | 0.07            | 98.24        |
| 643B-100        | 28811     | 7                  | 6100                        | 0.70            | 1                  | 6100                         | 0.10            | 101.13       |
| 653B-100        | 28816     | 7                  | 14375                       | 1.62            | 1                  | 14375                        | 0.23            | 103.54       |
| 663B-100        | 28821     | 7                  | 27260                       | 3.26            | 1                  | 27260                        | 0.47            | 97.53        |
| 623B-125        | 28826     | 6                  | 1380                        | 0.13            | 0.8                | 1380                         | 0.02            | 124.4        |
| 633B-125        | 28829     | 6                  | 4038                        | 0.38            | 0.8                | 4038                         | 0.06            | 122.96       |
| 643B-125        | 28832     | 6                  | 6100                        | 0.57            | 0.8                | 6100                         | 0.08            | 124.53       |
| 653B-125        | 28835     | 6                  | 14415                       | 1.30            | 0.8                | 14415                        | 0.19            | 129.28       |
| 663B-125        | 28842     | 6                  | 27348                       | 2.61            | 0.8                | 27348                        | 0.38            | 122.06       |
| 643B-160        | 28847     | 4                  | 6100                        | 0.44            | 0.6                | 6100                         | 0.06            | 162.1        |
| 653B-160        | 28850     | 4                  | 14444                       | 1.09            | 0.6                | 14444                        | 0.16            | 154.98       |
| 663B-160        | 28856     | 4                  | 27442                       | 2.01            | 0.6                | 27442                        | 0.29            | 158.87       |

\* For applications requiring a service factor greater than 1.0, multiply the design torque or horsepower by the application factor, found on pages 348-349, before selection.

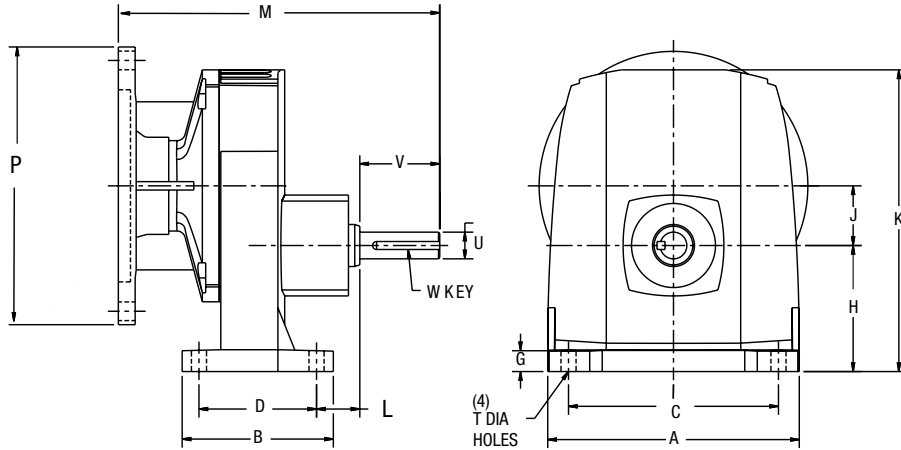
† Reducer dimensions can be found on pages 297-302.

†† Gear Ratio is the actual ratio rounded to the nearest hundredth.

# 600 Series Single Reduction Flanged Reducer Dimensions

## F600B Series – Flanged Quill Type Foot Mounted

K



| Size | A     | B    | C     | D    | G    | H    | J    | K     | L    |
|------|-------|------|-------|------|------|------|------|-------|------|
| 611C | 5.90  | 3.54 | 4.92  | 2.76 | .48  | 2.95 | 1.40 | 7.07  | 1.01 |
| 621B | 6.14  | 4.13 | 4.72  | 2.95 | .71  | 3.15 | 1.83 | 8.24  | .71  |
| 631B | 7.08  | 4.48 | 5.52  | 3.15 | .77  | 3.54 | 2.48 | 9.76  | .75  |
| 641B | 9.69  | 5.30 | 7.48  | 3.94 | 1.00 | 4.41 | 2.76 | 11.69 | 1.08 |
| 651B | 11.02 | 6.59 | 8.50  | 4.92 | 1.33 | 5.20 | 3.43 | 13.90 | 1.10 |
| 661B | 13.65 | 7.76 | 10.24 | 6.30 | 1.71 | 6.30 | 4.33 | 17.36 | 1.18 |

| Size | M             |       |       |       |       | T   | Low Speed Shaft |      |       |        | Approx. Weight (lb.) |
|------|---------------|-------|-------|-------|-------|-----|-----------------|------|-------|--------|----------------------|
|      | NEMA Mounting |       |       |       |       |     | *U              | V    | W-Key |        |                      |
|      | B5            | B7    | B9    | B11   | B13   |     |                 |      | Sq.   | Length |                      |
|      | 56C           | 140TC | 180TC | 210TC | 250TC |     |                 |      |       |        |                      |
| 611C | 8.50          | 8.50  | --    | --    | --    | .35 | .625            | 1.88 | 3/16  | 1.48   | 11                   |
| 621B | 10.43         | 10.43 | 12.15 | --    | --    | .43 | .750            | 1.50 | 3/16  | 1.28   | 30                   |
| 631B | 11.05         | 11.05 | 12.77 | 12.77 | --    | .55 | 1.000           | 2.00 | 1/4   | 1.56   | 40                   |
| 641B | --            | --    | 14.17 | 14.17 | --    | .63 | 1.375           | 2.75 | 5/16  | 2.40   | 62                   |
| 651B | --            | --    | --    | 15.54 | 16.75 | .71 | 1.500           | 3.00 | 3/8   | 2.56   | 68                   |
| 661B | --            | --    | --    | --    | 17.48 | .79 | 1.750           | 3.50 | 3/8   | 3.06   | 89                   |
| P    | 9.00          | 9.00  | 9.00  |       |       |     |                 |      |       |        |                      |

Output shaft rotation is opposite input shaft rotation.

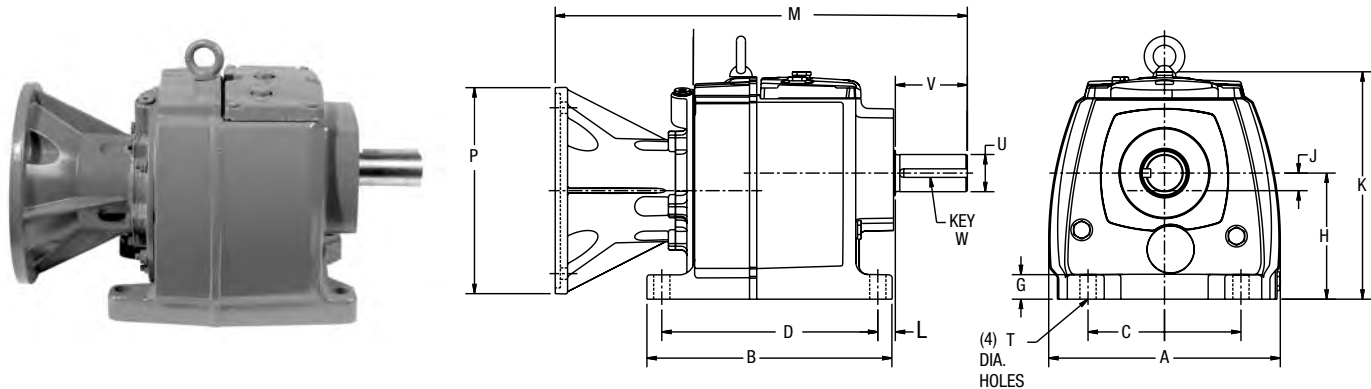
\* Shaft extension tolerance: +.0000"; -.0005" up to 1.5" diameter inclusive. Larger diameters: +.000; -.001".

Dimensions to rough casting are approximate.

# 600 Series Double & Triple Reduction Flanged Reducer Dimensions

## F600B Series – Flanged Quill Type Foot Mounted

K



| Size      | A     | B         | C     | D         | G    | H    | J    | K     | L    |
|-----------|-------|-----------|-------|-----------|------|------|------|-------|------|
| 612C/613C | 5.90  | 4.92/5.71 | 4.92  | 4.13/4.92 | .48  | 2.95 | .28* | 6.00  | .87  |
| 622B/623B | 6.76  | 7.68      | 4.33  | 6.50      | .71  | 3.54 | .33  | 6.60  | .59  |
| 632B/633B | 8.72  | 8.50      | 5.32  | 7.56      | .84  | 4.53 | .39  | 7.97  | .51  |
| 642B/643B | 10.13 | 10.72     | 6.68  | 9.45      | 1.07 | 5.51 | .77  | 9.94  | .77  |
| 652B/653B | 12.00 | 10.86     | 9.06  | 9.25      | 1.37 | 7.09 | 1.02 | 11.89 | .98  |
| 662B/663B | 14.19 | 12.89     | 11.02 | 11.02     | 1.73 | 8.86 | 1.14 | 14.84 | 1.10 |

\* 612/613 Only "J" is Higher than "H".

| Size      | M             |       |       |       |       | T   | Low Speed Shaft |      |       |        | Approx. Weight (lb.) |
|-----------|---------------|-------|-------|-------|-------|-----|-----------------|------|-------|--------|----------------------|
|           | NEMA Mounting |       |       |       |       |     | *U              | V    | W-Key |        |                      |
|           | B5            | B7    | B9    | B11   | B13   |     |                 |      | Sq.   | Length |                      |
|           | 56C           | 140TC | 180TC | 210TC | 250TC |     |                 |      |       |        |                      |
| 612C/613C | 9.29/10.08    | --    | --    | --    | --    | .35 | .750            | 1.75 | 3/16  | 1.48   | 17                   |
| 622B/623B | 13.00         | 13.00 | 14.72 | --    | --    | .35 | 1.000           | 2.00 | 1/4   | 1.56   | 45                   |
| 632B/633B | 14.17         | 14.17 | 15.89 | 15.89 | --    | .55 | 1.250           | 2.50 | 1/4   | 2.16   | 61                   |
| 642B/643B | 16.31         | 16.31 | 18.03 | 18.03 | 18.66 | .71 | 1.500           | 3.00 | 3/8   | 2.56   | 90                   |
| 652B/653B | 17.88         | 17.88 | 19.60 | 19.60 | 20.81 | .71 | 2.125           | 3.50 | 1/2   | 3.06   | 95                   |
| 662B/663B | --            | 20.29 | 22.01 | 22.01 | 23.24 | .87 | 2.375           | 4.72 | 5/8   | 4.19   | 165                  |
| P         | 6.50          | 6.50  | 9.00  | 9.00  | 9.00  |     |                 |      |       |        |                      |

Output shaft rotation, relative to input shaft rotation, is identical for double reduction and opposite for triple reduction reducers.

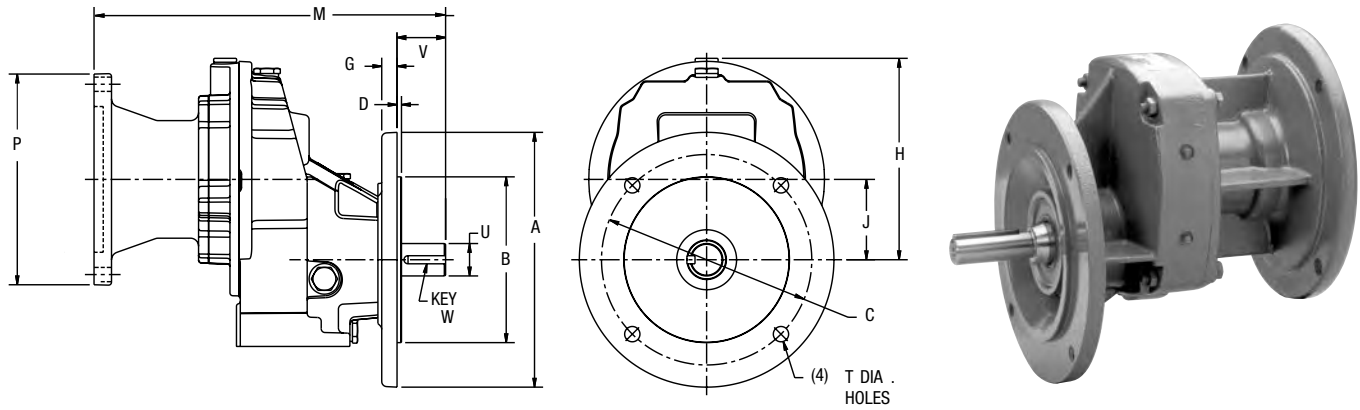
\* Shaft extension tolerance: +.0000"; -.0005" up to 1.5" diameter inclusive. Larger diameters: +.000; -.001".

Dimensions to rough casting are approximate.

# 600 Series Single Reduction Flanged Reducer Dimensions

## F600B Series – Flanged Quill Type Output Flange Mounted

K



| Size   | A     | B    | C     | D   | G   | H    | J    |
|--------|-------|------|-------|-----|-----|------|------|
| 611CF* | 6.50  | 4.50 | 5.88  | .12 | .39 | 4.65 | 1.40 |
| 621BF  | 6.30  | 4.33 | 5.12  | .14 | .39 | 4.82 | 1.83 |
| 631BF  | 7.87  | 5.12 | 6.50  | .14 | .47 | 6.22 | 2.48 |
| 641BF  | 9.83  | 7.09 | 8.46  | .16 | .47 | 7.28 | 2.76 |
| 651BF  | 11.80 | 9.06 | 10.43 | .16 | .59 | 8.70 | 3.43 |

\* Output flange to NEMA 56C dimensions. (611CF only)

| Size  | M             |       |       |       | T          | Low Speed Shaft |      |       |        | Approx. Weight (lb.) |
|-------|---------------|-------|-------|-------|------------|-----------------|------|-------|--------|----------------------|
|       | NEMA Mounting |       |       |       |            | *U              | V    | W-Key |        |                      |
|       | B5            | B7    | B9    | B11   |            |                 |      | Sq.   | Length |                      |
|       | 56C           | 140TC | 180TC | 210TC |            |                 |      |       |        |                      |
| 611CF | 8.51          | 8.51  | --    | --    | 3/8-16 UNC | .625            | 2.06 | 3/16  | 1.48   | 13                   |
| 621BF | 10.74         | 10.74 | 12.46 | --    | .35        | .750            | 1.50 | 3/16  | 1.28   | 33                   |
| 631BF | 10.86         | 10.86 | 12.58 | 12.58 | .47        | 1.000           | 1.50 | 1/4   | 1.16   | 44                   |
| 641BF | --            | --    | 14.56 | 14.56 | .55        | 1.375           | 2.75 | 5/16  | 2.40   | 68                   |
| 651BF | --            | --    | --    | 16.31 | .55        | 1.500           | 3.00 | 3/8   | 2.56   | 76                   |
| P     | 6.50          | 6.50  | 9.00  | 9.00  |            |                 |      |       |        |                      |

Output shaft rotation is opposite input shaft rotation.

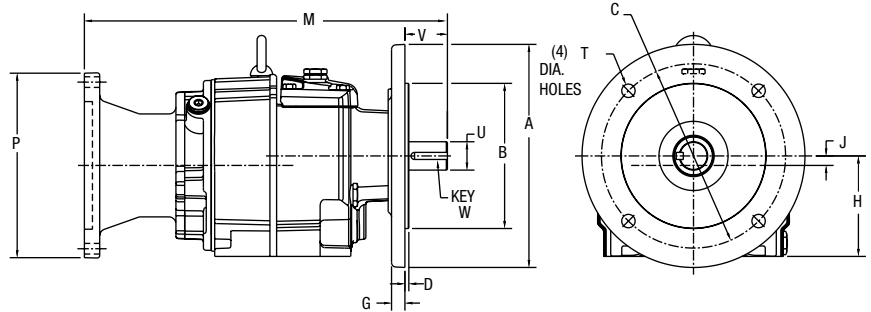
\* Shaft extension tolerance: +.0000"; -.0005" up to 1.5" diameter inclusive. Larger diameters: +.000; -.001".  
Dimensions to rough casting are approximate.

# 600 Series Double & Triple Reduction Flanged Reducer Dimensions

## F600B Series – Flanged Quill Type

### Output Flange Mounted

K



| Size         | A     | B     | C     | D   | G   | H    | J    |
|--------------|-------|-------|-------|-----|-----|------|------|
| 612CF/613CF* | 6.50  | 4.50  | 5.88  | .12 | .39 | 2.48 | .28‡ |
| 622BF/623BF  | 7.87  | 5.12  | 6.50  | .14 | .47 | 3.54 | .33  |
| 632BF/633BF  | 9.83  | 7.09  | 8.46  | .16 | .47 | 4.53 | .39  |
| 642BF/643BF  | 11.80 | 9.06  | 10.43 | .16 | .47 | 5.51 | .77  |
| 652BF/653BF  | 13.77 | 9.84  | 11.81 | .16 | .59 | 7.09 | 1.02 |
| 662BF/663BF  | 15.75 | 11.81 | 13.78 | .20 | .71 | 8.86 | 1.14 |

\* Output flange to NEMA 56C dimensions. (612CF/613CF only)

‡ 612/613 "J" is higher than "H"

| Size        | M             |            |       |       | T          | Low Speed Shaft |      |       |        | Approx. Weight (lb.) |
|-------------|---------------|------------|-------|-------|------------|-----------------|------|-------|--------|----------------------|
|             | NEMA Mounting |            |       |       |            | *U              | V    | W-Key |        |                      |
|             | B5            | B7         | B9    | B11   |            |                 |      | Sq.   | Length |                      |
|             | 56C           | 140TC      | 180TC | 210TC |            |                 |      |       |        |                      |
| 612CF/613CF | 9.60/10.39    | 9.60/10.39 | --    | --    | 3/8-16 UNC | .625            | 2.06 | 3/16  | 1.48   | 18                   |
| 622BF/623BF | 12.81         | 12.81      | 14.53 | --    | .47        | 1.000           | 1.50 | 1/4   | 1.16   | 47                   |
| 632BF/633BF | 14.56         | 14.56      | 16.28 | 16.28 | .55        | 1.250           | 2.50 | 1/4   | 2.16   | 65                   |
| 642BF/643BF | 17.18         | 17.18      | 18.90 | 18.90 | .55        | 1.500           | 3.00 | 3/8   | 2.56   | 98                   |
| 652BF/653BF | 18.63         | 18.63      | 20.35 | 20.35 | .71        | 2.125           | 3.50 | 1/2   | 3.06   | 103                  |
| 662BF/663BF | --            | 21.26      | 22.99 | 22.99 | .71        | 2.375           | 4.72 | 5/8   | 4.19   | 174                  |
| P           | 6.50          | 6.50       | 9.00  | 9.00  |            |                 |      |       |        |                      |

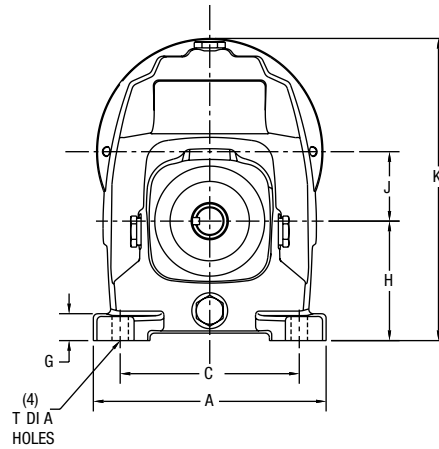
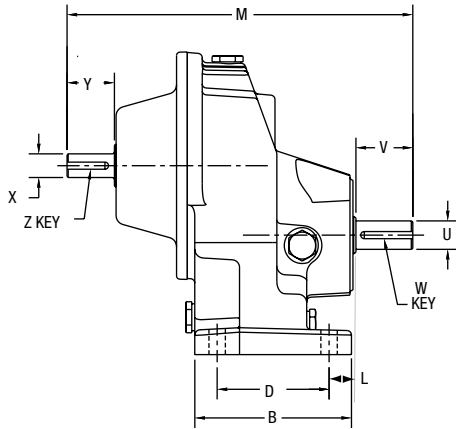
Output shaft rotation, relative to input shaft rotation, is identical for double reduction and opposite for triple reduction reducers.

\* Shaft extension tolerance: +.0000"; -.0005" up to 1.5" diameter inclusive. Larger diameters: +.000; -.001".

Dimensions to rough casting are approximate.

# 600 Series Single Reduction Non-Flanged Reducer Dimensions

## 600B Series Foot Mounted



K

| Size | A     | B    | C     | D    | G    | H    | J    | K     | L    | M     |
|------|-------|------|-------|------|------|------|------|-------|------|-------|
| 611C | 5.90  | 3.54 | 4.92  | 2.76 | .48  | 2.95 | 1.40 | 7.07  | 1.01 | 8.77  |
| 621B | 6.14  | 4.13 | 4.72  | 2.95 | .71  | 3.15 | 1.83 | 7.97  | .71  | 9.12  |
| 631B | 7.28  | 4.48 | 5.52  | 3.15 | .77  | 3.54 | 2.48 | 9.67  | .75  | 9.74  |
| 641B | 9.69  | 5.30 | 7.48  | 3.94 | 1.00 | 4.41 | 2.76 | 11.69 | 1.08 | 12.88 |
| 651B | 11.02 | 6.59 | 8.50  | 4.92 | 1.34 | 5.20 | 3.43 | 13.90 | 1.10 | 14.35 |
| 661B | 13.65 | 7.76 | 10.24 | 6.30 | 1.61 | 6.30 | 4.33 | 17.37 | 1.18 | 16.73 |

| Size | T   | Low Speed Shaft |      |       |        | High Speed Shaft |      |           |        | Approx. Weight (lb.) |
|------|-----|-----------------|------|-------|--------|------------------|------|-----------|--------|----------------------|
|      |     | *U              | V    | W-Key |        | *X               | Y    | Z-Key     |        |                      |
|      |     |                 |      | Sq.   | Length |                  |      | Sq.       | Length |                      |
| 611C | .35 | .625            | 1.88 | 3/16  | 1.48   | .500             | 1.00 | 9/32 Flat |        | 9                    |
| 621B | .43 | .750            | 1.50 | 3/16  | 1.28   | .625             | 1.25 | 3/16      | 1.00   | 23                   |
| 631B | .55 | 1.000           | 2.00 | 1/4   | 1.56   | .625             | 1.25 | 3/16      | 1.00   | 28                   |
| 641B | .63 | 1.375           | 2.75 | 5/16  | 2.40   | 1.125            | 2.25 | 1/4       | 1.94   | 55                   |
| 651B | .71 | 1.500           | 3.00 | 3/8   | 2.56   | 1.125            | 2.25 | 1/4       | 1.94   | 66                   |
| 661B | .79 | 1.750           | 3.50 | 3/8   | 3.06   | 1.375            | 2.75 | 5/16      | 2.31   | 89                   |

Output shaft rotation is opposite input shaft rotation.

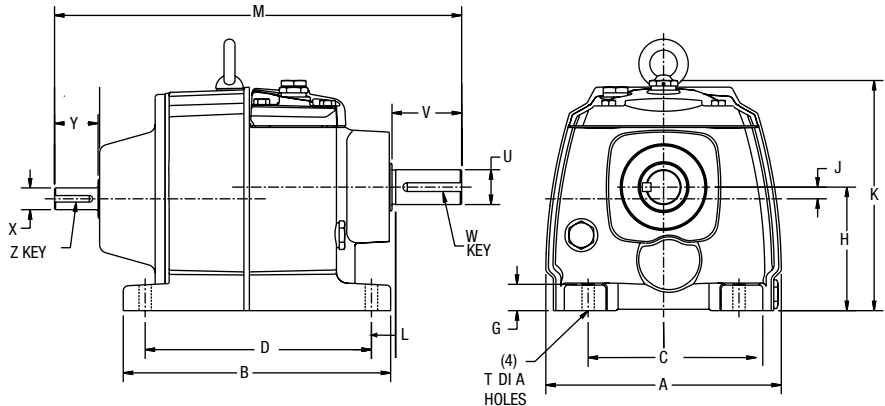
\* Shaft extension tolerance: +.0000"; -.0005" up to 1.5" diameter inclusive. Larger diameters: +.000; -.001".

Dimensions to rough casting are approximate.

# 600 Series Double & Triple Reduction Non-Flanged Reducer Dimensions

## 600B Series Foot Mounted

K



| Size      | A     | B         | C     | D         | G    | H    | J    | K     | L    | M          |
|-----------|-------|-----------|-------|-----------|------|------|------|-------|------|------------|
| 612C/613C | 5.90  | 4.92/5.71 | 4.92  | 4.13/4.92 | .48  | 2.95 | .28* | 6.00  | .87  | 9.56/10.35 |
| 622B/623B | 6.76  | 7.68      | 4.33  | 6.50      | .71  | 3.54 | .33  | 6.60  | .59  | 11.69      |
| 632B/633B | 8.72  | 8.50      | 5.32  | 7.56      | .84  | 4.53 | .39  | 7.97  | .51  | 12.86      |
| 642B/643B | 10.13 | 10.72     | 6.68  | 9.45      | 1.07 | 5.51 | .77  | 9.94  | .77  | 16.59      |
| 652B/653B | 12.00 | 10.86     | 9.06  | 9.25      | 1.37 | 7.09 | 1.02 | 11.89 | .98  | 18.41      |
| 662B/663B | 14.19 | 12.89     | 11.02 | 11.02     | 1.73 | 8.86 | 1.14 | 14.84 | 1.10 | 22.45      |

\* 612C/613C Only "J" is higher than "H".

| Size      | T   | Low Speed Shaft |      |       |        | High Speed Shaft |      |           |        | Approx. Weight (lb.) |
|-----------|-----|-----------------|------|-------|--------|------------------|------|-----------|--------|----------------------|
|           |     | *U              | V    | W-Key |        | *X               | Y    | Z-Key     |        |                      |
|           |     |                 |      | Sq.   | Length |                  |      | Sq.       | Length |                      |
| 612C/613C | .35 | .750            | 1.75 | 3/16  | 1.48   | .500             | 1.00 | 9/32 Flat |        | 15                   |
| 622B/623B | .35 | 1.000           | 2.00 | 1/4   | 1.56   | .625             | 1.25 | 3/16      | 1.00   | 37                   |
| 632B/633B | .55 | 1.250           | 2.50 | 1/4   | 2.16   | .625             | 1.25 | 3/16      | 1.00   | 50                   |
| 642B/643B | .71 | 1.500           | 3.00 | 3/8   | 2.56   | 1.125            | 2.25 | 1/4       | 1.94   | 87                   |
| 652B/653B | .71 | 2.125           | 3.50 | 1/2   | 3.06   | 1.125            | 2.25 | 1/4       | 1.94   | 99                   |
| 662B/663B | .87 | 2.375           | 4.72 | 5/8   | 4.15   | 1.375            | 2.75 | 5/16      | 2.31   | 198                  |

Output shaft rotation, relative to input shaft rotation, is identical for double reduction and opposite for triple reduction reducers.

\* Shaft extension tolerance: +.0000"; -.0005" up to 1.5" diameter inclusive. Larger diameters: +.000; -.001".

Dimensions to rough casting are approximate.





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## 600B SERIES – BOST-KLEEN™

- Washable and Scrubbable
- Durable, Non-Absorbent, Non-Toxic White Epoxy Finish, USDA Approved
- Standard NEMA C-Face and Projecting Input Shaft Configurations
- Single, Double and Triple Reducton Ratios – 1:6 TO 160:1
- Helical Gearing
- Output Mounting Flange Mount Attachment Available

## BISCC Certified Basic Model Numbers, Dimensions and Available Ratios

| WHITE BOST-KLEEN |            | STAINLESS BOST-KLEEN |             | NEMA Mounting           | INPUT SHAFT DIA.<br>+.000<br>-.001* | OUTPUT SHAFT DIA.<br>+.000<br>-.001* | AVAILABLE RATIOS |
|------------------|------------|----------------------|-------------|-------------------------|-------------------------------------|--------------------------------------|------------------|
| NON-FLANGED TYPE | QUILL TYPE | NON-FLANGED TYPE     | QUILL TYPE  |                         |                                     |                                      |                  |
| BK611            | BKF611     | SBK611               | SBKF611     | 56C                     | .500                                | .625                                 | ALL              |
| BK621            | BKF621     | SBK621               | SBKF621     | 56C,140TC,180TC         | .625                                | .750                                 | ALL              |
| BK631            | BKF631     | SBK631               | SBKF631     | 56C,140TC,180TC,210TC   | .625                                | 1.000                                | ALL              |
| BK641            | BKF641     | SBK641               | SBKF641     | 140TC,180TC,210TC,250TC | 1.125                               | 1.375                                | ALL              |
| BK651            | BKF651     | SBK651               | SBKF651     | 180TC,210TC,250TC       | 1.125                               | 1.500                                | ALL              |
| BK661            | BKF661     | SBK661               | SBKF661     | 210TC,250TC             | 1.375                               | 1.750                                | ALL              |
| BK612/613        | BKF612/613 | SBK612/613           | SBKF612/613 | 56C                     | .500                                | .625                                 | ALL              |
| BK622/623        | BKF622/623 | SBK622/623           | SBKF622/623 | 56C,140TC,180TC         | .625                                | 1.000                                | ALL              |
| BK632/633        | BKF632/633 | SBK632/633           | SBKF632/633 | 56C,140TC,180TC,210TC   | .625                                | 1.250                                | ALL              |
| BK642/643        | BKF642/643 | SBK642/643           | SBKF642/643 | 56C,140TC,180TC,210TC   | 1.125                               | 1.500                                | ALL              |
| BK652/653        | BKF652/653 | SBK652/653           | SBKF652/653 | 56C,140TC,180TC,210TC   | 1.125                               | 1.750                                | ALL              |
| BK662/663        | BKF662/663 | SBK662/663           | SBKF662/663 | 140TC,180TC,210TC       | 1.375                               | 2.375                                | ALL              |

\* Shaft extension tolerance: +.0000"; -.0005" up to 1.5" diameter inclusive. Larger diameters: +.000; -.001".

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Section Contents

Features / How To Order .....306

Selection Procedure..... 306-307

Dimensions .....307

Parts List .....308

# Right-90 Series Features / How to Order

## Spiral Bevel Gear

1:1 and 2:1 Ratios



Boston Right-90 Bevel Gear Drives are available with single or double output shaft projections in three sizes with Horsepowers ranging from .13 to 3.5.

### Features

- Spiral Bevel Gear Drives are designed for high efficiency, quiet operation and long service life. Gears are made of hardened alloy steel
- Precision ground alloy steel shafts are mounted on precision ball bearings
- Housings are made of aluminum alloy, with all mounting surfaces precision machined
- All shaft projections have high quality oil seals
- **Prelubricated for life**

### Selection Procedure

Catalog ratings are based on Class I service (uniform—no shock—load, operating no more than 10 hours/day). For applications meeting these conditions selection may be made by comparing the actual load to be transmitted with the appropriate catalog rating. For other conditions selection must be made, based on an equivalent horsepower or torque, obtained by multiplying actual load by the proper service factor.

#### Selection Procedure:

1. Determine the correct service factor using Applications Classification Chart—Pages 348 & 349. If the application is not listed, obtain service factor from Service Factor Chart, Page 349.
2. Multiply the actual output horsepower or torque by the service factor to obtain the equivalent rating required.
3. Establish input and output speed and/or gear ratio required for the enclosed drive.
4. Selection of all bevel gear drives should be based on Steps 1 through 3 using Selection Chart for desired input and output speeds (including speed increasing drives) that satisfy the required equivalent horsepower or torque.

### Reference

Lubrication—Prelubricated for Ambient  
Temperature Range of 50° to 125°F.

### How to Order

These units may be mounted in any position. When mounting by Flanges only, at least two Flanges must be secured.

**TO ORDER:** Specify Catalog Number and/or Item Code

**EXAMPLE:** RA1021 (49420)

### Order By Catalog Number or Item Code

| 2-Way SHAFT    |           | 3-Way SHAFT    |           | Ratios |
|----------------|-----------|----------------|-----------|--------|
| Catalog Number | Item Code | Catalog Number | Item Code |        |
| RA621          | 49416     | RA631          | 49418     | 1:1    |
| RA622          | 49417     | RA632          | 49419     | 2:1    |
| RA1021         | 49420     | RA1031         | 49422     | 1:1    |
| RA1022         | 49421     | RA1032         | 49423     | 2:1    |
| RA1521         | 49424     | RA1531         | 49426     | 1:1    |
| RA1522         | 49425     | RA1532         | 49427     | 2:1    |

| Thrust Load |             | Overhung Load (No Thrust) |
|-------------|-------------|---------------------------|
| RA6         | 50 lb max.  | 25 lb                     |
| RA10        | 100 lb max. | 50 lb                     |
| RA15        | 200 lb max. | 100 lb                    |

# Right-90 Series Selection Chart / Dimensions

## Right-90 Series

### BEVEL GEAR - RIGHT ANGLE SELECTION TABLES

(RATINGS FOR SERVICE FACTOR 1.0)

|                  | RATIO | X-SHAFT<br>INPUT<br>RPM | OUTPUT<br>RPM | RA621/631 |         | RA1021/1031 |         | RA1521/1531 |         |
|------------------|-------|-------------------------|---------------|-----------|---------|-------------|---------|-------------|---------|
|                  |       |                         |               | OUTPUT    |         | OUTPUT      |         | OUTPUT      |         |
|                  |       |                         |               | HP        | TORQUE† | HP          | TORQUE† | HP          | TORQUE† |
|                  | 1:1   | 1750                    | 1750          | .91       | 31.1    | 2.19        | 74.9    | 3.5         | 125     |
|                  |       | 1150                    | 1150          | .61       | 31.8    | 1.47        | 76.5    | 2.5         | 135     |
|                  |       | 690                     | 690           | .37       | 32.1    | 0.9         | 78.1    | 1.6         | 142     |
|                  |       | 100                     | 100           | .06       | 35.9    | 0.14        | 83.8    | .28         | 174     |
| <b>Reducer</b>   | 2:1   | 1750                    | 875           | .26       | 17.8    | 1.07        | 73.2    | 1.8         | 132     |
|                  |       | 1150                    | 575           | .176      | 18.3    | .72         | 75.0    | 1.4         | 150     |
|                  |       | 690                     | 345           | .108      | 18.7    | .44         | 76.4    | .89         | 162     |
|                  |       | 100                     | 50            | .016      | 19.2    | .07         | 73.8    | .14         | 175     |
| <b>Increase*</b> | 1:2   | 1750                    | 3500          | .13       | 2.4     | .55         | 10      | 1.8         | 33.0    |
|                  |       | 1150                    | 2300          | .10       | 2.6     | .40         | 11.2    | 1.4         | 37.5    |
|                  |       | 690                     | 1380          | .06       | 2.8     | .25         | 11.7    | .89         | 40.5    |
|                  |       | 100                     | 200           | .01       | 3.0     | .04         | 12.5    | .14         | 43.8    |



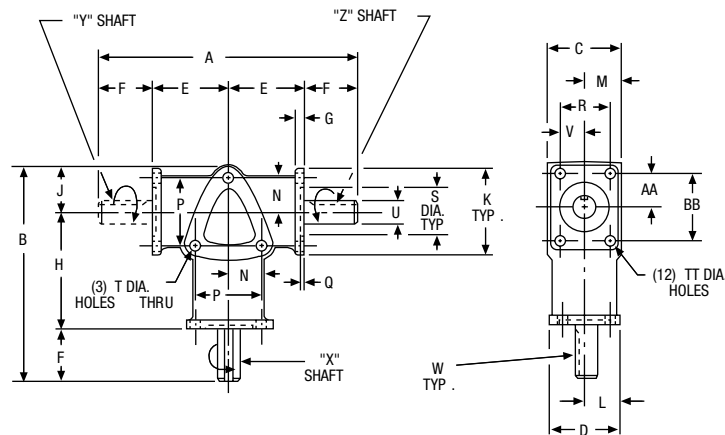
**NOTE:** See page 306 for features and how to order information.

\* Applicable ratings when used as a speed increaser, and driven by "Y" or "Z" shaft only.

† Torque (LB-IN.)

Input Horsepower approximately 5% higher than output horsepower shown above.

## Dimensions



ALL DIMENSIONS IN INCHES

"Y" shaft omitted in 2-way sizes

| Size | A     | B    | C    | D    | E    | F    | G   | H    | J    | K    | L    | M    |
|------|-------|------|------|------|------|------|-----|------|------|------|------|------|
| RA6  | 3.95  | 3.66 | 1.25 | 1.22 | 1.38 | .59  | .19 | 2.16 | .91  | 1.56 | .61  | .63  |
| RA10 | 7.25  | 6.03 | 2.00 | 1.94 | 2.13 | 1.50 | .25 | 3.25 | 1.28 | 2.44 | .97  | 1.00 |
| RA15 | 10.00 | 8.88 | 3.00 | 2.94 | 3.00 | 2.00 | .31 | 5.00 | 1.88 | 3.75 | 1.47 | 1.50 |

| Size | N    | P    | Q   | R    | S    | T<br>Holes | TT<br>Holes | U<br>+.000<br>-.001 | ALL SHAFTS |           | AA   | BB   | Approx.<br>Weight<br>(Lbs.) |
|------|------|------|-----|------|------|------------|-------------|---------------------|------------|-----------|------|------|-----------------------------|
|      |      |      |     |      |      |            |             |                     | V          | W Keyway  |      |      |                             |
| RA6  | .66  | 1.31 | .09 | .88  | .88  | .194       | .166        | .375                | .44        | Flat      | .59  | 1.19 | 3/4                         |
| RA10 | .94  | 1.88 | .09 | 1.38 | 1.38 | .266       | .266        | .625                | .69        | 3/16 3/32 | .94  | 1.88 | 2-3/4                       |
| RA15 | 1.50 | 3.00 | .13 | 2.25 | 2.13 | .323       | .323        | .750                | 1.13       | 3/16 3/32 | 1.50 | 3.00 | 8                           |

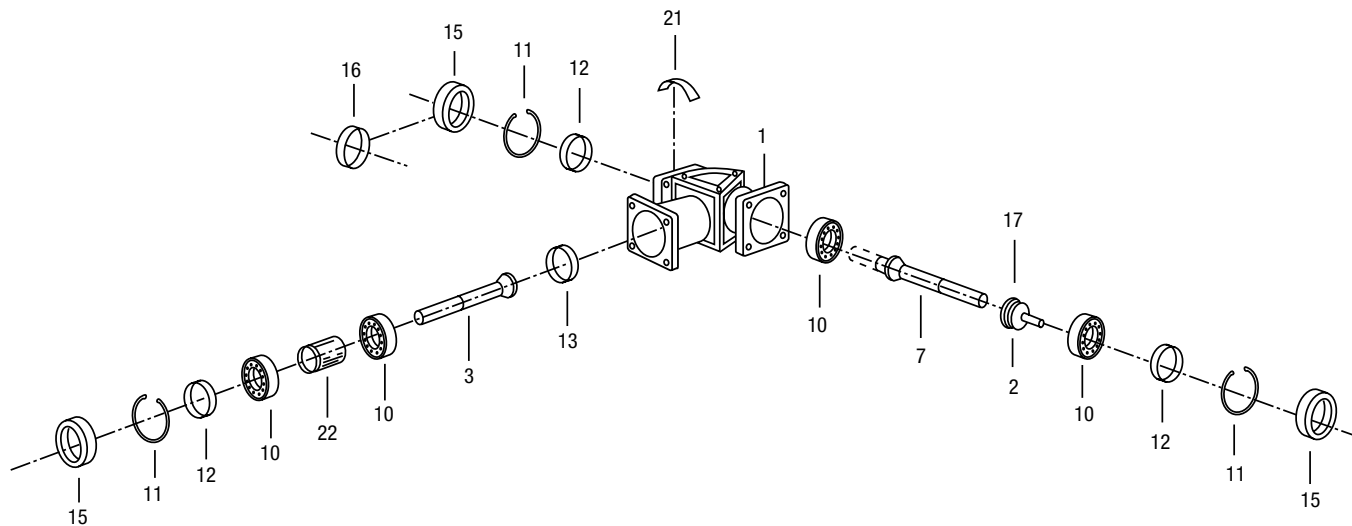
The letters X, Y and Z are used to designate specific shaft projections when ordering units with special shaft requirements.

**NOTE:** On 2:1 or 1:2 ratio's pinion will always be on X shaft.

No time relation between keyways on X, Y, or Z shafts.

# Right-90 Series Parts List

## RA600\*/RA1000/RA1500 Series



| Part No. | Description of Part  |
|----------|----------------------|
| 1        | HOUSING              |
| 2        | OUTPUT GEAR          |
| 3        | INPUT GEAR AND SHAFT |
| 7        | OUTPUT SHAFT         |
| 10       | BALL BEARING         |
| 11       | RETAINING RING       |
| 12       | ADJUSTMENT SHIM      |
| 13       | ADJUSTMENT SHIM      |
| 15       | OIL SEAL             |
| 16       | BORE PLUG            |
| 17       | PIN                  |
| 21       | NAMEPLATE            |
| 22       | SPACER               |

### Part Ordering Information

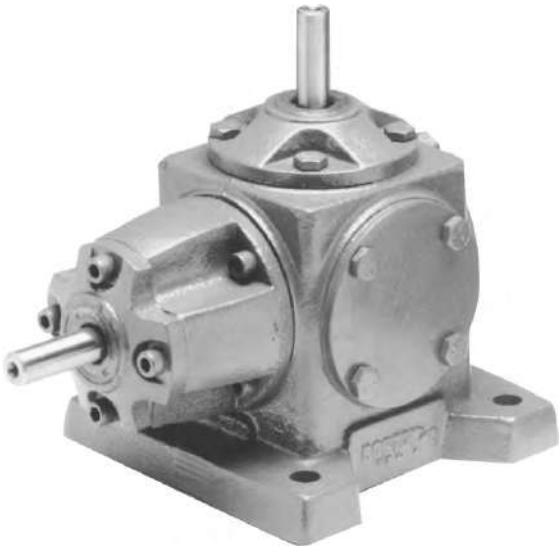
Be sure to provide complete Boston Gear catalog number from speed reducer nameplate, along with part description and number.

\* No replacement parts available.

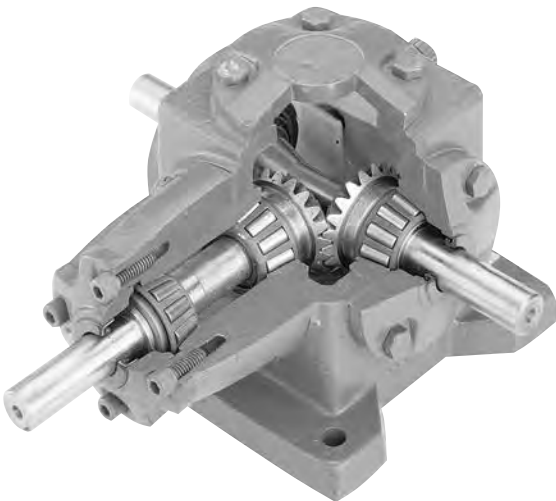
# R100/R200 Series & VR100/VR200 Series Spiral Bevel Gear Drives



**R100/R200**



**VR100/VR200**



**SPIRAL BEVEL GEAR**

Boston “R” and “VR” 100 and 200 Series Spiral Bevel Gear Boxes are available in four sizes with horsepower ranging from 2.19 to 50.92.

### Features

- Spiral Bevel Gear Drives are designed for high efficiency, quiet operation and long service life. Gears are made of case-hardened alloy steel
- Shafts are heat treated, alloy steel mounted on heavy duty, tapered roller bearings
- Housings are made of cast iron, precision machined to assure accurate, permanent alignment of the gears

**M**

## Section Contents

|                                       |         |
|---------------------------------------|---------|
| Numbering System / How To Order ..... | 310     |
| Lubrication/Mounting. ....            | 310-311 |
| Selection Charts .....                | 312     |
| Dimensions .....                      | 313     |
| Parts List .....                      | 314     |

# R100/R200 Series & VR100/VR200 Series Spiral Bevel Gear Drives

## Selection Procedure

Catalog ratings are based on Class I service (uniform load, operating no more than 10 hours/day). For applications meeting these conditions selection may be made by comparing the actual load to be transmitted with the appropriate catalog rating. For other conditions selection must be made, based on an equivalent horsepower or torque, obtained by multiplying actual load by the proper service factor.

### Selection Procedure:

1. Determine the correct service factor using the Applications Classification Chart—Pages 348 & 349. If the application is

not listed, obtain service factor from Service Factor Chart, Page 349.

2. Multiply the actual output horsepower or torque by the service factor to obtain the equivalent rating required.
3. Establish input and output speed and/or gear ratio required for the enclosed drive.
4. Selection of all bevel gear drives should be based on Steps 1 through 3 using Selection Chart for desired input and output speeds (including speed increasing drives) that satisfy the required equivalent horsepower or torque.

## How to Order

### R/VR Series Catalog Number

EXAMPLE: R137-BM1 (40346)

| <b>SBK</b>                                                                                                                                                   | <b>VR</b>                              | <b>1</b>                                               | <b>37</b>                                                                         | <b>K</b>                                                                                        | <b>-</b>                                                                                                                                                                                           | <b>N</b>                                                                                                   | <b>0</b>                                                                                                                                                                                                                                                                                                                                                                     | <b>-</b>       | <b>M5</b>     |       |       |       |       |    |       |    |       |  |       |  |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------|-------|-------|-------|-------|----|-------|----|-------|--|-------|--|----|
| <b>Reducer Material/<br/>Paint (Cast Iron)</b><br>Blank—Standard Paint<br>BK — White <i>BostKleen</i><br>Paint<br>SBK—Stainless <i>Bost-<br/>Kleen</i> Paint | <b>Ratio</b><br>1 – 1:1<br>2 – 2:1/1:2 | <b>Housing Type</b><br>R – Horizontal<br>VR – Vertical | <b>Frame Size</b><br>31 – Size 31<br>37 – Size 37<br>46 – Size 46<br>58 – Size 58 | <b>Lubrication</b><br>Blank—No Lubrication<br>K – Klubersynth<br>UH1 6-460<br>S – Mobil SHC 634 | <b>Assembly Type</b><br>A – R      G – VR<br>B – R      H – VR<br>Standard<br>C – R      J – VR<br>D – VR    N – VR<br>E – VR    Standard<br>F – VR    Q – VR<br>P – VR<br>See catalog for details | <b>Rotation</b><br>Blank—Standard Rotation<br>0 – Opposite Relative<br>Rotation<br>See catalog for details | <b>Mounting Position</b><br><table border="1"> <tr> <th>Horizontal (R)</th> <th>Vertical (VR)</th> </tr> <tr> <td>M1 V1</td> <td>M1 M7</td> </tr> <tr> <td>M2 V2</td> <td>M2 M8</td> </tr> <tr> <td>M3</td> <td>M3 V1</td> </tr> <tr> <td>M4</td> <td>M4 V3</td> </tr> <tr> <td></td> <td>M5 V4</td> </tr> <tr> <td></td> <td>M6</td> </tr> </table> See catalog for details | Horizontal (R) | Vertical (VR) | M1 V1 | M1 M7 | M2 V2 | M2 M8 | M3 | M3 V1 | M4 | M4 V3 |  | M5 V4 |  | M6 |
| Horizontal (R)                                                                                                                                               | Vertical (VR)                          |                                                        |                                                                                   |                                                                                                 |                                                                                                                                                                                                    |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                              |                |               |       |       |       |       |    |       |    |       |  |       |  |    |
| M1 V1                                                                                                                                                        | M1 M7                                  |                                                        |                                                                                   |                                                                                                 |                                                                                                                                                                                                    |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                              |                |               |       |       |       |       |    |       |    |       |  |       |  |    |
| M2 V2                                                                                                                                                        | M2 M8                                  |                                                        |                                                                                   |                                                                                                 |                                                                                                                                                                                                    |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                              |                |               |       |       |       |       |    |       |    |       |  |       |  |    |
| M3                                                                                                                                                           | M3 V1                                  |                                                        |                                                                                   |                                                                                                 |                                                                                                                                                                                                    |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                              |                |               |       |       |       |       |    |       |    |       |  |       |  |    |
| M4                                                                                                                                                           | M4 V3                                  |                                                        |                                                                                   |                                                                                                 |                                                                                                                                                                                                    |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                              |                |               |       |       |       |       |    |       |    |       |  |       |  |    |
|                                                                                                                                                              | M5 V4                                  |                                                        |                                                                                   |                                                                                                 |                                                                                                                                                                                                    |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                              |                |               |       |       |       |       |    |       |    |       |  |       |  |    |
|                                                                                                                                                              | M6                                     |                                                        |                                                                                   |                                                                                                 |                                                                                                                                                                                                    |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                              |                |               |       |       |       |       |    |       |    |       |  |       |  |    |

**TO ORDER:** Specify Catalog Number and or Item Code, Assembly Type and Mounting Position. (Ref. Page 314 for Item Code, Order Information)

## Lubrication

Lubrication and maintenance instructions are provided with each speed reducer. These instructions should be followed for best results. It is important that the proper type of oil be used since many oils are not suitable for the lubrication of gears. Various types of gearing require different types of lubricants.

The lubricant must remain free from oxidation and contamination by water or debris since only a very thin film of oil stands between efficient operation and failure. To assure long service life, the reducer should be periodically drained (preferably while warm) and refilled to the proper level with a recommended gear oil. Under normal environmental conditions oil changes are suggested after the initial 250 hours of operation, and therefore, at regular intervals of 2500 hours or every 6 months. Synthetic lubricants will allow extended lubrication intervals due to its increased resistance to thermal and oxidation degradation. It is suggested that the initial oil change be made at 1500 hours and, thereafter, at 5000 hour intervals.

During the initial period of operation, higher than normal operating temperatures may be seen. This is due to the initial break-in of the gear set. The temperature of Bevel Gear Reducers may reach approximately 225°F.

| Recommended<br>Lubricant | Boston Gear<br>Item Code |
|--------------------------|--------------------------|
|                          | Quart                    |
| Klubersynth UH1 6-460    | 65159                    |
| Mobil SHC634             | 51493                    |

## Bevel Gear Reducers

| Recommended Oil<br>(or equivalent) | Viscosity Range<br>S&S @ 100°F | Lubricant<br>AGMA No. | ISO<br>Viscosity<br>Grade No. |
|------------------------------------|--------------------------------|-----------------------|-------------------------------|
| Klubersynth*<br>UH1 6-460          | 1950/2500                      | -----                 | 460                           |
| Mobil SHC634                       | 1950/2500                      | -----                 | 320/460                       |

Ambient temperature range of -20F to +125F is suitable for standard configured products and ratings. Contact technical support for operating conditions beyond this range.

| Model No. |             | Quantity Per Unit |
|-----------|-------------|-------------------|
| R131/R231 | VR131/VR231 | 1/2 Pint          |
| R137/R237 | VR137/VR237 | 1/2 Pint          |
| R146/R246 | VR146/VR246 | 1-1/2 Pints       |
| R158/R258 | VR158/VR258 | 2-1/2 Pints       |

**CAUTION:** Relubricate more frequently if drive is operated in high ambient temperatures or unusually contaminated atmospheres. High loads and operating temperatures will also require more frequent relubrication.

\* Synthetic recommendation is exclusively for Klubersynth UH1 6-460.

‡The Synthetic lubricant will perform at temperatures considerably higher than 225°F. However, the factory should always be consulted prior to operating at higher temperatures, as damage may occur to oil seals and other components.



# R100/R200 Series & VR100/VR200 Series Spiral Bevel Gear Drives

## R100/R200 Series Mountings

Mountings are designated by combining identification for Assembly Type and Mounting Position.

**Example:** Mtg. AM1.

Assembly B is standard for Type R and Assembly N is standard for Type VR and will be furnished unless otherwise specified.

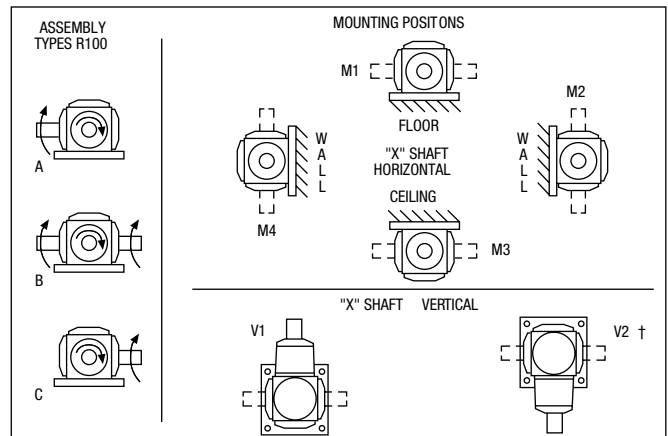
All assemblies can be mounted in any position shown with "X" Shaft horizontal by re-locating Oil Plugs in proper position.

Mountings with "X" Shaft vertical available at a slight extra charge.

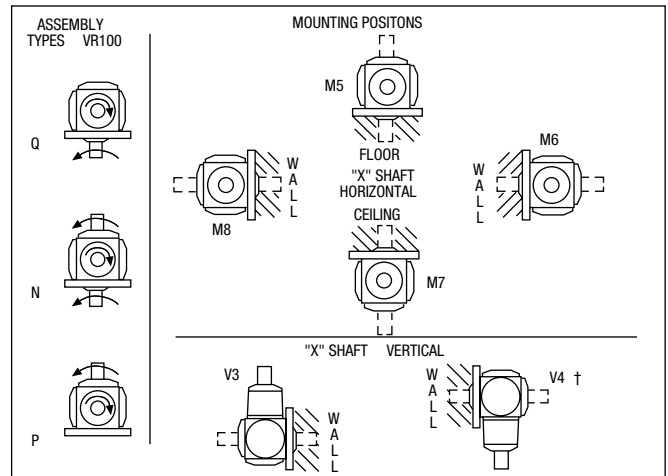
Shafts can rotate in either direction, arrows show standard relative rotation. Opposite relative rotation available at no additional charge.

To order with opposite relative rotation, insert letter "O" between Assembly and Mounting code.

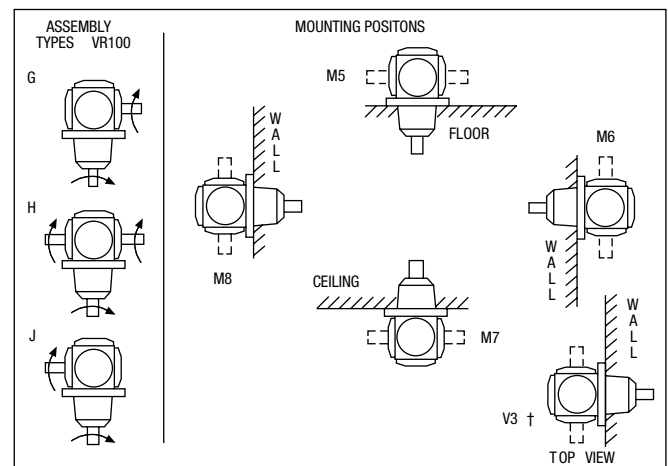
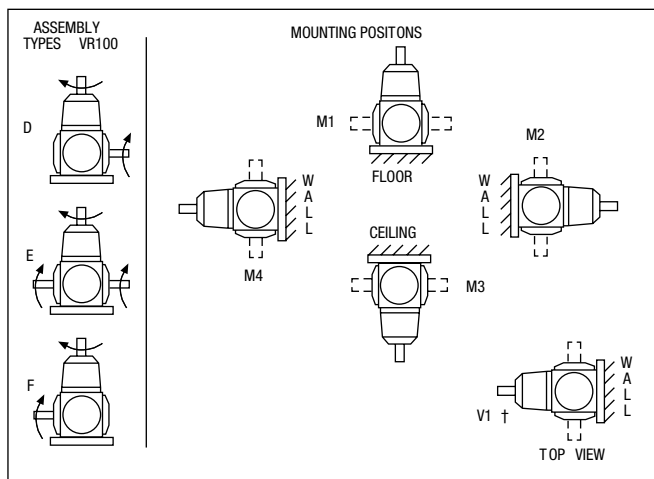
**Example:** AOM1.



## VR100/VR200 Series



Mountings shown below are available on an assembled to order basis.



Filler, level and drain plugs are located on the back side of views shown.

† Special filler, level and drain plugs provided.

# R100/R200 Series & VR100/VR200 Series Spiral Bevel Gear Drives

## R100/R200, VR100/VR200 Series

### Selection Charts

|                   | Ratio | Input RPM | Output RPM | R/VR131 |         | R/VR137 |         | R/VR146 |         | R/VR158 |         |
|-------------------|-------|-----------|------------|---------|---------|---------|---------|---------|---------|---------|---------|
|                   |       |           |            | Output  |         | Output  |         | Output  |         | Output  |         |
|                   |       |           |            | HP      | Torque† | HP      | Torque† | HP      | Torque† | HP      | Torque† |
|                   | 1:1   | 1750      | 1750       | 4.2     | 151     | 8.8     | 318     | 25.1    | 905     | 50.9    | 1834    |
|                   |       | 1150      | 1150       | 3.1     | 164     | 5.8     | 318     | 18.5    | 1012    | 40.9    | 2242    |
|                   |       | 690       | 690        | 1.9     | 174     | 3.5     | 318     | 11.4    | 1044    | 25.4    | 2324    |
|                   |       | 100       | 100        | .40     | 252     | .60     | 378     | 1.8     | 1145    | 4.0     | 2546    |
| <b>Reducer</b>    | 2:1   | 1750      | 875        | R/VR231 |         | R/VR237 |         | R/VR246 |         | R/VR258 |         |
|                   |       | 1150      | 575        | 2.2     | 158     | 3.7     | 267     | 12.2    | 878     | 22.6    | 1620    |
|                   |       | 690       | 345        | 1.5     | 161     | 2.5     | 272     | 8.2     | 900     | 15.2    | 1670    |
|                   |       | 100       | 50         | .90     | 164     | 1.5     | 280     | 5.1     | 924     | 9.4     | 1717    |
| <b>Increaser*</b> | 1:2   | 1750      | 3500       | .15     | 189     | .23     | 290     | .77     | 970     | 1.5     | 1870    |
|                   |       | 1150      | 2300       | 2.2     | 39.5    | 3.7     | 67      | 12.2    | 220     | —       | —       |
|                   |       | 690       | 1380       | 1.5     | 40.2    | 2.5     | 68      | 8.2     | 225     | 15.2    | 418     |
|                   |       | 100       | 200        | .90     | 41.0    | 1.5     | 70      | 5.1     | 231     | 9.4     | 429     |
|                   |       |           |            | .15     | 47.2    | .23     | 72      | .77     | 242     | 1.5     | 468     |

\* **NOTE:** On 2:1 or 1:2 ratios, pinion will always be on X shaft.

† Torque (LB-INS)

I/P H.P. approx. 5% higher.

M

| Suggested Maximum Input Speeds** |          |
|----------------------------------|----------|
| R & VR131, R & VR231             | 4000 RPM |
| R & VR137, R & VR237, R & VR246  | 3600 RPM |
| R & VR146, R & VR158, R & VR258  | 2500 RPM |

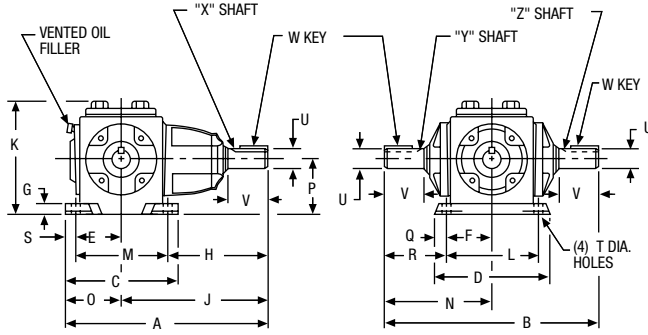
\*\* Sound level, operating temperature and venting are usually affected at high operating speeds.

### ORDER BY CATALOG NUMBER OR ITEM CODE

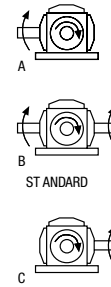
| Horizontal Model R100/200 |       |               |       |       | Vertical Model VR100/200 |       |               |       |       |
|---------------------------|-------|---------------|-------|-------|--------------------------|-------|---------------|-------|-------|
| Series                    | Ratio | Item Code     |       |       | Series                   | Ratio | Item Code     |       |       |
|                           |       | Assembly Type |       |       |                          |       | Assembly Type |       |       |
|                           |       | AM1           | BM1   | CM1   |                          |       | QM5           | NM5   | PM5   |
| R131                      | 1:1   | 40328         | 40332 | 40336 | VR131                    | 1:1   | 42220         | 42212 | 42216 |
| R231                      | 2:1   | 42860         | 42864 | 42868 | VR231                    | 2:1   | 42928         | 42920 | 42924 |
| R137                      | 1:1   | 40342         | 40346 | 40350 | VR137                    | 1:1   | 42238         | 42230 | 42234 |
| R237                      | 2:1   | 42874         | 42878 | 42882 | VR237                    | 2:1   | 42946         | 42938 | 42942 |
| R146                      | 1:1   | 40356         | 40360 | 40364 | VR146                    | 1:1   | 42256         | 42248 | 42252 |
| R246                      | 2:1   | 42888         | 42892 | 42896 | VR246                    | 2:1   | 42964         | 42956 | 42960 |
| R158                      | 1:1   | 40370         | 40374 | 40378 | VR158                    | 1:1   | 42274         | 42266 | 42270 |
| R258                      | 2:1   | 42902         | 42906 | 42910 | VR258                    | 2:1   | 42982         | 42974 | 42978 |

# R100/R200 Series & VR100/VR200 Series Spiral Bevel Gear Drives

## R100/R200, VR100/VR200 Series Dimensions – Horizontal Base Models



### ASSEMBLY TYPES

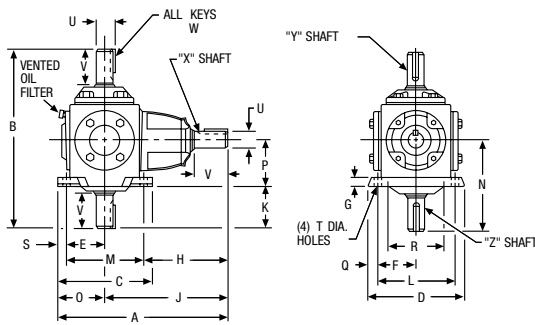


For mounting positions see page 311.

### ALL DIMENSIONS IN INCHES

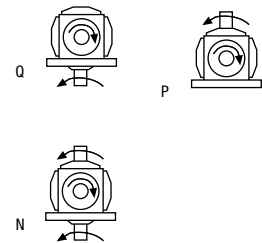
| Model No. | A     | B     | C    | D    | E    | F    | G   | H    | J     | K    | L    | M    |
|-----------|-------|-------|------|------|------|------|-----|------|-------|------|------|------|
| R131/231  | 8.16  | 7.81  | 5.31 | 5.25 | 2.03 | 2.03 | .63 | 3.47 | 5.50  | 4.78 | 4.06 | 4.06 |
| R137/237  | 10.16 | 9.28  | 6.19 | 6.13 | 2.44 | 2.44 | .63 | 4.63 | 7.06  | 5.72 | 4.88 | 4.88 |
| R146/246  | 12.50 | 11.66 | 7.50 | 7.38 | 3.00 | 3.00 | .75 | 5.75 | 8.75  | 6.75 | 6.00 | 6.00 |
| R158/258  | 16.47 | 16.84 | 9.25 | 9.00 | 3.75 | 3.75 | .88 | 8.09 | 11.84 | 8.56 | 7.50 | 7.50 |

| Model No. | N    | O    | P    | Q   | R    | S   | T Holes | U<br>+0.000<br>-0.001 | V    | W-Key |       | Approx. Weight (Lbs.) |
|-----------|------|------|------|-----|------|-----|---------|-----------------------|------|-------|-------|-----------------------|
|           |      |      |      |     |      |     |         |                       |      | Sq.   | Lgth. |                       |
| R131/231  | 3.91 | 2.66 | 2.63 | .59 | 1.88 | .63 | .44     | .500                  | 1.31 | 1/8   | 7/8   | 14                    |
| R137/237  | 4.64 | 3.09 | 3.00 | .63 | 2.20 | .66 | .44     | .750                  | 1.69 | 3/16  | 1     | 27                    |
| R146/246  | 5.83 | 3.75 | 3.50 | .69 | 2.83 | .75 | .53     | 1.000                 | 1.94 | 1/4   | 1-1/4 | 51                    |
| R158/258  | 8.42 | 4.63 | 4.50 | .75 | 4.67 | .88 | .56     | 1.500                 | 3.44 | 3/8   | 2-1/4 | 104                   |



## Dimensions – Vertical Base Models

### ASSEMBLY TYPES



For mounting positions see page 311.

### ALL DIMENSIONS IN INCHES

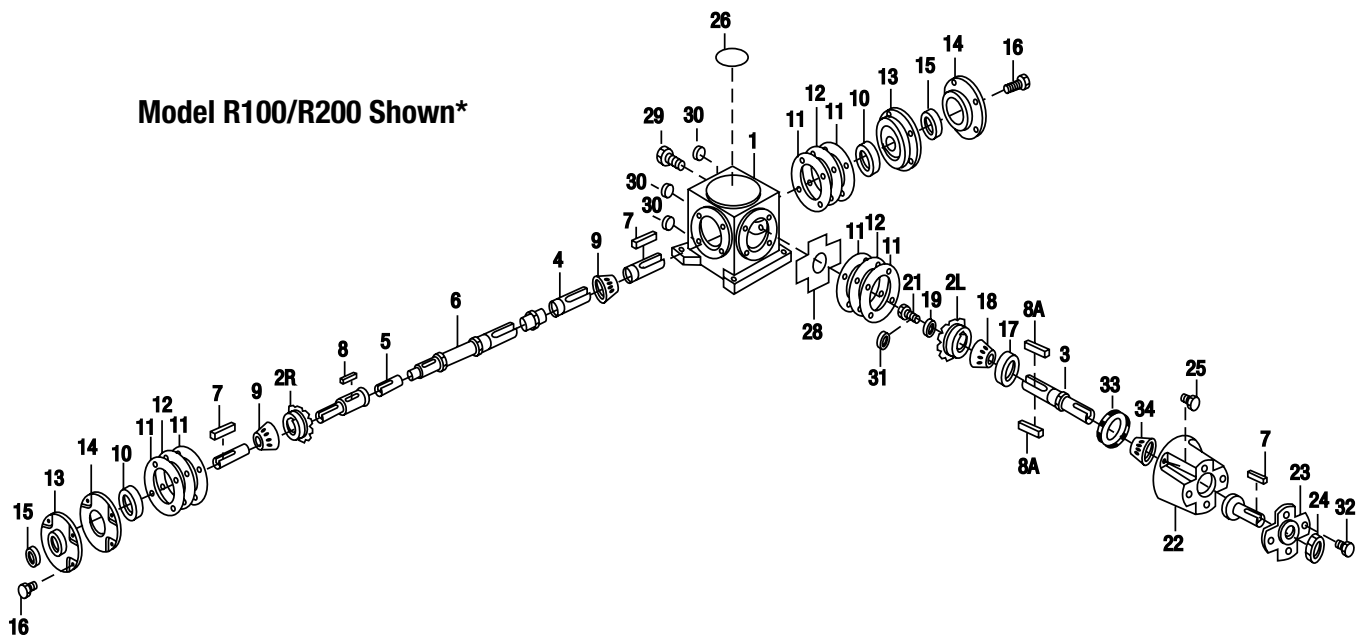
| Model No. | A     | B     | C    | D    | E    | F    | G   | H    | J     | K    | L    | M    |
|-----------|-------|-------|------|------|------|------|-----|------|-------|------|------|------|
| VR131/231 | 8.16  | 7.81  | 5.31 | 5.25 | 2.03 | 2.03 | .63 | 3.47 | 5.50  | 1.28 | 4.06 | 4.06 |
| VR137/237 | 10.16 | 9.28  | 6.19 | 6.13 | 2.44 | 2.44 | .63 | 4.63 | 7.06  | 1.64 | 4.88 | 4.88 |
| VR146/246 | 12.50 | 11.66 | 7.50 | 7.38 | 3.00 | 3.00 | .75 | 5.75 | 8.75  | 2.33 | 6.00 | 6.00 |
| VR158/258 | 16.47 | 16.84 | 9.25 | 9.00 | 3.75 | 3.75 | .88 | 8.09 | 11.84 | 3.92 | 7.50 | 7.50 |

| Model No. | N    | O    | P    | Q   | R    | S   | T Holes | U<br>+0.000<br>-0.001 | V    | W-Key |       | Approx. Weight (Lbs.) |
|-----------|------|------|------|-----|------|-----|---------|-----------------------|------|-------|-------|-----------------------|
|           |      |      |      |     |      |     |         |                       |      | Sq.   | Lgth. |                       |
| VR131/231 | 3.91 | 2.66 | 2.63 | .59 | —    | .63 | .44     | .500                  | 1.31 | 1/8   | 7/8   | 14                    |
| VR137/237 | 4.64 | 3.09 | 3.00 | .63 | —    | .66 | .44     | .750                  | 1.69 | 3/16  | 1     | 27                    |
| VR146/246 | 5.83 | 3.75 | 3.50 | .69 | 3.75 | .75 | .53     | 1.000                 | 1.94 | 1/4   | 1-1/4 | 51                    |
| VR158/258 | 8.42 | 4.63 | 4.50 | .75 | 4.50 | .88 | .56     | 1.500                 | 3.44 | 3/8   | 2-1/4 | 104                   |

The letters X, Y and Z are used to designate specific shaft projections when ordering units with special shaft requirements.

# R100/R200 Series & VR100/VR200 Series Parts List

Model R100/R200 Shown\*



## Part Ordering Information

Be sure to provide complete Boston Gear catalog number from speed reducer nameplate, along with part description and number.

\* **Note:** Models R100/R200 parts common to VR100/VR200.

| Item No. | Description of Part                    | Item No. | Description of Part          | Item No. | Description of Part    |
|----------|----------------------------------------|----------|------------------------------|----------|------------------------|
| 1        | Basic Housing                          | 10       | Bearing Cup, Output          | 23       | Input Bearing Retainer |
| 1A       | Basic Housing - VR Series              | 11       | Shim                         | 24       | Oil Seal, Input        |
| 2R       | Spiral Miter or Bevel Gear (RH)        | 12       | Shim                         | 25       | Soc. Head Capscrew     |
| 2L       | Spiral Miter Gear or Bevel Pinion (LH) | 13       | Output Bearing Carrier (O/E) | 26       | Small Nameplate        |
| 3        | Input Shaft                            | 14       | Output Bearing Carrier (C/E) | 28       | Baffle                 |
| 4        | Output Shaft-Double Proj               | 15       | Oil Seal, Output             | 29       | Vented Oil Filler      |
| 5        | Output Shaft-Single Proj               | 16       | Hex Head Capscrews           | 30       | Socket Pipe Plug       |
| 6        | Output Shaft-Single Proj               | 17       | Bearing Cup, Input           | 31       | Locknut-R & VR 231     |
| 7        | Key                                    | 18       | Bearing Cone, Input          | 32       | Socket Head Capscrew   |
| 8        | Key, Gear                              | 19       | Input Shaft Washer           | 33       | Bearing Cup, Input     |
| 8A       | Key, Gear or Pinion                    | 21       | Input Shaft Hex Hd Capscrew  | 34       | Bearing Cone, Input    |
| 9        | Bearing Cone, Output                   | 22       | Input Shaft Bearing Carrier  |          |                        |

**An economical alternative to a multi-reduction Reducer**

**THE MOTOR MULTIPLIER®**

**Multiplies your gear reducer ratio 5 times  
Multiplies your savings with efficient planetary gearing**



**Planetary Ratio Multiplier**



**With Optional Base Kit**



**With 200 Series  
Helical Reducer**



**With 700 Series Worm Gear  
Speed Reducer**

**Features**

- Multiplies Motor torque
- Rugged aluminum housing
- 5/8" and 7/8" shaft sizes (output)
- 3/4 maximum input horsepower  
(NEMA 56c face mounted motors)
- Efficient 5 to 1 ratio
- Easy to install
- Lubricated for Life

**Applications**

- Provides additional ratios for  
inventory flexibility
- Use with existing Gearbox To  
Create Double Reduction Ratios  
or Alone as a 5 to 1 reducer
- Compatible with most worm or  
helical gear flanged reducers,  
NEMA 56c design

**Section Contents**

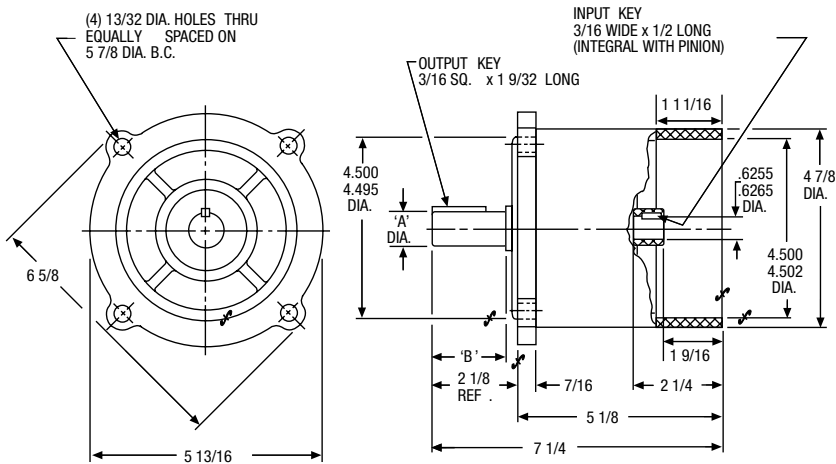
|                                                    |                |
|----------------------------------------------------|----------------|
| <b>Features / Applications .....</b>               | <b>329</b>     |
| <b>Catalog Number / Ordering Information .....</b> | <b>330</b>     |
| <b>Dimensions .....</b>                            | <b>330</b>     |
| <b>Torque Selection / Ratings .....</b>            | <b>331-332</b> |

# Planetary Ratio Multiplier

Order by catalog number

| Output RPM | Ratio | Motor HP (1750 RPM Input) | OUTPUT |                  | Multiplier Catalog Number |
|------------|-------|---------------------------|--------|------------------|---------------------------|
|            |       |                           | HP     | Torque (LB. INS) |                           |
| 350        | 5     | 1/6                       | .14    | 25               | FSP-5 OR FSP-5A           |
|            |       | 1/4                       | .21    | 38               |                           |
|            |       | 1/3                       | .29    | 53               |                           |
|            |       | 1/2                       | .45    | 81               |                           |
|            |       | 3/4                       | .69    | 124              |                           |

## Dimensions

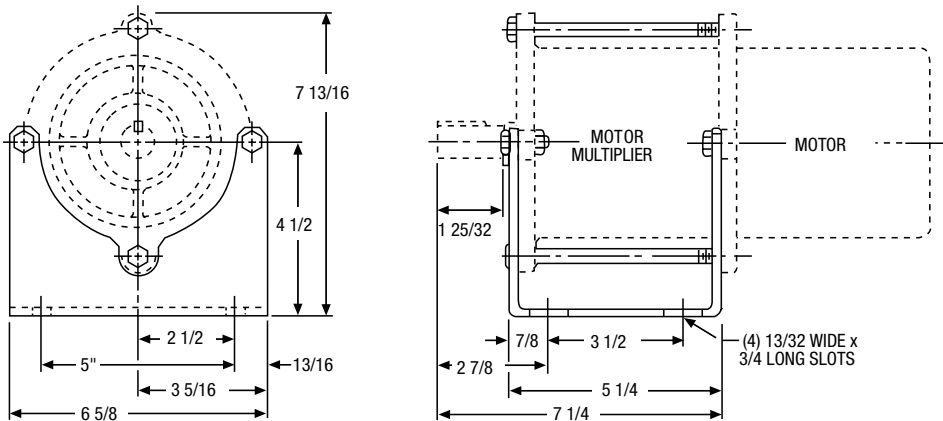


ALL DIMENSIONS IN INCHES

| Item Code | Catalog Number | A Shaft Dia. | B Shaft Length |
|-----------|----------------|--------------|----------------|
| 60634     | FSP-5A         | .6245        | 1-15/16        |
|           |                | .6240        |                |
| 60632     | FSP-5          | .8745        | 2              |
|           |                | .8740        |                |

## Motor Multiplier Base Kit

Catalog Number - 47849



Output shaft may rotate in either direction. Rotation will be the same as the rotation of the motor shaft.

## Torque Selection and Ratings for Motor Multiplier and Single Reduction Worm Gear Flanged Reducer Combinations

| Output<br>RPM | Total<br>Ratio | Motor<br>HP<br>1750<br>RPM | Flanged Reducer Output Rating |                      |            |                      |            |                      | Motor<br>Multiplier<br>Catalog<br>Number | Basic Flanged<br>Reducer Size and Ratio |
|---------------|----------------|----------------------------|-------------------------------|----------------------|------------|----------------------|------------|----------------------|------------------------------------------|-----------------------------------------|
|               |                |                            | S.F. 1.0                      |                      | S. F. 1.25 |                      | S. F. 1.75 |                      |                                          |                                         |
|               |                |                            | HP                            | Torque<br>(LB. INS.) | HP         | Torque<br>(LB. INS.) | HP         | Torque<br>(LB. INS.) |                                          |                                         |
| 70            | 25             | 1/6                        | .09                           | 78                   | .09        | 78                   | .09        | 78                   | FSP-5A                                   | F713-5-B5                               |
|               |                | 1/4                        | .16                           | 140                  | .16        | 140                  | .12        | 106                  | FSP-5A                                   | F713-5-B5                               |
|               |                | 1/3                        | .23                           | 207                  | .16        | 142                  | .12        | 106                  | FSP-5A                                   | F713-5-B5                               |
|               |                | 1/3                        | .23                           | 207                  | .23        | 204                  | .17        | 153                  | FSP-5A                                   | F715-5-B5                               |
|               |                | 1/2                        | .34                           | 306                  | .23        | 204                  | .17        | 153                  | FSP-5                                    | F715-5-B7                               |
|               |                | 1/2                        | .34                           | 306                  | .23        | 204                  | .17        | 153                  | FSP-5A                                   | F715-5-B5                               |
|               |                | 1/2                        | .38                           | 342                  | .29        | 257                  | .21        | 193                  | FSP-5                                    | F718-5-B7                               |
|               |                | 1/2                        | .38                           | 342                  | .38        | 342                  | .31        | 276                  | FSP-5                                    | F721-5-B7                               |
|               |                | 3/4                        | .43                           | 386                  | .29        | 257                  | .21        | 193                  | FSP-5                                    | F718-5-B7                               |
|               |                | 3/4                        | .61                           | 552                  | .41        | 368                  | .31        | 276                  | FSP-5                                    | F721-5-B7                               |
| 35            | 50             | 1/6                        | .08                           | 152                  | .08        | 15                   | .07        | 133                  | FSP-5A                                   | F713-10-B5                              |
|               |                | 1/4                        | .15                           | 266                  | .10        | 177                  | .07        | 133                  | FSP-5A                                   | F713-10-B5                              |
|               |                | 1/4                        | .15                           | 266                  | .14        | 255                  | .11        | 192                  | FSP-5A                                   | F715-10-B5                              |
|               |                | 1/3                        | .21                           | 373                  | .14        | 255                  | .11        | 192                  | FSP-5A                                   | F715-10-B5                              |
|               |                | 1/3                        | .22                           | 396                  | .20        | 365                  | .15        | 274                  | FSP-5                                    | F718-10-B7                              |
|               |                | 1/2                        | .30                           | 548                  | .20        | 365                  | .15        | 274                  | FSP-5                                    | F718-10-B7                              |
|               |                | 1/2                        | .37                           | 662                  | .32        | 581                  | .24        | 436                  | FSP-5                                    | F721-10-B7                              |
|               |                | 3/4                        | .48                           | 872                  | .32        | 581                  | .24        | 436                  | FSP-5                                    | F721-10-B7                              |
|               |                | 3/4                        | .59                           | 1058                 | .39        | 705                  | .29        | 529                  | FSP-5                                    | F724-10-B7                              |
|               |                | 3/4                        | .59                           | 1058                 | .39        | 705                  | .29        | 529                  | FSP-5                                    | F726-10-B7                              |
| 23.3          | 75             | 1/6                        | .08                           | 217                  | .07        | 183                  | .05        | 137                  | FSP-5A                                   | F713-15-B5                              |
|               |                | 1/6                        | .08                           | 217                  | .08        | 217                  | .07        | 198                  | FSP-5A                                   | F715-15-B5                              |
|               |                | 1/4                        | .10                           | 274                  | .07        | 183                  | .05        | 137                  | FSP-5A                                   | F713-15-B5                              |
|               |                | 1/4                        | .15                           | 395                  | .10        | 263                  | .07        | 198                  | FSP-5A                                   | F715-15-B5                              |
|               |                | 1/4                        | .15                           | 395                  | .14        | 376                  | .10        | 282                  | FSP-5A                                   | F718-15-B5                              |
|               |                | 1/3                        | .21                           | 564                  | .14        | 376                  | .10        | 282                  | FSP-5A                                   | F718-15-B5                              |
|               |                | 1/3                        | .21                           | 572                  | .22        | 599                  | .17        | 450                  | FSP-5A                                   | F721-15-B5                              |
|               |                | 1/2                        | .33                           | 898                  | .22        | 599                  | .17        | 450                  | FSP-5A                                   | F721-15-B5                              |
|               |                | 1/2                        | .34                           | 927                  | .33        | 889                  | .25        | 667                  | FSP-5                                    | F724-15-B7                              |
|               |                | 3/4                        | .49                           | 1334                 | .33        | 889                  | .25        | 667                  | FSP-5                                    | F724-15-B7                              |
|               |                | 3/4                        | .57                           | 1542                 | .38        | 1028                 | .29        | 771                  | FSP-5                                    | F726-15-B7                              |
| 17.5          | 100            | 1/6                        | .08                           | 283                  | .06        | 207                  | .04        | 156                  | FSP-5A                                   | F713-20-B5                              |
|               |                | 1/6                        | .08                           | 283                  | .08        | 283                  | .06        | 227                  | FSP-5A                                   | F715-20-B5                              |
|               |                | 1/4                        | .13                           | 454                  | .08        | 303                  | .06        | 227                  | FSP-5A                                   | F715-20-B5                              |
|               |                | 1/4                        | .14                           | 493                  | .12        | 426                  | .09        | 320                  | FSP-5A                                   | F718-20-B5                              |
|               |                | 1/3                        | .18                           | 639                  | .12        | 426                  | .09        | 320                  | FSP-5A                                   | F718-20-B5                              |
|               |                | 1/3                        | .21                           | 748                  | .17        | 628                  | .13        | 471                  | FSP-5A                                   | F721-20-B5                              |
|               |                | 1/2                        | .34                           | 1238                 | .25        | 896                  | .19        | 672                  | FSP-5                                    | F724-20-B7                              |
|               |                | 1/2                        | .34                           | 1238                 | .33        | 1191                 | .25        | 893                  | FSP-5                                    | F726-20-B7                              |
|               |                | 3/4                        | .56                           | 1786                 | .33        | 1191                 | .25        | 893                  | FSP-5                                    | F726-20-B7                              |
|               |                | 3/4                        | .59                           | 1893                 | .37        | 1262                 | .28        | 945                  | FSP-5                                    | F730-20-B7                              |
|               |                | 3/4                        | .56                           | 2000                 | .37        | 1333                 | .28        | 1000                 | FSP-5                                    | F732-20-B7                              |

# Planetary Ratio Multiplier

## Torque Selection and Ratings for Motor Multiplier and Single Reduction Worm Gear Flanged Reducer Combinations

| Output<br>RPM | Total<br>Ratio | Motor<br>HP<br>1750<br>RPM | Flanged Reducer Output Rating |                      |            |                      |            |                      | Motor<br>Multiplier<br>Catalog<br>Number | Basic Flanged<br>Reducer Size and Ratio |
|---------------|----------------|----------------------------|-------------------------------|----------------------|------------|----------------------|------------|----------------------|------------------------------------------|-----------------------------------------|
|               |                |                            | S.F. 1.0                      |                      | S. F. 1.25 |                      | S. F. 1.75 |                      |                                          |                                         |
|               |                |                            | HP                            | Torque<br>(LB. INS.) | HP         | Torque<br>(LB. INS.) | HP         | Torque<br>(LB. INS.) |                                          |                                         |
| 11.7          | 150            | 1/6                        | .06                           | 320                  | .039       | 213                  | .029       | 160                  | FSP-5A                                   | F713-30-B5                              |
|               |                | 1/6                        | .07                           | 398                  | .06        | 312                  | .043       | 234                  | FSP-5A                                   | F715-30-B5                              |
|               |                | 1/4                        | .12                           | 660                  | .08        | 440                  | .06        | 330                  | FSP-5A                                   | F718-30-B5                              |
|               |                | 1/4                        | .13                           | 714                  | .12        | 628                  | .09        | 471                  | FSP-5A                                   | F721-30-B5                              |
|               |                | 1/3                        | .18                           | 972                  | .12        | 648                  | .09        | 486                  | FSP-5A                                   | F721-30-B5                              |
|               |                | 1/3                        | .20                           | 1056                 | .17        | 924                  | .13        | 693                  | FSP-5A                                   | F724-30-B5                              |
|               |                | 1/2                        | .32                           | 1733                 | .23        | 1227                 | .17        | 920                  | FSP-5                                    | F726-30-B7                              |
|               |                | 3/4                        | .52                           | 2281                 | .28        | 1520                 | .21        | 1140                 | FSP-5                                    | F730-30-B7                              |
|               |                | 3/4                        | .52                           | 2830                 | .35        | 1887                 | .26        | 1415                 | FSP-5                                    | F732-30-B7                              |
| 8.8           | 200            | 1/6                        | .06                           | 454                  | .042       | 303                  | .031       | 227                  | FSP-5A                                   | F715-40-B5                              |
|               |                | 1/6                        | .07                           | 500                  | .06        | 426                  | .044       | 319                  | FSP-5A                                   | F718-40-B5                              |
|               |                | 1/4                        | .12                           | 893                  | .09        | 628                  | .07        | 471                  | FSP-5A                                   | F721-40-B5                              |
|               |                | 1/4                        | .12                           | 893                  | .12        | 893                  | .09        | 672                  | FSP-5A                                   | F724-40-B5                              |
|               |                | 1/3                        | .18                           | 1320                 | .12        | 896                  | .09        | 672                  | FSP-5A                                   | F724-40-B5                              |
|               |                | 1/3                        | .18                           | 1320                 | .17        | 1191                 | .12        | 893                  | FSP-5A                                   | F726-40-B5                              |
|               |                | 1/2                        | .25                           | 1786                 | .17        | 1191                 | .12        | 893                  | FSP-5                                    | F726-40-B7                              |
|               |                | 1/2                        | .25                           | 1786                 | .17        | 1191                 | .12        | 893                  | FSP-5A                                   | F726-40-B5                              |
|               |                | 1/2                        | .28                           | 1984                 | .18        | 1322                 | .14        | 992                  | FSP-5A                                   | F730-40-B5                              |
|               |                | 1/2                        | .30                           | 2183                 | .26        | 1887                 | .20        | 1415                 | FSP-5                                    | F732-40-B7                              |
|               |                | 3/4                        | .37                           | 2667                 | .25        | 1778                 | .19        | 1332                 | FSP-5                                    | F730-40-B7                              |
|               |                | 3/4                        | .49                           | 3543                 | .26        | 1887                 | .20        | 1415                 | FSP-5                                    | F732-40-B7                              |
| 7             | 250            | 1/6                        | .06                           | 556                  | .041       | 371                  | .031       | 278                  | FSP-5A                                   | F718-50-B5                              |
|               |                | 1/6                        | .07                           | 590                  | .06        | 584                  | .05        | 438                  | FSP-5A                                   | F721-50-B5                              |
|               |                | 1/4                        | .10                           | 876                  | .06        | 584                  | .05        | 438                  | FSP-5A                                   | F721-50-B5                              |
|               |                | 1/4                        | .12                           | 1054                 | .10        | 865                  | .07        | 649                  | FSP-5A                                   | F724-50-B5                              |
|               |                | 1/4                        | .12                           | 848                  | .12        | 1054                 | .09        | 848                  | FSP-5A                                   | F726-50-B5                              |
|               |                | 1/3                        | .14                           | 1298                 | .10        | 865                  | .07        | 649                  | FSP-5A                                   | F724-50-B5                              |
|               |                | 1/3                        | .17                           | 1549                 | .13        | 1130                 | .09        | 848                  | FSP-5A                                   | F726-50-B5                              |
|               |                | 1/2                        | .22                           | 2060                 | .15        | 1373                 | .11        | 1030                 | FSP-5A                                   | F730-50-B5                              |
|               |                | 3/4                        | .22                           | 2313                 | .17        | 1542                 | .15        | 1156                 | FSP-5                                    | F730-50-B7                              |
|               |                | 1/2                        | .28                           | 2566                 | .27        | 2459                 | .20        | 1844                 | FSP-5                                    | F732-50-B7                              |
|               |                | 3/4                        | .41                           | 3688                 | .27        | 2459                 | .20        | 1844                 | FSP-5                                    | F732-50-B7                              |
|               |                | 3/4                        | .46                           | 4165                 | .31        | 2777                 | .23        | 2082                 | FSP-5                                    | F738-50-B7                              |
| 5.8           | 300            | 1/6                        | .049                          | 534                  | .032       | 356                  | .024       | 267                  | FSP-5A                                   | F721-60-B5                              |
|               |                | 1/6                        | .06                           | 656                  | .05        | 560                  | .039       | 420                  | FSP-5A                                   | F721-60-B5                              |
|               |                | 1/4                        | .08                           | 841                  | .05        | 560                  | .039       | 420                  | FSP-5A                                   | F721-60-B5                              |
|               |                | 1/4                        | .11                           | 1177                 | .08        | 831                  | .06        | 623                  | FSP-5A                                   | F724-60-B5                              |
|               |                | 1/4                        | .11                           | 1177                 | .10        | 1085                 | .08        | 814                  | FSP-5A                                   | F726-60-B5                              |
|               |                | 1/3                        | .15                           | 1638                 | .10        | 1092                 | .08        | 819                  | FSP-5A                                   | F726-60-B5                              |
|               |                | 1/2                        | .20                           | 2248                 | .14        | 1500                 | .10        | 1125                 | FSP-5A                                   | F730-60-B5                              |
|               |                | 1/2                        | .27                           | 2858                 | .22        | 2360                 | .16        | 1770                 | FSP-5                                    | F732-60-B7                              |
|               |                | 3/4                        | .43                           | 4646                 | .29        | 3097                 | .22        | 2323                 | FSP-5                                    | F738-60-B7                              |





Boston Gear’s application engineers are readily available to assist with the initial planning and application analysis and specification of components. Combinations of options, interfacing with equipment external to the drives and proper selection of reducers and other auxiliary components are typical of the possibilities available to satisfy the most complex applications.

**NOTE: All performance specifications listed in this catalog are based on steady state operating conditions; i.e. ambient temperature, line voltage, motor frame temperature, etc.**

Section Contents

Product Descriptions .....333

Numbering System.....334

Quick Selection Chart .....335-336

AC DripProof & Totally Enclosed Motors .....337

DC Totally Enclosed Motors .....340

Motor Dimensions .....338-339 and 341

Bost-Kleen Speed Reducers/Motors .....342

# NEMA C-Face Motors

## Catalog Numbering System

### AC MOTORS

| HP                                                                                                                                                                       | VOLTAGE                                                                              | ENCL                  | SUFFIX                                      | MANUFACTURER          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------|---------------------------------------------|-----------------------|
| A - 1/20<br>AA - 1/12<br>C - 1/6<br>D - 1/4<br>E - 1/3<br>F - 1/2<br>G - 3/4<br>H - 1<br>J - 1-1/2<br>K - 2<br>L - 3<br>M - 5<br>N - 7-1/2<br>P - 10<br>R - 15<br>S - 20 | R - 115/230-1-60<br>S - 115-1-60<br>T - 230-1-60<br>U - 230/460-3-60<br>Y - 575-3-60 | T - TENV<br>TF - TEFC | B - BRAKE<br>35 - 3450 RPM<br>11 - 1150 RPM | B - BALDOR<br>W - WEG |

### PM MOTORS

| SERIES DESIGNATION    | VOLTAGE                  | HP                                                                                                                  | ENCL                          | MANUFACTURER                      |
|-----------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------------------|
| PM - Permanent Magnet | 9 - 90VDC<br>18 - 180VDC | 16 - 1/6<br>25 - 1/4<br>33 - 1/3<br>50 - 1/2<br>75 - 3/4<br>100 - 1<br>150 - 1-1/2<br>200 - 2<br>300 - 3<br>500 - 5 | T, A - TENV<br>TF, ATF - TEFC | B - BALDOR<br>BLANK - Boston Gear |

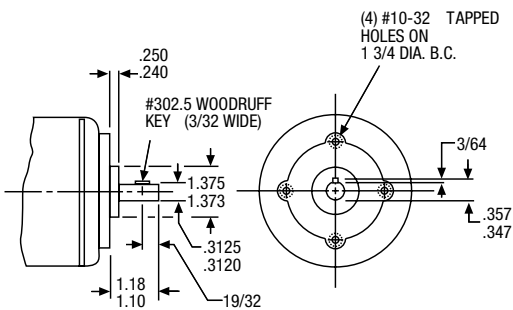
Letters after dash indicate manufacturer:

B = Baldor  
W = WEG  
Blank = Boston Gear

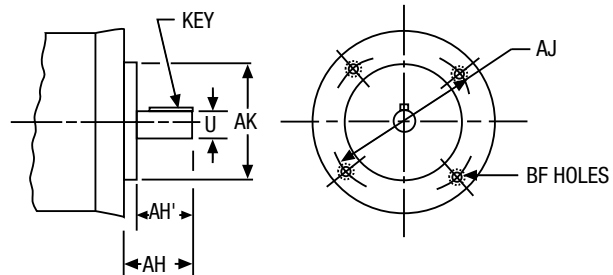
**Catalog Number Example: FUTF-W**  
1/2 HP, 230/460-3-60, TEFC, Boston Gear

**Catalog Number Example: PM916AT-B**  
Permanent Magnet, 90VDC, 1/6 HP, TENV, Baldor

### NEMA Motor Bolt Circle Dimensions (Special) End Mounted



### All Listed NEMA Frames



### ALL DIMENSIONS IN INCHES

| Bore Code | NEMA Mounting  | U                | AK             | MAX. AH | MAX. AH1 | KEY  |       | AJ    | BF     |
|-----------|----------------|------------------|----------------|---------|----------|------|-------|-------|--------|
|           |                |                  |                |         |          | SQ.  | LG.   |       |        |
| B4        | 42CZ           | .5000<br>.4995   | 3.000<br>2.997 | 1 5/16  | —        | 1/8  | 3/4   | 3 3/4 | 1/4-20 |
| B5        | 56C            | .6250<br>.6245   | 4.500<br>4.497 | 2 5/32  | —        | 3/16 | 1 3/8 | 5 7/8 | 3/8-16 |
| B7        | 182C<br>184C   | .8750<br>.8745   | 4.500<br>4.497 | 2 5/32  | —        | 3/16 | 1 3/8 | 5 7/8 | 3/8-16 |
|           | 143TC<br>145TC |                  |                |         |          |      |       |       |        |
| B9        | 213C<br>215C   | 1.1250<br>1.1245 | 8.500<br>8.497 | —       | 2 25/32  | 1/4  | 1 3/4 | 7 1/4 | 1/2-13 |
|           | 182TC<br>184TC |                  |                |         |          |      |       |       |        |
| B11       | 254UC<br>256UC | 1.3750<br>1.3745 | 8.500<br>8.497 | —       | 3 17/32  | 5/16 | 2 3/8 | 7 1/4 | 1/2-13 |
|           | 213TC<br>215TC |                  |                |         |          |      |       |       |        |
| B13       | 254TC<br>256TC | 1.6250<br>1.6240 | 8.500<br>8.497 | —       | 3 13/16  | 3/8  | 2 7/8 | 7 1/4 | 1/2-13 |

Flanged reducers are designed for use with motors having NEMA "C" face and shaft dimensions as shown. AH and AH' must not be exceeded.

# Adjustable Speed Control Motors Quick Selection Chart

@ 1750 RPM Input

| HP<br>(Motor) | RPM †<br>(Range) | Torque<br>(Maximum)<br>(LB. IN.) | Flange<br>Reducers** | Motors         |                  |
|---------------|------------------|----------------------------------|----------------------|----------------|------------------|
|               |                  |                                  |                      | AC †           | DC †             |
| 1/6           | 350-12           | 27                               | F710-5               | ACUT*<br>CUTF  | APM916<br>PM916  |
|               | 175-6            | 53                               | F710-10              |                |                  |
|               | 117-4            | 77                               | F710-15              |                |                  |
|               | 88-3             | 98                               | F710-20              |                |                  |
|               | 70-2.5           | 117                              | F713-25              |                |                  |
|               |                  | 132                              | F713-30              |                |                  |
|               |                  | 139                              | F710-30              |                |                  |
|               | 44-1.5           | 128                              | F710-40              |                |                  |
|               |                  | 178                              | F713-40              |                |                  |
|               | 35-1.2           | 120                              | F710-50              |                |                  |
|               |                  | 210                              | F715-50              |                |                  |
| 1/4           | 29-1             | 223                              | F718-60              | ADUFT*<br>DUFT | APM925<br>PM925  |
|               | 350-12           | 41                               | F710-5               |                |                  |
|               | 175-6            | 80                               | F710-10              |                |                  |
|               | 117-4            | 116                              | F710-15              |                |                  |
|               | 88-3             | 130                              | F710-20              |                |                  |
|               |                  | 148                              | F713-20              |                |                  |
|               | 70-2.5           | 175                              | F713-25              |                |                  |
|               | 58-2             | 208                              | F713-30              |                |                  |
|               | 44-1.5           | 266                              | F715-40              |                |                  |
|               | 35-1.2           | 315                              | F715-50              |                |                  |
| 1/3           | 29-1             | 335                              | F718-60              | AEUTF*<br>EUTF | APM933*<br>PM933 |
|               | 350-12           | 55                               | F710-5               |                |                  |
|               | 175-6            | 107                              | F710-10              |                |                  |
|               | 117-4            | 155                              | F713-15              |                |                  |
|               | 88-3             | 197                              | F713-20              |                |                  |
|               | 70-2.5           | 234                              | F713-25              |                |                  |
|               | 58-2             | 277                              | F715-30              |                |                  |
|               | 44-1.5           | 355                              | F715-40              |                |                  |
|               | 35-1.2           | 420                              | F718-50              |                |                  |
|               | 29-1             | 440                              | F718-60              |                |                  |
| 1/2           | 350-12           | 82                               | F713-5               | FUTF           | PM950            |
|               | 175-6            | 160                              | F713-10              |                |                  |
|               | 117-4            | 232                              | F713-15              |                |                  |
|               | 88-3             | 295                              | F715-20              |                |                  |
|               | 70-2.5           | 350                              | F715-25              |                |                  |
|               | 58-2             | 416                              | F718-30              |                |                  |
|               | 44-1.5           | 533                              | F721-40              |                |                  |
|               | 35-1.2           | 630                              | F721-50              |                |                  |
|               | 29-1             | 670                              | F721-60              |                |                  |
|               | 350-12           | 123                              | F713-5               | GUTF           | PM975            |
| 3/4           | 175-6            | 240                              | F715-10              |                |                  |
|               | 117-4            | 348                              | F715-15              |                |                  |
|               | 88-3             | 443                              | F718-20              |                |                  |
|               | 70-2.5           | 526                              | F721-25              |                |                  |

\*\* For Flanged Reducer w/coupling specify RF Model.

† Speed range shown demonstrates a 30 to 1 speed range which is typical when using a single phase DC Controller and Permanent Magnet Motor.  
Consult your Boston Gear distributor for your particular application.

# Adjustable Speed Control Motors Quick Selection Chart

P

| HP<br>(Motor)  | RPM †<br>(Range) | Torque<br>(Maximum)<br>(LB. IN.) | Flange<br>Reducers** | Motors |         |
|----------------|------------------|----------------------------------|----------------------|--------|---------|
|                |                  |                                  |                      | AC †   | DC †    |
| 3/4<br>(CONT.) | 58-2             | 624                              | F721-30              | GUTF   | PM975   |
|                | 44-1.5           | 800                              | F724-40              |        |         |
|                | 35-1.2           | 945                              | F724-50              |        |         |
|                | 29-1             | 1004                             | F726-60              |        |         |
| 1              | 350-12           | 165                              | F713-5               | HUTF   | PM9100  |
|                | 175-6            | 320                              | F718-10              |        |         |
|                | 117-4            | 422                              | F718-15              |        |         |
|                | 88-3             | 590                              | F721-20              |        |         |
|                | 70-2.5           | 702                              | F721-25              |        |         |
|                | 58-2             | 832                              | F724-30              |        |         |
|                | 44-1.5           | 1066                             | F726-40              |        |         |
|                | 35-1.2           | 1260                             | F726-50              |        |         |
| 1-1/2          | 29-1             | 1340                             | F730-60              | JUTF   | PM18150 |
|                | 350-12           | 256                              | F715-5               |        |         |
|                | 175-6            | 460                              | F718-10              |        |         |
|                | 117-4            | 646                              | F721-15              |        |         |
|                | 88-3             | 886                              | F724-20              |        |         |
|                | 70-2.5           | 1056                             | F724-25              |        |         |
|                | 58-2             | 1247                             | F726-30              |        |         |
|                | 44-1.5           | 1598                             | F730-40              |        |         |
| 2              | 35-1.2           | 1890                             | F732-50              | KUTF   | PM18200 |
|                | 29-1             | 2009                             | F732-60              |        |         |
|                | 350-12           | 328                              | F718-5               |        |         |
|                | 175-6            | 640                              | F721-10              |        |         |
|                | 117-4            | 929                              | F724-15              |        |         |
|                | 88-3             | 1180                             | F726-20              |        |         |
|                | 70-2.5           | 1440                             | F730-25              |        |         |
|                | 58-2             | 1663                             | F732-30              |        |         |
| 3              | 44-1.5           | 2131                             | F732-40              | LUTF   | PM18300 |
|                | 35-1.2           | 2520                             | F732-50F             |        |         |
|                | 29-1             | 2678                             | F738-60              |        |         |
|                | 350-12           | 491                              | F724-5               |        |         |
|                | 175-6            | 960                              | F726-10              |        |         |
|                | 117-4            | 1393                             | F730-15              |        |         |
|                | 88-3             | 1771                             | F730-20              |        |         |
|                | 70-2.5           | 2150                             | F732-25F             |        |         |
| 5              | 58-2             | 2495                             | F732-30F             | MUTF   | PM18500 |
|                | 44-1.5           | 3196                             | F738-40              |        |         |
|                | 35-1.2           | 4016                             | F738-50F             |        |         |
|                | 29-1             | 4020                             | RF752-60             |        |         |
|                | 175-6            | 1602                             | F732-10              |        |         |
|                | 117-4            | 2230                             | F732-15F             |        |         |
|                | 88-3             | 2952                             | F738-20              |        |         |
|                | 58-2             | 4180                             | RF752-30             |        |         |
|                | 44-1.5           | 5328                             | RF752-40             |        |         |
|                | 35-1.2           | 6300                             | RF752-50F            |        |         |
|                | 29-1             | 7392                             | RF760-60F            |        |         |
|                |                  |                                  |                      |        |         |

\*\* For Flanged Reducer w/coupling specify RF Model.

† Speed range shown demonstrates a 30 to 1 speed range which is typical when using a single phase DC Controller and Permanent Magnet Motor.  
Consult your Boston Gear distributor for your particular application.

# AC Motors Totally Enclosed and Open Dripproof

@ 1750 RPM Input

ORDER BY CATALOG NUMBER OR ITEM CODE

| HP    | NEMA Mounting | Bore Code † | Totally Enclosed* |           |                  |           |                |           | Open Dripproof |           |                  |           |
|-------|---------------|-------------|-------------------|-----------|------------------|-----------|----------------|-----------|----------------|-----------|------------------|-----------|
|       |               |             | 115/230-1-60      |           | 208-230/460-3-60 |           | 575-3-60       |           | 115/230-1-60   |           | 208-230/460-3-60 |           |
|       |               |             | Catalog Number    | Item Code | Catalog Number   | Item Code | Catalog Number | Item Code | Catalog Number | Item Code | Catalog Number   | Item Code |
| 1/20  | SP            | —           | AST-B**           | 65403     | —                | —         | —              | —         | —              | —         | —                | —         |
| 1/12  | SP            | —           | AAST-B**          | 65402     | —                | —         | —              | —         | —              | —         | —                | —         |
| 1/6   | 42CZ          | B4          | ACRT-W            | 65320     | ACUT-W           | 65368     | —              | —         | —              | —         | —                | —         |
|       | 42CZ          | B4          | ACRTF-B           | 69725     | ACUT-B           | 69728     | —              | —         | —              | —         | —                | —         |
|       | 56C           | B5          | CRTF-W            | 65316     | CUTF-W           | 65371     | —              | —         | —              | —         | —                | —         |
|       | 56C           | B5          | CRT-B             | 85775     | CUT-B            | 85776     | —              | —         | CR-B           | 85773     | CU-B             | 85774     |
| 1/4   | 56C           | B5          | CRTF-B            | 85777     | CUTF-B           | 85778     | —              | —         | —              | —         | —                | —         |
|       | 42CZ          | B4          | ADRT-W            | 65325     | ADUT-W           | 65374     | —              | —         | —              | —         | —                | —         |
|       | 42CZ          | B4          | ADRTF-B           | 69726     | ADUTF-B          | 69729     | —              | —         | —              | —         | —                | —         |
|       | 56C           | B5          | DRTF-W            | 65326     | DUTF-W           | 65380     | —              | —         | —              | —         | —                | —         |
| 1/3   | 56C           | B5          | DRTF-B            | 66199     | DUTF-B           | 66205     | DYTF-B         | 66208     | DR-B           | 66109     | DU-B             | 66115     |
|       |               |             | DSTF-B**          | 66202     | —                | —         | —              | —         | DS-B**         | 66112     | —                | —         |
|       |               |             | —                 | —         | —                | —         | —              | —         | —              | —         | —                | —         |
|       |               |             | —                 | —         | —                | —         | —              | —         | —              | —         | —                | —         |
| 1/2   | 42CZ          | B4          | AERT-W            | 65346     | AEUT-W           | 65381     | —              | —         | —              | —         | —                | —         |
|       | 42CZ          | B4          | AERTF-B           | 69727     | AEUTF-B          | 69730     | —              | —         | —              | —         | —                | —         |
| 1/2   | 56C           | B5          | ERTF-W            | 65348     | EUTF-W           | 65383     | —              | —         | —              | —         | —                | —         |
|       | 56C           | B5          | ERTF-B            | 66211     | EUTF-B           | 66214     | EYTF-B         | 66217     | ER-B           | 66121     | EU-B             | 66124     |
| 1/2   | 56C           | B5          | FRTF-W            | 65350     | FUTF-W           | 65404     | —              | —         | —              | —         | —                | —         |
| 1/2   | 56C           | B5          | FRTF-B            | 66219     | FUTF-B           | 66223     | FYTF-B         | 66226     | FR-B           | 66130     | FU-B             | 66133     |
| 3/4   | 56C           | B5          | GRTF-W            | 65351     | GUTF-W           | 65405     | —              | —         | —              | —         | —                | —         |
| 3/4   | 56C           | B5          | GRTF-B            | 66228     | GUTF-B           | 66231     | GYTF-B         | 66831     | GR-B           | 66139     | GU-B             | 66142     |
| 1     | 56C           | B5          | HRTF-5/8-W        | 65354     | HUTF-5/8-W       | 65406     | —              | —         | —              | —         | —                | —         |
|       | 56C           | B5          | HRTF-5/8-B        | 19178     | HUTF-5/8-B       | 50428     | HYTF-5/8-B     | 19179     | HR-5/8-B       | 19183     | HU-5/8-B         | 50427     |
| 1     | 143TC         | B7          | —                 | —         | HUTF-W           | 65412     | —              | —         | —              | —         | HU-W             | 65249     |
|       | 143TC         | B7          | HRTF-B            | 66234     | HUTF-B           | 66237     | HYTF-B         | 66240     | HR-B           | 66145     | HU-B             | 66148     |
| 1-1/2 | 56C           | B5          | —                 | —         | JUTF-5/8-W       | 65407     | —              | —         | —              | —         | —                | —         |
|       | 56C           | B5          | —                 | —         | JUTF-5/8-B       | 19784     | —              | —         | —              | —         | —                | —         |
| 1-1/2 | 145TC         | B7          | —                 | —         | JUTF-W           | 65437     | —              | —         | —              | —         | JU-W             | 65251     |
|       | 145TC         | B7          | JRTF-B            | 66243     | JUTF-B           | 66246     | JYTF-B         | 66249     | JR-B           | 66154     | JU-B             | 66157     |
| 2     | 56C           | B5          | —                 | —         | KUTF-5/8-W       | 65440     | —              | —         | —              | —         | —                | —         |
|       | 56C           | B5          | —                 | —         | KUTF-5/8-B       | 19785     | —              | —         | —              | —         | —                | —         |
| 2     | 145TC         | B7          | —                 | —         | KUTF-W           | 65445     | —              | —         | —              | —         | KU-W             | 65256     |
|       | 145TC         | B7          | —                 | —         | KUTF-B           | 66252     | KYTF-B         | 66255     | —              | —         | KU-B             | 66163     |
| 3     | 182TC         | B9          | —                 | —         | LUTF-W           | 65446     | —              | —         | —              | —         | LU-W             | 65257     |
|       | 182TC         | B9          | —                 | —         | LUTF-B           | 66258     | LYTF-B         | 66260     | —              | —         | LU-B             | 66166     |
| 5     | 184TC         | B9          | —                 | —         | MUTF-W           | 65448     | —              | —         | —              | —         | MU-W             | 65258     |
|       | 184TC         | B9          | —                 | —         | MUTF-B           | 66262     | MYTF-B         | 66264     | —              | —         | MU-B             | 66170     |
| 7-1/2 | 213TC         | B11         | —                 | —         | NUTF-B           | 66266     | —              | —         | —              | —         | —                | —         |
| 10    | 215TC         | B11         | —                 | —         | PUTF-B           | 66270     | —              | —         | —              | —         | —                | —         |
| 15    | 254TC         | B13         | —                 | —         | RUTF-B           | 66274     | —              | —         | —              | —         | —                | —         |
| 20    | 256TC         | B13         | —                 | —         | SUTF-B           | 66278     | —              | —         | —              | —         | —                | —         |

\* T = TENV – Totally Enclosed, Non-ventilated.

\*\* 115 Volt only.

TF = TEFC – Totally Enclosed, Fan Cooled.

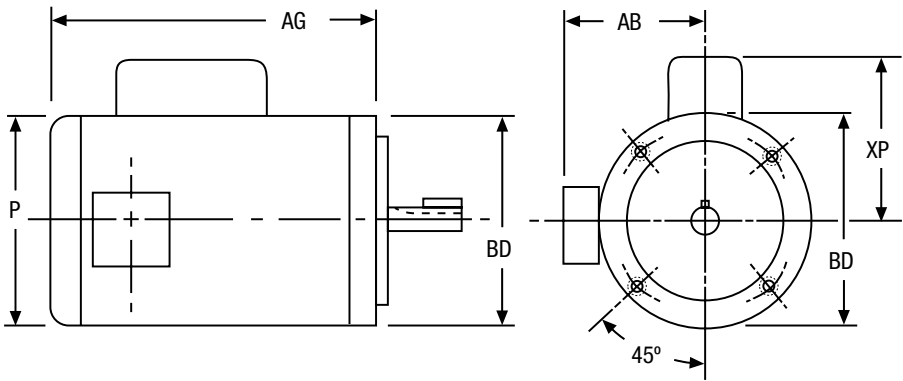
† See Page 334 for Bore Code explanation.

Letters after dash indicate manufacturer — W = WEG.; B = Baldor

FOR DIMENSIONS OF THESE MOTORS, SEE PAGES 338 AND 339  
FOR OTHER AVAILABLE MOTORS, CONSULT FACTORY OR REFER TO  
BOSTON GEAR'S COMPLETE ELECTRICAL PRODUCTS CATALOG P-1525-BG.

# AC Open Dripproof Motor

## Dimensions



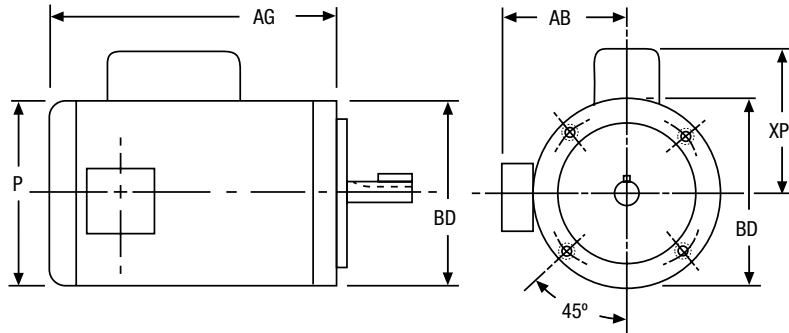
ALL DIMENSIONS IN INCHES

| HP    | NEMA MTG. | BORE CODE | -B (BALDOR) MOTORS |           |      |       |      |      |      |
|-------|-----------|-----------|--------------------|-----------|------|-------|------|------|------|
|       |           |           | CATALOG NUMBER     | ITEM CODE | AB   | AG    | BD   | XP   | P    |
| 1/20  | SPL       | SPL       | AST-B              | 65403     | —    | 6.56  | 4.51 | —    | 4.62 |
| 1/12  | SPL       | SPL       | AAS-B              | 65402     | —    | 6.56  | 4.51 | —    | 4.62 |
| 1/6   | 56C       | B5        | CR-B               | 85773     | 4.41 | 8.03  | 5.87 | 4.34 | 5.69 |
|       | 56C       | B5        | CU-B               | 85774     | 4.41 | 8.03  | 5.87 | —    | 5.69 |
| 1/4   | 56C       | B5        | DR-B               | 66109     | 4.41 | 8.68  | 5.87 | 4.34 | 5.69 |
|       | 56C       | B5        | DS-B               | 66112     | 4.41 | 8.68  | 5.87 | 4.34 | 5.69 |
|       | 56C       | B5        | DU-B               | 66115     | 4.41 | 8.68  | 5.87 | —    | 5.69 |
| 1/3   | 56C       | B5        | ER-B               | 66121     | 4.41 | 8.68  | 5.87 | 4.34 | 5.69 |
|       | 56C       | B5        | EU-B               | 66124     | 4.41 | 8.68  | 5.87 | —    | 5.69 |
| 1/2   | 56C       | B5        | FR-B               | 66130     | 4.41 | 8.68  | 5.87 | 4.34 | 5.69 |
|       | 56C       | B5        | FU-B               | 66133     | 4.41 | 8.68  | 5.87 | —    | 5.69 |
| 3/4   | 56C       | B5        | GR-B               | 66139     | 5.62 | 10.00 | 6.50 | 5.02 | 6.62 |
|       | 56C       | B5        | GU-B               | 66142     | 5.62 | 9.00  | 6.50 | —    | 6.62 |
| 1     | 56C       | B5        | HR-5/8-B           | 19183     | 5.62 | 9.00  | 6.50 | 5.49 | 6.62 |
|       | 56C       | B5        | HU-5/8-B           | 50427     | 5.62 | 9.00  | 6.50 | —    | 6.62 |
|       | 143TC     | B7        | HR-B               | 66145     | 5.09 | 9.00  | 6.50 | 5.49 | 6.62 |
|       | 143TC     | B7        | HU-B               | 66148     | 5.12 | 9.00  | 6.50 | —    | 6.62 |
| 1-1/2 | 145TC     | B7        | JR-B               | 66154     | 5.09 | 9.00  | 6.50 | 5.49 | 6.62 |
|       | 145TC     | B7        | JU-B               | 66157     | 5.09 | 9.00  | 6.50 | —    | 6.62 |
| 2     | 145TC     | B7        | KU-B               | 66163     | 5.09 | 10.00 | 6.50 | —    | 6.62 |
| 3     | 182TC     | B9        | LU-B               | 66166     | 5.88 | 11.00 | 6.50 | —    | 7.88 |

**Note:** See Page 334 for mounting and shaft dimensions.

# AC Totally Enclosed Motor

## Dimensions



ALL DIMENSIONS IN INCHES

| HP    | NEMA<br>MTG. | BORE<br>CODE | WEG MOTORS        |              |      |       |      |      |      | -B (BALDOR) MOTORS |              |      |       |      |      |      |
|-------|--------------|--------------|-------------------|--------------|------|-------|------|------|------|--------------------|--------------|------|-------|------|------|------|
|       |              |              | CATALOG<br>NUMBER | ITEM<br>CODE | AB   | AG    | BD   | XP   | P    | CATALOG<br>NUMBER  | ITEM<br>CODE | AB   | AG    | BD   | XP   | P    |
| 1/6   | 56C          | B5           | CRTF-W            | 65316        | 5.43 | 9.04  | 6.54 | 4.13 | 7.32 | CRTF-B             | 85777        | 4.90 | 9.29  | 5.81 | 4.41 | 5.68 |
|       | 56C          | B5           | CUTF-W            | 65371        | 5.43 | 9.04  | 6.54 | —    | 7.32 | CUTF-B             | 85778        | 4.90 | 9.29  | 5.81 | —    | 5.68 |
| 1/4   | 56C          | B5           | DRTF-W            | 65326        | 5.43 | 9.04  | 6.54 | 4.13 | 7.32 | DRTF-B             | 66199        | 5.18 | 9.29  | 5.81 | 4.41 | 5.68 |
|       | 56C          | B5           | —                 | —            | —    | —     | —    | —    | —    | DSTF-B             | 66202        | 4.51 | 9.29  | 5.81 | 4.41 | 5.68 |
|       | 56C          | B5           | DUTF-W            | 65380        | 5.43 | 9.04  | 6.54 | —    | 7.32 | DUTF-B             | 66205        | 4.51 | 9.29  | 5.81 | 4.41 | 5.68 |
|       | 56C          | B5           | —                 | —            | —    | —     | —    | —    | —    | DYTF-B             | 66208        | 4.53 | 9.29  | 5.81 | —    | 5.68 |
| 1/3   | 56C          | B5           | ERTF-W            | 65348        | 5.43 | 9.04  | 6.54 | 4.13 | 7.32 | ERTF-B             | 66211        | 4.51 | 9.29  | 5.81 | 4.41 | 5.68 |
|       | 56C          | B5           | EUTF-W            | 65383        | 5.43 | 9.04  | 6.54 | —    | 7.32 | EUTF-B             | 66214        | 4.51 | 9.29  | 5.81 | —    | 5.68 |
|       | 56C          | B5           | EYTF-W            | 65454        | 5.43 | 9.04  | 6.54 | —    | 7.32 | EYTF-B             | 66217        | 4.51 | 9.29  | 5.81 | —    | 5.68 |
| 1/2   | 56C          | B5           | FRTF-W            | 65350        | 5.43 | 9.04  | 6.54 | 4.13 | 7.32 | FRTF-B             | 66219        | 4.51 | 9.94  | 5.81 | 4.41 | 5.68 |
|       | 56C          | B5           | FUTF-W            | 65404        | 5.43 | 9.04  | 6.54 | —    | 7.32 | FUTF-B             | 66223        | 4.51 | 9.32  | 5.81 | —    | 5.68 |
|       | 56C          | B5           | FYTF-W            | 65455        | 5.43 | 9.04  | 6.54 | —    | 7.32 | FYTF-B             | 66226        | 4.51 | 9.32  | 5.81 | —    | 5.68 |
| 3/4   | 56C          | B5           | GRTF-W            | 65351        | 5.43 | 9.04  | 6.54 | 4.13 | 7.32 | GRTF-B             | 66228        | 4.51 | 11.29 | 5.81 | 5.08 | 5.68 |
|       | 56C          | B5           | GUTF-W            | 65405        | 5.43 | 9.04  | 6.54 | —    | 7.32 | GUTF-B             | 66231        | 4.51 | 9.32  | 5.81 | —    | 5.68 |
|       | 56C          | B5           | GYTF-W            | 65457        | 5.43 | 9.04  | 6.54 | —    | 7.32 | GYTF-B             | 66831        | 5.22 | 10.19 | 6.50 | —    | 6.62 |
| 1     | 56C          | B5           | HRTF-5/8-W        | 65354        | 5.43 | 10.22 | 6.54 | —    | 7.32 | HRTF-5/8-B         | 19178        | 4.90 | 11.29 | 5.81 | 5.56 | 5.68 |
|       | 56C          | B5           | HUTF-5/8-W        | 65406        | 5.43 | 10.22 | 6.54 | —    | 7.32 | HUTF-5/8-B         | 50428        | 5.22 | 10.82 | 6.50 | —    | 5.68 |
|       | 56C          | B5           | —                 | —            | —    | —     | —    | —    | —    | HYTF-5/8-B         | 19179        | 5.22 | 10.19 | 6.50 | —    | 6.62 |
|       | 143TC        | B7           | —                 | —            | —    | —     | —    | —    | —    | HRTF-B             | 66234        | 5.22 | 11.19 | 6.50 | 5.56 | 6.62 |
|       | 143TC        | B7           | HUTF-W            | 65412        | 5.43 | 10.95 | 6.54 | —    | 7.32 | HUTF-B             | 66237        | 4.51 | 10.19 | 5.81 | —    | 6.62 |
|       | 143TC        | B7           | —                 | —            | —    | —     | —    | —    | —    | HYTF-B             | 66240        | 5.22 | 10.19 | 6.50 | —    | 6.62 |
| 1-1/2 | 56C          | B5           | JUTF-5/8-W        | 65407        | 5.43 | 10.22 | 6.54 | —    | 7.32 | JUTF-5/8-B         | 19784        | 5.22 | 10.19 | 6.50 | —    | 6.62 |
|       | 145TC        | B7           | —                 | —            | —    | —     | —    | —    | —    | JRTF-B             | 66243        | 5.22 | 11.17 | 6.50 | 5.56 | 6.62 |
|       | 145TC        | B7           | JUTF-W            | 65437        | 5.43 | 10.95 | 6.54 | —    | 7.32 | JUTF-B             | 66246        | 5.22 | 11.17 | 6.50 | —    | 6.62 |
|       | 145TC        | B7           | JYTF-W            | 65475        | 5.43 | 10.95 | 6.54 | —    | 7.32 | JYTF-B             | 66249        | 5.22 | 11.17 | 6.50 | —    | 6.62 |
| 2     | 56C          | B5           | KUTF-5/8-W        | 65440        | 5.43 | 11.40 | 6.54 | —    | 7.32 | —                  | —            | —    | —     | —    | —    | —    |
|       | 145TC        | B7           | KUTF-W            | 65445        | 5.43 | 12.13 | 6.54 | —    | 7.32 | KUTF-B             | 66252        | 5.22 | 11.17 | 6.50 | —    | 6.62 |
|       | 145TC        | B7           | —                 | —            | —    | —     | —    | —    | —    | KYTF-B             | 66255        | 5.22 | 11.17 | 6.50 | —    | 6.62 |
| 3     | 182TC        | B9           | LUTF-W            | 65446        | 6.61 | 13.24 | 8.88 | —    | 8.75 | LUTF-B             | 66258        | 6.00 | 13.93 | 8.86 | —    | 7.88 |
|       |              |              | —                 | —            | —    | —     | —    | —    | —    | LYTF-B             | 66260        | 6.00 | 13.93 | 8.86 | —    | 7.88 |
| 5     | 184TC        | B9           | MUTF-W            | 65448        | 6.61 | 13.24 | 8.88 | —    | 8.75 | MUTF-B             | 66262        | 6.00 | 15.43 | 8.86 | —    | 7.88 |
| 7-1/2 | 213TC        | B11          | —                 | —            | —    | —     | —    | —    | —    | NUTF-B             | 66266        | 7.45 | 15.53 | 9.04 | —    | 9.56 |
| 10    | 215TC        | B11          | —                 | —            | —    | —     | —    | —    | —    | PUTF-B             | 66270        | 7.45 | 16.67 | 9.04 | —    | 9.56 |
| 15    | 254TC        | B13          | —                 | —            | —    | —     | —    | —    | —    | RUTF-B             | 66274        | 9.22 | 16.67 | 9.10 | —    | 9.56 |

**Note:** See page 334 for mounting and shaft dimensions.

T = Totally-enclosed, non-ventilated.

TF = Totally-enclosed, fan cooled.

# DC NEMA C-Face Motors Quick Selection Guide

## Permanent Magnet Totally Enclosed 1750 RPM Motors

P

ORDER BY CATALOG NUMBER OR ITEM CODE

| HP  | NEMA MTG. | BORE CODE † | CATALOG NUMBER*                                | ITEM CODE                        |
|-----|-----------|-------------|------------------------------------------------|----------------------------------|
| 1/6 | 56C       | B5          | PM916AT-B<br>PM916T                            | 19120<br>59476                   |
| 1/4 | 56C       | B5          | PM925AT-B<br>PM925T                            | 19121<br>59478                   |
| 1/3 | 56C       | B5          | PM933AT-B<br>PM933T                            | 19122<br>59480                   |
| 1/2 | 56C       | B5          | PM950AT-B<br>PM950TF<br>PM1850TF-B<br>PM1850TF | 19123<br>59481<br>19186<br>59482 |

\* AT, T = TENV – Totally Enclosed, Non-ventilated.

TF = TEFC – Totally Enclosed, Fan Cooled.

† See Page 334 for Bore Code explanation.

PM9-90 VDC (Armature Voltage)

PM18-180 VDC (Armature Voltage)

Letters after dash indicate manufacturer – B = Baldor  
Blank = Boston Gear

ORDER BY CATALOG NUMBER OR ITEM CODE

| HP    | NEMA MTG. | BORE CODE † | CATALOG NUMBER*                                                    | ITEM CODE                        |
|-------|-----------|-------------|--------------------------------------------------------------------|----------------------------------|
| 3/4   | 56C       | B5          | PM975TF-B<br>PM975TF<br>PM1875TF-B<br>PM1875TF                     | 69853<br>59483<br>69866<br>59484 |
| 1     | 56C       | B5          | PM9100TF-5/8-B<br>PM9100TF-5/8<br>PM18100TF-5/8-B<br>PM18100TF-5/8 | 50421<br>59486<br>50424<br>59488 |
| 1     | 56CZ      | B7          | PM9100TF-B<br>PM9100TF<br>PM18100TF-B<br>PM18100TF                 | 69867<br>59485<br>69869<br>59487 |
| 1-1/2 | 56CZ      | B7          | PM18150TF-B                                                        | 69870                            |
| 1-1/2 | 140TC     | B7          | PM18150TF                                                          | 59489                            |
| 2     | 56CZ      | B7          | PM18200TF-B                                                        | 68783                            |
| 2     | 140TC     | B7          | PM18200TF                                                          | 59490                            |
| 3     | 184TC     | B9          | PM18300TF-B                                                        | 69411                            |
| 5     | 1810ATC   | B9          | PM18500TF-B                                                        | 69412                            |

**ENCLOSURES**—Most applications can utilize open dripproof motors; other enclosures are listed. For information purposes, the various enclosures are defined below.

**OPEN, DRIPPROOF**—Same as open, except the construction of motor prevents the entrance of drops of liquid or particles falling on the motor at any angle not greater than 15 degrees from vertical.

**TOTALLY-ENCLOSED**—A motor so constructed as to prevent free exchange of air between the inside and outside of the motor case, but not air-tight.

**TOTALLY-ENCLOSED, NON-VENTILATED (TENV)**—A totally-enclosed motor with openings closed and of sufficient size and mass to permit the necessary heat dissipation to eliminate the need for external cooling.

**TOTALLY-ENCLOSED, FAN-COOLED (TEFC)**—Basically a TENV motor which has an external fan to blow cooling air over the motor. The additional cooling eliminates the necessity of a more costly oversized TENV motor.

**NOTE:** TENV and TEFC construction are equal in all respects regarding application, temperature capabilities and performance.

FOR DIMENSIONS OF THESE MOTORS, SEE PAGE 346.  
FOR OTHER AVAILABLE MOTORS, CONSULT FACTORY.



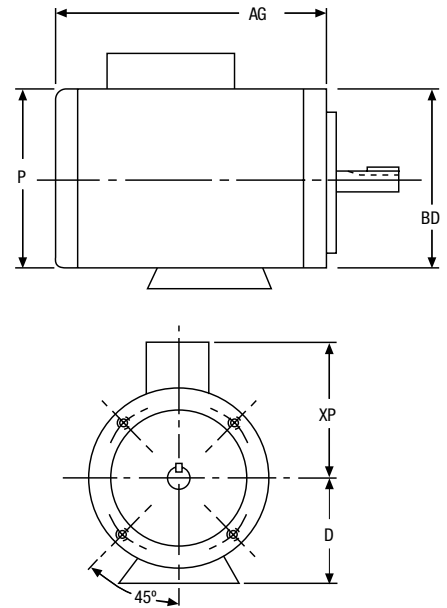
# DC Permanent Magnet Motor

## Dimensions

ALL DIMENSIONS IN INCHES

| HP    | NEMA MTG. | BORE CODE | CATALOG NUMBER | AG    | BD   | XP   | P    | D    |
|-------|-----------|-----------|----------------|-------|------|------|------|------|
| 1/6   | 56C       | B5        | PM916T         | 7.13  | 6.50 | 4.47 | 4.87 | 3.50 |
| 1/4   | 56C       | B5        | PM925T         | 7.66  | 6.50 | 4.47 | 4.87 | 3.50 |
| 1/3   | 56C       | B5        | PM933T         | 8.13  | 6.50 | 4.47 | 4.87 | 3.50 |
| 1/2   | 56C       | B5        | PM950TF        | 9.75  | 6.50 | 4.47 | 4.87 | 3.50 |
|       | 56C       | B5        | PM1850TF       | 9.75  | 6.50 | 4.47 | 4.87 | 3.50 |
| 3/4   | 56C       | B5        | PM975TF        | 12.25 | 6.50 | 4.47 | 4.87 | 3.50 |
|       | 56C       | B5        | PM1875TF       | 11.75 | 6.50 | 4.47 | 4.87 | 3.50 |
| 1     | 56CZ      | B7        | PM9100TF       | 14.25 | 6.50 | 4.87 | 5.61 | 3.50 |
|       | 56C       | B5        | PM9100TF-5/8   | 14.25 | 6.50 | 4.87 | 5.61 | 3.50 |
|       | 56CZ      | B7        | PM18100TF      | 13.25 | 6.50 | 4.87 | 5.61 | 3.50 |
|       | 56C       | B5        | PM18100TF-5/8  | 13.25 | 6.50 | 4.87 | 5.61 | 3.50 |
| 1-1/2 | 140TC     | B7        | PM18150TF      | 16.21 | 6.50 | 5.31 | 6.50 | 3.50 |
| 2     | 140TC     | B7        | PM18200TF      | 17.21 | 6.50 | 5.31 | 6.50 | 3.50 |

Note: See page 334 for mounting and shaft dimensions.



ALL DIMENSIONS IN INCHES

| HP    | NEMA MTG. | BORE CODE | -B (BALDOR) MOTORS |       |      |      |      |      |
|-------|-----------|-----------|--------------------|-------|------|------|------|------|
|       |           |           | CATALOG NUMBER     | AG    | BD   | XP   | P    | D    |
| 1/6   | 56C       | B5        | PM916AT-B          | 8.25  | 6.50 | 4.56 | 4.69 | 3.50 |
| 1/4   | 56C       | B5        | PM925AT-B          | 9.19  | 6.50 | 4.56 | 4.69 | 3.50 |
| 1/3   | 56C       | B5        | PM933AT-B          | 10.13 | 6.50 | 4.56 | 4.69 | 3.50 |
| 1/2   | 56C       | B5        | PM950AT-B          | 11.88 | 6.50 | 4.56 | 4.69 | 3.50 |
|       | 56C       | B5        | PM1850TF-B         | 10.56 | 6.63 | 4.00 | 4.87 | 3.50 |
| 3/4   | 56C       | B5        | PM975TF-B          | 11.69 | 6.63 | 4.00 | 5.81 | 3.50 |
|       | 56C       | B5        | PM1875TF-B         | 11.69 | 6.63 | 4.00 | 5.81 | 3.50 |
| 1     | 56CZ      | B7        | PM9100TF-B         | 12.57 | 6.63 | 4.00 | 5.81 | 3.50 |
|       | 56C       | B5        | PM9100TF-5/8-B     |       |      |      |      |      |
|       | 56CZ      | B7        | PM18100TF-B        |       |      |      |      |      |
|       | 56C       | B5        | PM18100TF-5/8-B    |       |      |      |      |      |
| 1-1/2 | 56CZ      | B7        | PM18150TF-B        | 15.06 | 6.63 | 4.25 | 6.50 | 3.50 |
| 2     | 56CZ      | B7        | PM18200TF-B        | 16.06 | 6.63 | 4.25 | 6.50 | 3.50 |
| 3     | 184TC     | B9        | PM18300TF-B        | 21.46 | 9.00 | 6.06 | 7.88 | 4.50 |
| 5     | 1810ATC   | B9        | PM18500TF-B        | 25.46 | 9.00 | 6.06 | 7.88 | 4.50 |

# AC Bost-Kleen Washdown Duty Motors

P

## White Bost-Kleen Motors

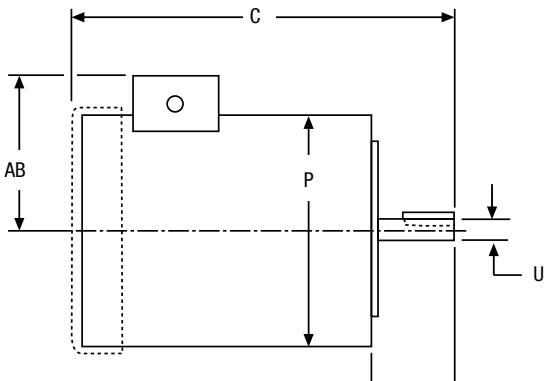
- AC Motors 1/2 - 5 HP
- DC Motors 1/4 - 3/4 HP
- Durable White Epoxy Finish
- Gasketed Thru Bolts
- Weep Holes
- NEMA C-Face Mounting
- BISSC certified



Designed for food processing and other corrosive applications where the motor is constantly exposed to an environment requiring high pressure washdown to maintain cleanliness.

| WHITE BISSC<br>CERTIFIED MOTORS              | HP    | Catalog Number | Item<br>Code | NEMA<br>Mounting | Enclosure |
|----------------------------------------------|-------|----------------|--------------|------------------|-----------|
| AC MOTORS<br>230/460 VAC<br>3 PHASE<br>60 HZ | 1/2   | FUT-WB-B       | 69105        | 56C              | TENV      |
|                                              | 3/4   | GUT-WB-B       | 69106        | 56C              | TENV      |
|                                              | 1     | HUT-5/8-WB-B   | 69123        | 56C              | TENV      |
|                                              | 1     | HUT-WB-B       | 69107        | 143TC            | TENV      |
|                                              | 1-1/2 | JUTF-WB-B      | 69110        | 145TC            | TEFC      |
|                                              | 2     | KUTF-WB-B      | 69111        | 145TC            | TEFC      |
|                                              | 3     | LUTF-WB-B      | 69112        | 182TC            | TEFC      |
|                                              | 5     | MUTF-WB-B      | 69113        | 184TC            | TEFC      |

## Dimensions



| HP    | Catalog<br>Number | U<br>+.0000<br>-.0005 | C     | AH   | P    | AB   |
|-------|-------------------|-----------------------|-------|------|------|------|
| 1/2   | FUT-WB-B          | .6250                 | 11.06 | 2.06 | 6.62 | 5.25 |
| 3/4   | GUT-WB-B          | .6250                 | 12.12 | 2.06 | 6.62 | 5.25 |
| 1     | HUT-5/8-WB-B      | .6250                 | 12.12 | 2.06 | 6.62 | 5.25 |
| 1     | HUT-WB-B          | .8750                 | 12.12 | 2.13 | 6.62 | 5.25 |
| 1-1/2 | JUTF-WB-B         | .8750                 | 13.30 | 2.13 | 6.62 | 5.25 |
| 2     | KUTF-WB-B         | .8750                 | 12.30 | 2.13 | 6.62 | 5.25 |
| 3     | LUTF-WB-B         | 1.1250                | 16.55 | 2.63 | 7.88 | 5.88 |
| 5     | MUTF-WB-B         | 1.1250                | 16.55 | 2.63 | 7.88 | 5.88 |

# Double C-Face AC Brakes CMBA Series

These double C-Face Brakes are direct acting with only one moving part. They are spring set and electro-magnetically released. Movement is limited to a spring loaded pressure plate. Release is instantaneous. If power fails, the brake will immediately set and hold.



## Features

- Automatic Reset
- Compact
- Continuous Duty
- Dependable
- Full Torque Stop
- Horizontal/Vertical Mount
- Instant Magnetic Release
- One Moving Part
- Ready to Mount
- Shock Mounted Magnet
- Direct Acting
- Flange/Foot Mounting
- Splined Hub
- Standard NEMA Voltages/Frequencies
- Superior Disc Life
- Superior Thermal Capacity
- Double C-Face

## Operation

Friction discs rotate with the motor shaft and are free to move axially on the hub. When the magnet coil is de-energized, a spring loaded pressure plate (magnet armature) presses against the rotating discs. Friction force stops and holds the motor shaft.

The pressure plate retracts against torque springs by magnetic force when the magnet is energized. Friction discs are then released and free to rotate with the hub and motor shaft. A manual release is also provided.

Brake coil leads connect directly to motor leads so that power is simultaneously supplied to both brake and motor. No control equipment is required. An instruction bulletin on mounting and hookup are included with each brake.

## Splined Hub

These C-Face brakes use splined hubs and internally splined friction discs as standard equipment. The spline design virtually eliminates back lash which is a delayed action effect caused by excessive clearances between hub and discs.

Splines increase disc life because the many contact points between hub and discs reduce the concentration of stresses encountered with non-splined hubs having only a few contact points.

## ORDER BY CATALOG NUMBER OR ITEM CODE

| Torque<br>(Lb. Ft.) | NEMA<br>Frame | Bore Code | Mounting            | Coil Voltage       |           |                                              |           |                |           |
|---------------------|---------------|-----------|---------------------|--------------------|-----------|----------------------------------------------|-----------|----------------|-----------|
|                     |               |           |                     | 115/230 VAC, 60 Hz |           | 208-230/460 VAC, 60 Hz<br>190/380 VAC, 50 Hz |           | 575 VAC, 60 Hz |           |
|                     |               |           |                     | Catalog Number     | Item Code | Catalog Number                               | Item Code | Catalog Number | Item Code |
| 3                   | 56C           | B5        | Horizontal/Vertical | CMBA56R-3          | 67545     | CMBA56U-3                                    | 67546     | CMBA56Y-3      | 67547     |
|                     |               | B5        | Horizontal          | CMBA56R-6          | 67548     | CMBA56U-6                                    | 67549     | CMBA56Y-6      | 67550     |
| 6                   | 140TC         | B7        | Horizontal          | CMBA140TR-6        | 67551     | CMBA140TU-6                                  | 67552     | CMBA140TY-6    | 67553     |
|                     |               | B7        | Vertical Shaft Up   | CMBA140TR-6U       | 67554     | CMBA140TU-6U                                 | 67556     | —              | —         |
|                     |               | B7        | Vertical Shaft Down | CMBA140TR-6D       | 67555     | CMBA140TU-6D                                 | 67557     | —              | —         |

## ALL DIMENSIONS IN INCHES

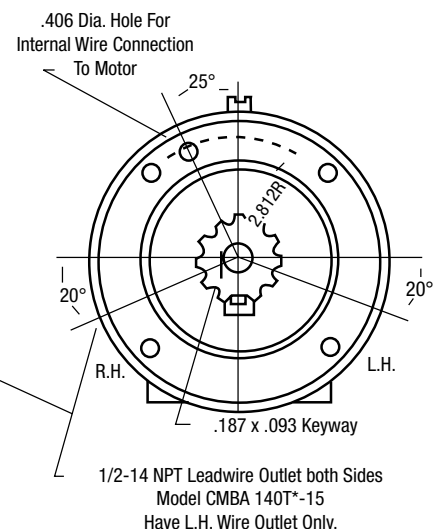
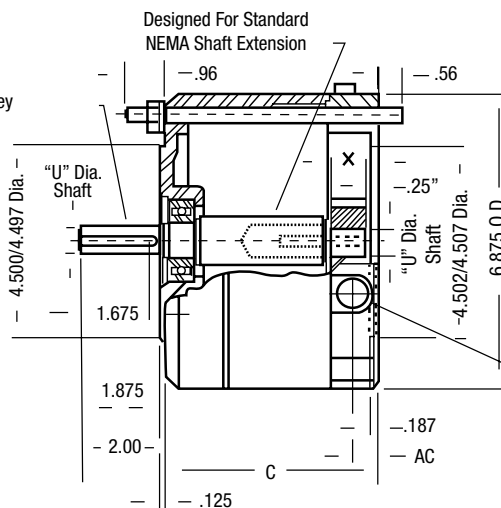
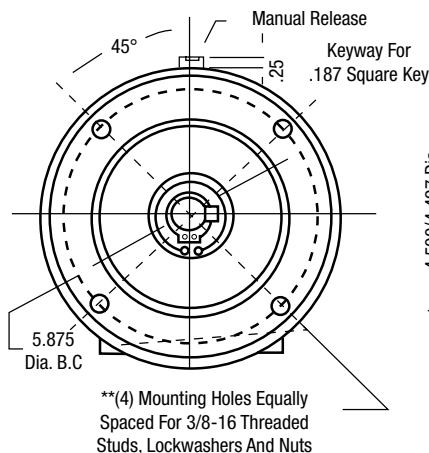
| Size   | AC   | C       | G      | X   | U   | Housing<br>O.D. | Approx.<br>Weight |
|--------|------|---------|--------|-----|-----|-----------------|-------------------|
| 56-3   |      |         |        |     | 5/8 |                 |                   |
| 56-6   | 9/16 | 4-15/16 | 1-3/16 | 7/8 | 5/8 | 6-7/8           | 12 Lbs.           |
| 140T-6 |      |         |        |     | 7/8 |                 |                   |

## PARTS (ORDER BY ITEM CODE)

| Description              | Item Code |
|--------------------------|-----------|
| Base Kit                 | 67561     |
| Coil-115/230 VAC 60 Hz   | 67558     |
| Coil-208-200-380-440 VAC | 67559     |
| Coil-575 VAC 60 Hz       | 67560     |
| Disc-Stationary          | 67562     |
| Disc-Rotating            | 67563     |

## Dimensions

\*\* Included In Parts Package



P





Section Contents

Speed Reducer Nomenclature .....346

Horsepower and Torque .....347

AGMA Service Factors & Load Classifications .....348-349

Application Considerations .....350-352

Application Formulas .....353

# Speed Reducer Nomenclature

**AXIAL MOVEMENT** – Endwise movement of input or output shafts, sometimes called endplay, is usually expressed in thousands of an inch.

**EFFICIENCY** – The amount of output power of the reducer as compared to the amount of input power. It is usually stated as a percentage.

**Example:**

Input HP = 1  
Output HP = .75  $(75/100) \times (100) = 75\%$  Efficiency

**BACKLASH** – Rotational movement of the output shaft when holding the input shaft stationary and rotating the output shaft alternately clockwise and counter clockwise. Backlash may be expressed in thousands of an inch measured at a specific radius at the output shaft.

**CENTER DISTANCE** – On a single reduction reducer, this is the distance between the center lines of the input and output shafts. Shaft center lines may be parallel or at right angles to one another. The center distance of multiple stage reducers usually refers to the lowest speed stage (last reduction).

**THRUST LOAD** – Forces imposed on a shaft parallel to the shaft axis. Such a force is called a thrust load. It is often encountered on shafts driving mixers, fans, blowers and similar machines. When a thrust load acts on a speed reducer, you must be sure that the thrust load rating of the reducer is high enough that its shafts and bearings can absorb the load.

**MECHANICAL RATING** – The maximum power or torque that a speed reducer can transmit, based on the strength and durability of its components, is its mechanical rating. Obviously, the reducer may be rated no higher than the strength or durability of its weakest component. Reducers typically have a safety margin of two to three on their mechanical ratings. Thus, a reducer can withstand momentary overloads of 200-300% of its mechanical rating during a startup or other brief overload situations.

**THERMAL RATING** – The maximum power or torque that a speed reducer can transmit continuously, based on its ability to dissipate heat generated by friction, is called its thermal rating.

**PRIME MOVER** – The machine that provides power to a drive is its prime mover. The most frequently encountered prime movers include electric motors, internal combustion engines, hydraulic motors and air motors. The type of prime mover used can affect the speed reducer during operation. For example, an electric motor runs relatively smoothly in comparison to an internal combustion engine.

**MOUNTING POSITION** – The relationship of the input and output shafts relative to the floor line.

**INPUT HORSEPOWER** – The amount of power applied to the input shaft of a reducer by the prime mover is its input horsepower. It is often used as a selection basis for power transmission components, and it appears in the rating tables of drive manufacturer's published data. Remember that input horsepower ratings represent the maximum amount of power that the reducer can safely handle.

**OUTPUT HORSEPOWER** – The amount of power available at the output shaft of a reducer is its output horsepower. Due to losses caused by inefficiency, output horsepower is always less than input horsepower.

**OVERHUNG LOAD** – The input or the output shaft of a speed reducer can be subject to an overhung load; that is, to a force applied at right angles to the shaft, beyond its outermost bearing. Such a force is a shaft bending load resulting from a gear, pulley, sprocket or other external drive member. Besides the tendency to bend the shaft, the overhung load (that is, the radial force on the shaft) is reacted to by the shaft in its bearings. Therefore, the overhung load creates loads that the bearings must be able to support without damage.

**SERVICE FACTORS** – Numbers which modify the loads which must be considered in selecting a speed reducer are called service factors. They vary with the type of service in which the reducer is to be used, the kind of prime mover involved and the duty cycle. The service factor can be a multiplier applied to the known load, which redefines the load in accordance with the conditions at which the drive will be used, or it can be a divisor applied to catalog reducer ratings, thus redefining the rating in accordance with drive conditions. The service factor is usually applied to the speed reducer, but can also be applied to the name plate rating of the prime mover.

**REDUCTOR®** – Boston Gear's registered trademark for a speed reducer having a projecting input shaft suitable for mounting a coupling, sprocket, pulley or gear.

**FLANGED REDUCTOR** – Boston Gear's name for a reductor furnished with an input flange suitable for attaching a face mounted motor.

**RATIOMOTOR®** – Boston Gear's registered trademark for a motorized reducer consisting of a flanged reductor and face mounted motor assembled, sometimes referred to as a gearmotor.

**SELF-LOCKING ABILITY** – Boston 700 Series reducers, under no conditions should be considered to hold a load when at rest.

**BACK-DRIVING** – This is the converse of self-locking. Depending upon ratio and many variables, it is difficult to predict the back-driving capability of a 700 Series reducer. Worm gear reducers are not intended to be used as speed increasers. Consult factory for back-driving applications.

Q



**POWER** is the rate of doing work.

**WORK** is the exerting of a **FORCE** through a **DISTANCE**.  
ONE FOOT POUND is a unit of **WORK**. It is the **WORK** done in exerting a **FORCE** OF ONE POUND through a **DISTANCE** OF ONE FOOT.

**THE AMOUNT OF WORK** done (Foot Pounds) is the **FORCE** (Pounds) exerted multiplied by the **DISTANCE** (Feet) through which the **FORCE** acts.

**THE AMOUNT OF POWER** used (Foot Pounds per Minute) is the **WORK** (Foot Pounds) done divided by the **TIME** (Minutes) required.

$$\text{POWER (Foot Pounds per Minute)} = \frac{\text{WORK (Ft. Lbs.)}}{\text{TIME (Minutes)}}$$

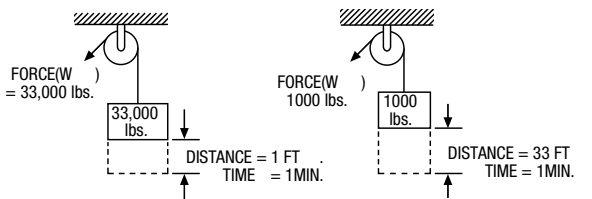
**POWER** is usually expressed in terms of **HORSEPOWER**.

**HORSEPOWER** is **POWER** (Foot Pounds per Minute) divided by 33,000.

**HORSEPOWER (HP)**

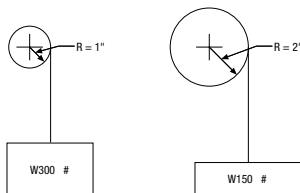
$$\begin{aligned} &= \frac{\text{POWER (Ft. Lbs. per Minute)}}{33,000} \\ &= \frac{\text{WORK (Ft. Pounds)}}{33,000 \times \text{TIME (Min.)}} \\ &= \frac{\text{FORCE (Lbs.)} \times \text{DISTANCE (Feet)}}{33,000 \times \text{TIME (Min.)}} \end{aligned}$$

## Illustration of horsepower



$$\text{HP} = \frac{33,000 \times 1}{33,000 \times 1} = 1 \text{ HP} \quad \text{HP} = \frac{1000 \times 33}{33,000 \times 1} = 1 \text{ HP}$$

**TORQUE (T)** is the product of a **FORCE (W)** in pounds, times a **RADIUS (R)** in inches from the center of shaft (Lever Arm) and is expressed in Inch Pounds.



$$\begin{aligned} T &= WR \\ &= 300 \times 1 = 300 \text{ In. Lbs.} \end{aligned}$$

$$\begin{aligned} T &= WR \\ &= 150 \times 2 = 300 \text{ In. Lbs.} \end{aligned}$$

If the shaft is revolved, the **FORCE (W)** is moved through a distance, and **WORK** is done.

$$\text{WORK (Ft. Lbs.)} = W \times \frac{2\pi R}{12} \times \text{No. of Rev. of shaft}$$

When **WORK** is done in a specified **TIME**, **POWER** is used.

$$\text{POWER (Ft. Pounds per Minute)} = W \times \frac{2\pi R}{12} \times \text{RPM}$$

Since (1) **HORSEPOWER** = 33,000 Ft. Pounds per Minute

$$\text{Horsepower (HP)} = W \times \frac{2\pi R}{12} \times \frac{\text{RPM}}{33,000} = \frac{W \times R \times \text{RPM}}{63,025}$$

but **TORQUE** (Inch Pounds) = **FORCE (W)** x **RADIUS (R)**

$$\text{Therefore HORSEPOWER (HP)} = \frac{\text{TORQUE (T)} \times \text{RPM}}{63,025}$$

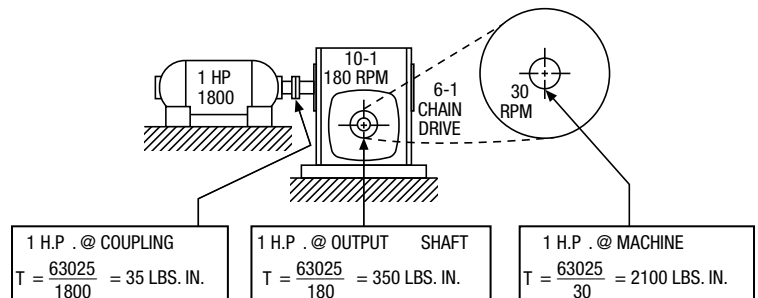
Where total reductions are small, 50 to 1 or less, HP figures are commonly used. Higher reductions require that **TORQUE** figures be used to select drive components, because with large reductions, a small motor can produce extremely high **TORQUE** at the final low speed. For example, 1/12 HP reduced to 1 RPM using the formula below and neglecting friction:

$$\text{HP} = \frac{\text{TORQUE} \times \text{RPM}}{63,025} \text{ or } \text{TORQUE} = \frac{63,025 \times \text{HP}}{\text{RPM}}$$

$$\text{TORQUE} = \frac{63,025 \times 1/12}{1} = 5,252 \text{ In. Lbs.}$$

Therefore, motors for use with large reductions should be carefully selected. Even a small motor, if stalled, can produce enough **Torque** to ruin the drive, unless it is protected by a shear pin or some similar device.

Neglecting frictional losses, this sketch illustrates the manner in which **Torque** increases as speed decreases.



# AGMA Service Factors and Load Classifications

| Type of Machine<br>To Be Driven                     | Non-Motor<br>Reducer<br>(Service Factors) |            | Motorized<br>Reducer<br>(Class of Service) |            |
|-----------------------------------------------------|-------------------------------------------|------------|--------------------------------------------|------------|
|                                                     | Hours Per Day                             |            | Hours Per Day                              |            |
|                                                     | 3<br>to<br>10                             | Over<br>10 | 3<br>to<br>10                              | Over<br>10 |
| <b>AGITATORS</b>                                    |                                           |            |                                            |            |
| Pure Liquid                                         | 1.00                                      | 1.25       | I                                          | II         |
| Semi-Liquids, Variable Density                      | 1.25                                      | 1.50       | II                                         | II         |
| <b>BLOWERS</b>                                      |                                           |            |                                            |            |
| Centrifugal and Vane                                | 1.00                                      | 1.25       | —                                          | —          |
| Lobe                                                | 1.25                                      | 1.50       | —                                          | —          |
| <b>BREWING AND DISTILLING</b>                       |                                           |            |                                            |            |
| Bottling Machinery                                  | 1.00                                      | 1.25       | I                                          | II         |
| Brew Kettles - Continuous Duty                      | —                                         | 1.25       | —                                          | II         |
| Cookers - Continuous Duty                           | —                                         | 1.25       | —                                          | II         |
| Mash Tubs - Continuous Duty                         | —                                         | 1.25       | —                                          | II         |
| Scale Hopper - Frequent Starts                      | 1.25                                      | 1.50       | II                                         | II         |
| <b>CAN FILLING MACHINES</b>                         |                                           |            |                                            |            |
| Can Knives                                          | 1.50                                      | —          | —                                          | —          |
| Car Dumpers                                         | 1.75                                      | —          | III                                        | —          |
| Car Pullers                                         | 1.25                                      | —          | *                                          | —          |
| Clarifiers                                          | 1.00                                      | 1.25       | I                                          | II         |
| Classifiers                                         | 1.25                                      | 1.50       | II                                         | II         |
| <b>CLAY WORKING MACHINERY</b>                       |                                           |            |                                            |            |
| Brick Press & Briquette Machine                     | 1.75                                      | 2.00       | III                                        | III        |
| Extruders and Mixers                                | 1.25                                      | 1.50       | II                                         | III        |
| <b>COMPRESSORS</b>                                  |                                           |            |                                            |            |
| Centrifugal                                         | 1.00                                      | 1.25       | —                                          | —          |
| Lobe - Reciprocating, Multi-Cycle                   | 1.25                                      | 1.50       | —                                          | —          |
| Reciprocating - Single Cycle                        | 1.75                                      | 2.00       | —                                          | —          |
| <b>CONVEYORS - UNIFORMLY<br/>LOADED &amp; FED</b>   |                                           |            |                                            |            |
| Apron                                               | 1.00                                      | 1.25       | II                                         | III        |
| Assembly Belt - Bucket or Pan                       | 1.00                                      | 1.25       | II                                         | II         |
| Chain - Flight                                      | 1.00                                      | 1.25       | II                                         | II         |
| Oven - Live Roll - Screw                            | 1.00                                      | 1.25       | I                                          | II         |
| <b>CONVEYORS - HEAVY DUTY<br/>NOT UNIFORMLY FED</b> |                                           |            |                                            |            |
| Apron                                               | 1.25                                      | 1.50       | II                                         | III        |
| Assembly Belt - Bucket or Pan                       | 1.25                                      | 1.50       | II                                         | II         |
| Chain - Flight                                      | 1.25                                      | 1.50       | II                                         | II         |
| Live Roll                                           | —                                         | —          | *                                          | *          |
| Oven - Screw                                        | 1.25                                      | 1.50       | I                                          | II         |
| Reciprocating - Shaker                              | 1.75                                      | 2.00       | III                                        | III        |
| <b>CRANES AND HOISTS</b>                            |                                           |            |                                            |            |
| Main Hoists                                         | 1.00                                      | 1.25       | I                                          | II         |
| Bridge and Trolley Drive                            | *                                         | *          | II                                         | II         |
| <b>CRUSHER</b>                                      |                                           |            |                                            |            |
| Ore, Stone                                          | 1.75                                      | 2.00       | —                                          | —          |
| Sugar                                               | 1.50                                      | 1.50       | —                                          | —          |
| <b>ELEVATORS</b>                                    |                                           |            |                                            |            |
| Bucket - Uniform Load                               | 1.00                                      | 1.25       | I                                          | II         |
| Bucket - Heavy Load                                 | 1.25                                      | 1.50       | II                                         | III        |
| Centrifugal Discharge                               | 1.25                                      | 1.50       | I                                          | II         |
| Freight                                             | 1.25                                      | 1.50       | II                                         | II         |
| Gravity Discharge                                   | 1.00                                      | 1.25       | I                                          | II         |
| <b>FANS</b>                                         |                                           |            |                                            |            |
| Centrifugal - Light (Small Dia.)                    | 1.00                                      | 1.25       | —                                          | —          |
| Large Industrial                                    | 1.25                                      | 1.50       | —                                          | —          |

\*Consult Manufacturer.

| Type of Machine<br>To Be Driven             | Non-Motor<br>Reducer<br>(Service Factors) |            | Motorized<br>Reducer<br>(Class of Service) |            |
|---------------------------------------------|-------------------------------------------|------------|--------------------------------------------|------------|
|                                             | Hours Per Day                             |            | Hours Per Day                              |            |
|                                             | 3<br>to<br>10                             | Over<br>10 | 3<br>to<br>10                              | Over<br>10 |
| <b>FEEDERS</b>                              |                                           |            |                                            |            |
| Apron - Belt - Screw                        | 1.25                                      | 1.50       | —                                          | —          |
| Disc                                        | 1.00                                      | 1.25       | —                                          | —          |
| Reciprocating                               | 1.75                                      | 2.00       | —                                          | —          |
| <b>FOOD INDUSTRY</b>                        |                                           |            |                                            |            |
| Beet Slicer                                 | 1.25                                      | 1.50       | II                                         | II         |
| Bottling, Can Filling Machines              | 1.00                                      | 1.25       | —                                          | —          |
| Cereal Cooker                               | 1.00                                      | 1.25       | I                                          | II         |
| Dough Mixer - Meat Grinder                  | 1.25                                      | 1.50       | II                                         | II         |
| Generators (Not Welding)                    | 1.00                                      | 1.25       | —                                          | —          |
| Hammer Mills                                | 1.75                                      | 2.00       | —                                          | —          |
| Slicers                                     | 1.00                                      | 1.25       | —                                          | —          |
| <b>HOISTS</b>                               |                                           |            |                                            |            |
| Heavy Duty                                  | 1.75                                      | 2.00       | —                                          | —          |
| Medium Duty and Skip Type                   | 1.25                                      | 1.50       | —                                          | —          |
| Laundry Tumblers                            | 1.25                                      | 1.50       | II                                         | III        |
| <b>LINE SHAFTS</b>                          |                                           |            |                                            |            |
| Uniform Load                                | 1.00                                      | 1.25       | I                                          | II         |
| Heavy Load                                  | 1.25                                      | 1.50       | II                                         | II         |
| <b>MACHINE TOOLS</b>                        |                                           |            |                                            |            |
| Auxiliary Drive                             | 1.00                                      | 1.25       | I                                          | II         |
| Main Drive - Uniform Load                   | 1.25                                      | 1.50       | II                                         | II         |
| Main Drive - Heavy Duty                     | 1.75                                      | 2.00       | III                                        | III        |
| <b>METAL MILLS</b>                          |                                           |            |                                            |            |
| Draw Bench Carriers & Main Drive            | 1.25                                      | 1.50       | —                                          | —          |
| Slitters                                    | 1.25                                      | 1.50       | —                                          | —          |
| <b>TABLE CONVEYORS -<br/>NON REVERSING</b>  |                                           |            |                                            |            |
| Group Drives                                | 1.25                                      | 1.50       | II                                         | III        |
| Individual Drives                           | 1.75                                      | 2.00       | III                                        | III        |
| Wire Drawing, Flattening or Winding         | 1.25                                      | 1.50       | II                                         | III        |
| <b>MILLS ROTARY TYPE<br/>BALL &amp; ROD</b> |                                           |            |                                            |            |
| Spur Ring Gear and Direct Connected         | —                                         | 2.00       | —                                          | —          |
| Cement Kilns, Pebble                        | —                                         | 1.50       | —                                          | —          |
| Dryers and Coolers                          | —                                         | 1.50       | —                                          | —          |
| Plain and Wedge Bar                         | —                                         | 1.50       | —                                          | —          |
| Tumbling Barrels                            | —                                         | 2.00       | —                                          | —          |
| <b>MIXERS</b>                               |                                           |            |                                            |            |
| Concrete - Continuous                       | 1.25                                      | 1.50       | II                                         | III        |
| Concrete - Intermittent                     | 1.25                                      | 1.50       | II                                         | —          |
| Constant Density                            | 1.00                                      | 1.25       | I                                          | II         |
| Semi-Liquid                                 | 1.25                                      | 1.50       | II                                         | II         |
| <b>OIL INDUSTRY</b>                         |                                           |            |                                            |            |
| Oil Well Pumping                            | —                                         | *          | —                                          | —          |
| Chillers, Paraffin Filter                   | 1.25                                      | 1.50       | —                                          | —          |
| Press Rotary Kilns                          | 1.25                                      | 1.50       | —                                          | —          |
| <b>PAPER MILLS</b>                          |                                           |            |                                            |            |
| Agitator (Mixer)                            | 1.25                                      | 1.50       | II                                         | II         |
| Agitator - Pure Liquids                     | 1.00                                      | 1.25       | —                                          | —          |
| Barking Drums - Mechanical Barkers          | 1.75                                      | 2.00       | —                                          | —          |
| Bleacher                                    | 1.00                                      | 1.25       | I                                          | II         |
| Beater                                      | 1.25                                      | 1.50       | —                                          | —          |
| Calendar - Heavy Duty                       | —                                         | 2.00       | —                                          | —          |



# AGMA Service Factors and Load Classifications

| Type of Machine<br>To Be Driven        | Non-Motor<br>Reducer<br>(Service Factors) |            | Motorized<br>Reducer<br>(Class of Service) |            |
|----------------------------------------|-------------------------------------------|------------|--------------------------------------------|------------|
|                                        | Hours Per Day                             |            | Hours Per Day                              |            |
|                                        | 3<br>to<br>10                             | Over<br>10 | 3<br>to<br>10                              | Over<br>10 |
| <b>PAPER MILLS (Continued)</b>         |                                           |            |                                            |            |
| Calendar - Anti-Friction Bearings      | 1.00                                      | 1.25       | —                                          | II         |
| Cylinders                              | 1.25                                      | 1.50       | —                                          | II         |
| Chipper                                | —                                         | 2.00       | —                                          | III        |
| Chip Feeder                            | 1.25                                      | 1.50       | —                                          | —          |
| Coating Rolls - Couch Rolls            | 1.00                                      | 1.25       | —                                          | —          |
| Conveyors - Chips - Bark - Chemical    | 1.00                                      | 1.25       | —                                          | —          |
| Conveyors - Log and Slab               | —                                         | 2.00       | —                                          | —          |
| Cutter                                 | —                                         | 2.00       | —                                          | —          |
| Cylinder Molds, Dryers - Anti-Friction | —                                         | 1.25       | —                                          | —          |
| Felt Stretcher                         | 1.25                                      | 1.50       | —                                          | II         |
| Screens - Chip and Rotary              | 1.25                                      | 1.50       | —                                          | —          |
| Thickener (AC)                         | 1.25                                      | 1.50       | —                                          | —          |
| Washer (AC)                            | 1.25                                      | 1.50       | —                                          | —          |
| Winder - Surface Type                  | —                                         | 1.25       | —                                          | II         |
| <b>PLASTICS INDUSTRY</b>               |                                           |            |                                            |            |
| Intensive Internal Mixers              |                                           |            |                                            |            |
| Batch Type                             | —                                         | 1.75       | —                                          | —          |
| Continuous Type                        | —                                         | 1.50       | —                                          | —          |
| Batch Drop Mill - 2 Rolls              | —                                         | 1.25       | —                                          | —          |
| Compounding Mills                      | —                                         | 1.25       | —                                          | —          |
| Calendars                              | —                                         | 1.50       | —                                          | —          |
| Extruder - Variable Speed              | —                                         | 1.50       | —                                          | —          |
| Extruder - Fixed Speed                 | —                                         | 1.75       | —                                          | —          |
| <b>PULLERS</b>                         |                                           |            |                                            |            |
| Barge Haul                             | —                                         | 2.00       | —                                          | —          |
| <b>PUMPS</b>                           |                                           |            |                                            |            |
| Centrifugal                            | —                                         | 1.25       | —                                          | —          |
| Proportioning                          | —                                         | 1.50       | *                                          | *          |
| Reciprocating                          |                                           |            |                                            |            |
| Single Acting, 3 or More Cycles        | 1.25                                      | 1.50       | II                                         | III        |
| Double Acting, 2 or More Cycles        | 1.25                                      | 1.50       | II                                         | III        |
| Rotary - Gear or Lube                  | 1.00                                      | 1.25       | I                                          | II         |
| <b>RUBBER INDUSTRY</b>                 |                                           |            |                                            |            |
| Batch Mixers                           | —                                         | 1.75       | —                                          | —          |
| Continuous Mixers                      | —                                         | 1.50       | —                                          | —          |

\*Consult Manufacturer.

| Type of Machine<br>To Be Driven    | Non-Motor<br>Reducer<br>(Service Factors) |            | Motorized<br>Reducer<br>(Class of Service) |            |
|------------------------------------|-------------------------------------------|------------|--------------------------------------------|------------|
|                                    | Hours Per Day                             |            | Hours Per Day                              |            |
|                                    | 3<br>to<br>10                             | Over<br>10 | 3<br>to<br>10                              | Over<br>10 |
| <b>RUBBER INDUSTRY (Continued)</b> |                                           |            |                                            |            |
| Continuous Mixers                  | —                                         | 1.50       | —                                          | —          |
| Calendars                          | —                                         | 1.50       | —                                          | —          |
| Extruders - Continuous             | —                                         | 1.50       | —                                          | —          |
| Extruders - Intermittent           | —                                         | 1.75       | —                                          | —          |
| Tire Building Machines             | —                                         | —          | II                                         | II         |
| Tire and Tube Press Operators      | —                                         | —          | I                                          | I          |
| <b>SEWAGE DISPOSAL EQUIPMENT</b>   |                                           |            |                                            |            |
| Bar Screens                        | 1.00                                      | 1.25       | I                                          | II         |
| Chemical Feeders                   | 1.00                                      | 1.25       | I                                          | II         |
| Collectors                         | 1.00                                      | 1.25       | I                                          | II         |
| Dewatering Screws                  | 1.25                                      | 1.50       | II                                         | II         |
| Scum Breakers                      | 1.25                                      | 1.50       | II                                         | II         |
| Slow or Rapid Mixers               | 1.25                                      | 1.50       | II                                         | II         |
| Thickeners                         | 1.25                                      | 1.50       | II                                         | II         |
| Vacuum Filters                     | 1.25                                      | 1.50       | II                                         | II         |
| <b>SCREENS</b>                     |                                           |            |                                            |            |
| Air Washing                        | 1.00                                      | 1.25       | I                                          | II         |
| Rotary - Stone or Gravel           | 1.25                                      | 1.50       | II                                         | II         |
| Traveling Water Intake             | 1.00                                      | 1.25       | I                                          | II         |
| Skip Hoists                        | —                                         | —          | II                                         | —          |
| Slab Pushers                       | 1.25                                      | 1.50       | —                                          | —          |
| Stokers                            | —                                         | 1.25       | —                                          | II         |
| <b>TEXTILE INDUSTRY</b>            |                                           |            |                                            |            |
| Batchers or Calendars              | 1.25                                      | 1.50       | II                                         | II         |
| Cards                              | 1.25                                      | 1.50       | I                                          | II         |
| Card Machines                      | 1.75                                      | 2.00       | III                                        | III        |
| Dry Cans and Dryers                | 1.25                                      | 1.50       | II                                         | II         |
| Dyeing Machines                    | 1.25                                      | 1.50       | II                                         | II         |
| Looms                              | 1.25                                      | 1.50       | *                                          | *          |
| Mangles, Nappers and Pads          | 1.25                                      | 1.50       | II                                         | II         |
| Soapers, Tenner Frames             | 1.25                                      | 1.50       | II                                         | II         |
| Spinners, Washers, Winders         | 1.25                                      | 1.50       | II                                         | II         |
| Tumbling Barrels                   | 1.75                                      | 2.00       | III                                        | III        |
| Windlass                           | 1.25                                      | 1.50       | II                                         | III        |

This list is not all-inclusive and each application should be checked to determine if any unusual operating conditions will be encountered.

## SERVICE FACTOR CHART

| AGMA<br>Class of Service | Service<br>Factor | Operating Conditions                                                                                    |
|--------------------------|-------------------|---------------------------------------------------------------------------------------------------------|
| I                        | 1.00              | Moderate Shock - not more than 15 minutes in 2 hours.<br>Uniform Load - not more than 10 hours per day. |
| II                       | 1.25              | Moderate Shock - not more than 10 hours per day.<br>Uniform Load - more than 10 hours per day.          |
|                          | 1.50              | Heavy Shock - not more than 15 minutes in 2 hours.<br>Moderate Shock - more than 10 hours per day.      |
| III                      | 1.75              | Heavy Shock - not more than 10 hours per day.                                                           |
|                          | 2.00              | Heavy Shock - more than 10 hours per day.                                                               |

# Application Considerations

For most applications, select for running torque rather than starting torque. The AC motor will normally produce a 200 percent starting torque. The speed reducer is built to take at least 200% momentary overload to overcome normal starting inertia. The difference in the resulting cost can be startling.

**A 20% safety factor in selection can double the life ...** of the speed reducer for more economy in the long run. This rule of thumb will help compensate for unexpected shock and vibration, and add substantially to wear life.

**Consider “auxiliary drives” whenever possible for economy.** A properly selected gear or chain drive reduction from the reducer output to the driven shaft can produce substantial savings in space and drive cost.

**Avoid auxiliary drives to the input shaft ...** unless absolutely necessary. Auxiliary reduction from the motor to the input shaft can increase the size and cost of the drive.

## Hoists

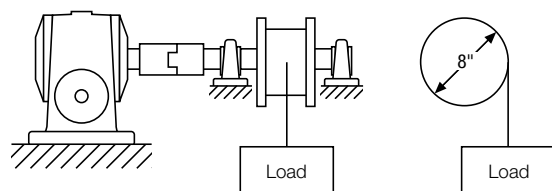
Worm gear reducers are ideal for many hoist applications. There are, however, certain precautions which should be exercised with what are thought to be self-locking characteristics of this reducer type.

A worm gear is generally said to be self-locking or irreversible when the gear cannot drive the worm – when the lead angle of the worm is less than the friction angle and hence, reverse drive efficiency is zero. This static condition can be upset by vibrations from nearby machinery or other sources. Many worm gear reducers are not self-locking, and even a particular size and ratio, which may appear to be, cannot be depended upon for this purpose. Also, a reducer which holds the load when upward movement is stopped may not when the load inertia is moving downward and the motor is stopped. For complete locking assurance, it is recommended that a fail-safe brake be used for such an application.

Finding the required torque and drum RPM...

$$\text{Torque (Lb. Ins.)} = (\text{Load}) \times (\text{Drum Radius})$$

$$\text{RPM} = (\text{Velocity}) \div .2618 \times (\text{Drum Dia.})$$



## Belt Conveyors

Belt conveyor applications are one of those wherein the speed reducer is commonly overspecified. Proper application can, in many instances, result in substantial system economies.

To determine the torque required here, first determine the belt pull, since this is the principal force. In calculating this, the effects of sliding friction and/or angle or inclination must be considered. Table 1 shows Application Factors which may be used in determining belt pull based upon common combinations of materials and various angles.

TABLE 1. CONVEYOR APPLICATION FACTORS

| Material Combinations     | Angle From The Horizontal |     |     |     |      |      |      |      |      |      |
|---------------------------|---------------------------|-----|-----|-----|------|------|------|------|------|------|
|                           | 0°                        | 10° | 20° | 30° | 40°  | 50°  | 60°  | 70°  | 80°  | 90°  |
| Pivoting bucket conveyor  | .025                      | .19 | .36 | .52 | .66  | .78  | .88  | .95  | .99  | 1.00 |
| Belt on rollers           | .025                      | .19 | .36 | .52 | .66  | .78  | .88  | .95  | .99  | 1.00 |
| Metal on metal (finished) | .20                       | .37 | .53 | .67 | .80  | .89  | .97  | 1.01 | 1.02 | 1.00 |
| Fabric on steel           | .27                       | .44 | .60 | .74 | .85  | .94  | 1.00 | 1.03 | 1.03 | 1.00 |
| Fabric on wood            | .32                       | .49 | .63 | .77 | .88  | .97  | 1.02 | 1.04 | 1.04 | 1.00 |
| Leather on wood           | .35                       | .52 | .67 | .80 | .91  | .99  | 1.04 | 1.06 | 1.05 | 1.00 |
| Wood on wood              | .35                       | .52 | .67 | .80 | .91  | .99  | 1.04 | 1.06 | 1.05 | 1.00 |
| Plastic on steel          | .35                       | .52 | .67 | .80 | .91  | .99  | 1.04 | 1.06 | 1.05 | 1.00 |
| Metal on wood             | .40                       | .57 | .72 | .85 | .95  | 1.02 | 1.07 | 1.08 | 1.05 | 1.00 |
| Rubber on wood            | .45                       | .62 | .76 | .89 | .99  | 1.05 | 1.09 | 1.09 | 1.06 | 1.00 |
| Rubber on steel           | .50                       | .67 | .81 | .93 | 1.03 | 1.09 | 1.12 | 1.11 | 1.07 | 1.00 |
| Leather on metal          | .56                       | .72 | .87 | .98 | 1.06 | 1.12 | 1.14 | 1.13 | 1.08 | 1.00 |

Interpolation in the table above is permissible.

The procedure involves selection of the proper Application Factor for the calculations:

$$\text{Belt Pull} = (\text{Total weight on conveyor}) \times (\text{Application Factor})$$

$$\text{Torque} = (\text{Belt Pull}) \times (\text{Radius of Head Pulley})$$

## Example:

An inclined belt conveyor is to carry cases of canned fruit. The belt is leather on a wood conveyor bed. Ten cases will be on the conveyor at a time, and each weighs 30 Lbs. The conveyor is inclined at 20° to the horizontal, and the head pulley diameter is 9".

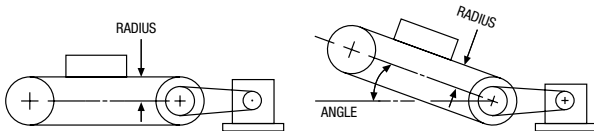
How much torque is required at the head pulley?

Select .67 as the Application Factor (Table 1)

Determine weight: 10 x 30 = 300 Lbs.

Determine belt pull: 300 x .67 = 201 Lbs.

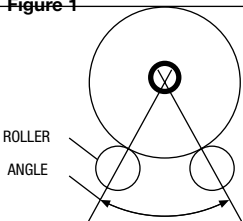
Determine Torque: 201 x 9/2 = 201 x 4.5  
= 904 Lb. Ins.



## Cylinders

These applications deal principally with rotation of weight about a horizontal centerline. Again, they are commonly subject to reducer overspecification. The table of Rolling Friction Factors in the section on turntables may be used, since the supporting members will be essentially the same.

Figure 1



For **Roller Supported** cylinders (Figure 1), the torque required will depend on the rolling friction factor and the angle between the rollers, in addition to the weight. Assuming that the load in the cylinder is non-solid and tends to remain essentially central (or balanced). The Table below lists angle factors to be used in the calculations.

**Table 2. Angle Factors  
For Roller Supported Cylinders**

| Angle        | 0°   | 20°  | 40°  | 50°  | 60°  | 70°  | 80°  | 90°  |
|--------------|------|------|------|------|------|------|------|------|
| Angle Factor | 1.00 | 1.02 | 1.06 | 1.10 | 1.15 | 1.22 | 1.31 | 1.41 |

The friction force acts at the point of contact between the rollers and the cylinder, and will be:

$$\text{Friction Force} = (\text{Weight}) \times (\text{Friction Factor}) \times (\text{Angle Factor})$$

Assuming the cylinder is to be driven by one of the rollers:

$$\text{Torque} = (\text{Friction Force}) \times (\text{Radius of Roller})$$

## Example:

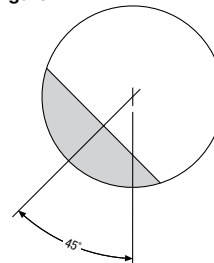
A 1200 Lb. steel cylinder is resting on two pairs of steel rollers which are 4" in diameter. The cylinder is empty. The angle between rollers is 50°. How much torque is required at the roller to turn the cylinder?

Select 1.10 as Angle Factor (Table 2), and .025 as Rolling Friction Factor (Table 3).

Determine Friction Force: 1200 x .025 x 1.10 = 33 Lbs.

Determine Torque: 33 x 2 = 66 Lb. Ins.

Figure 2



Horizontal Axis Supported cylinders (Figure 2), with unbalanced loads require a different approach. Assuming that the cylinder is not full, and that the material is rotated to a position about 45° from the vertical, the torque is equal to the Material Weight x "Effective Radius".

$$\begin{aligned} \text{Effective Radius} &= \text{Cylinder Diameter (D)} \times 0.23 \text{ (1/4 full)} \\ &0.15 \text{ (1/2 full)} \\ &0.08 \text{ (3/4 full)} \end{aligned}$$

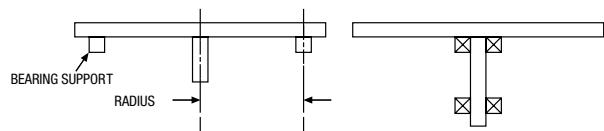
## Example:

An axis supported cylinder is 3 Ft. in diameter and is half full of semi-solids mixture weighing 400 Lbs. How much torque is required (at the axis) to rotate the cylinder?

Determine the Effective Radius: .15 x (3 x 12) = 5.4 In.

Calculate Torque: 400 x 5.4 = 2160 Lb. Ins.

Turntables



Here, too, turntable applications appear to lend themselves to overspecification of the speed reducer.

This type of problem involves rotation of weight in a horizontal plane, and in most cases the torque must only overcome the friction between the turntable and its supporting bearings. Assuming that the speed of rotation will be slow, the bearing loads caused by centrifugal forces (resulting from eccentric loading) may be ignored. Since in most applications, the turntable is supported by anti-friction bearings or rollers, a Table of Rolling Friction Factors is provided to be used in the following calculations.

Table 3. Rolling friction factors

|                         |       |
|-------------------------|-------|
| Radial Ball Bearings    | .001  |
| Roller Bearings         | .0015 |
| Thrust Ball Bearings    | .0034 |
| Steel Wheels on Steel   | .025  |
| Iron Rollers on Wood    | .13   |
| Iron Rollers on Asphalt | .14   |

In rim supported turntables, a friction factor should be selected on the basis of the type of supporting bearings. The load on the bearings will be the sum of the weight of the turntable itself plus the load; the friction force at the bearings is the product of the total weight and the friction factor.

Force = (Total Weight x Friction Factor)

Torque = (Force) x (Radius)

Example:

A turntable 20 feet in diameter is to rotate a 4500 Lb. automobile. A ring of steel casters (riding on steel) supports the turntable, the casters are located at a radius of 8 feet. The turntable weights 1500 Lbs. How much torque is required to drive the turntable at the axis?

Select .025 as Rolling Friction Factor (Table 3).

Determine weight: 4500 + 1500 = 6000 Lbs.

Determine Friction Force: 6000 x .025 = 150 Lbs.

Determine Torque: 150 x (8 x 12) = 14,400 Lb. Ins.

Center supported turntables do not lend themselves well to calculation because the bearings are on the supporting shaft. The scale measurement of the torque will provide the most accurate value. If this is not possible, the mean radius of the bearing may be used in the above formulas with some degree of accuracy.

| TO OBTAIN                              | HAVING                                                                           | FORMULA                                         |
|----------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------|
| Velocity (V) Feet Per Minute           | Pitch Diameter (D) of Gear or Sprocket - Inches and Revolutions Per Minute (RPM) | $V = .2618 \times D \times \text{RPM}$          |
| Revolutions Per Minute (RPM)           | Velocity (V) Feet Per Minute and Pitch Diameter (D) of Gear or Sprocket - Inches | $\text{RPM} = \frac{V}{.2618 \times D}$         |
| Pitch Diameter (D) of Gear or Sprocket | Velocity (V) Feet Per Minute and Revolutions Per Minute (RPM)                    | $D = \frac{V}{.2618 \times \text{RPM}}$         |
| Torque (T) In. Lbs.                    | Force (W) Lbs. and Radius (R) Inches                                             | $T = W \times R$                                |
| Horsepower (HP)                        | Force (W) Lbs. and Velocity (V) Feet Per Minute                                  | $\text{HP} = \frac{W \times V}{33000}$          |
| Horsepower (HP)                        | Torque (T) In. Lbs. and Revolutions Per Minute (RPM)                             | $\text{HP} = \frac{T \times \text{RPM}}{63025}$ |
| Torque (T)                             | Horsepower (HP) and Revolutions Per Minute (RPM)                                 | $T = \frac{63025 \times \text{HP}}{\text{RPM}}$ |
| Force (W) Lbs.                         | Horsepower (HP) and Velocity (V) Feet Per Minute                                 | $W = \frac{33000 \times \text{HP}}{V}$          |
| Revolutions Per Minute (RPM)           | Horsepower (HP) and Torque (T) In. Lbs.                                          | $\text{RPM} = \frac{63025 \times \text{HP}}{T}$ |

# Terms and Conditions

**All Quotations And Sales By Boston Gear, The Contracting Party Hereto, A Division Of Regal Rexnord.  
Hereafter Called "Company" Are Made On The Following Terms And Conditions.**

## 1. Quotations and Their Acceptance

Unless otherwise specified, quotations on stock products are for immediate acceptance, subject to prior sales. Quotations on special products are made subject to acceptance within sixty (60) days from date thereof, but in making such quotations, the Company reserves the right to change or cancel them at any time prior to the receipt of the customers' written acceptance. All quotations for special products are based upon supplying up to plus or minus 5% of quantity ordered unless otherwise stated in the quotation. All quotations are made F.O.B. shipping point.

## 2. Prices

Prices are in accordance with current Company price lists, are based on quantity specified and are subject to minimum order requirements of the Company. In the event the Company consents to the cancellation or suspension of orders, it shall be entitled to charge for work done and material ordered or used up to the time of giving its written consent to such cancellation or suspension. When work is to be done on material furnished by the customer, prices are based on the quantity specified being delivered by the customer at one time within a reasonable time after acceptance of order. Quotations will be made on special products of all types or on cutting only. Prices, specifications, and terms and conditions, as well as all statements appearing in the Company's catalogs and advertisements, and made elsewhere by the Company are subject to change without notice. Changes by the customer in specifications or delivery requirements will be subject to change in price. Whenever the net price of an order amounts to less than \$25.00, a minimum charge of \$25.00 will be made.

## 3. Credit Terms

To those customer and prospective customers whose credit is satisfactory to the Company, terms are net thirty (30) days, from date of invoice, with the option of paying semi-monthly. The Company may at any time when, in its opinion, the financial condition of the customer or prospective customer warrants it, either alter or suspend credit, or discontinue deliveries, and render a charge covering the value of any partially finished special products which are then being manufactured for the customer. In those instances where credit is not established, and in cases where satisfactory references are not given, the terms are cash with order. For special products in those instances where credit is not established to the satisfaction of the Company, a deposit of at least 50% of total value of the order is required. Remittances should be made by check or money order, payable to the Boston Gear, P.O. Box 521 South Beloit, IL 61080, U.S.A. Delays in transportation shall not exceed the terms of payment.

## 4. Material Furnished by The Customer

Unless otherwise specified, quotations are based on material furnished by the customer being of ordinary hardness, normal allowance for finish, uniform specification, and machine work being of ordinary commercial accuracy. If material furnished by the customer involves the Company in expense not contemplated by the contract, the customer will be charged for all such additional expense. If serious defects are found in the material furnished by the customer, the customer will be charged for the actual work done. The Company assumes no responsibility for, and will not be liable for loss of or damage to samples, blueprints, diagrams, and other material of any nature submitted or furnished by the customer or prospective customer, provided the Company has exercised reasonable care in the handling of the same. The Company does not assume transportation and insurance costs on any of the foregoing items. In all cases where the customer or prospective customer makes no statement in writing, concerning the disposition of any of the foregoing material when submitted, the Company reserves the right to dispose of such material according to its best judgement.

## 5. Dimensions

When dimensions of rims, bores, and hubs are not clearly specified, quotations are based on ordinary dimensions. Before the customer's blanks are accepted by the Company for cutting, the diameter, holes, rims, and ends of holes must be finished; for bevel gears, hubs, must be of uniform length. There should also be an allowance of extra blanks to cover possible spoilage. Unless otherwise specified, dimensions are in inches.

**All Quotations And Sales By Boston Gear, The Contracting Party Hereto, A Division Of Regal Rexnord.  
Hereafter Called "Company" Are Made On The Following Terms And Conditions.**

## 6. Samples

In no case are samples furnished free. If agreed to by the Company, a few products in advance of a regular quantity order will be furnished but only at an agreed upon price over the regular quantity price.

## 7. Taxes

If any tax is at any time levied or imposed by the federal or any state or local government, or any other taxing authority, upon the products covered hereby, or in respect of the production, processing, manufacture, storage, sale, use, or consumption thereof, or, in the case of goods delivered at the Company's expense, upon the transportation thereof, including freight charges thereon, the amount of such tax shall be added to the purchase price above specified and shall be borne by the customer. The Company will accept a valid exemption certificate from the customer if applicable; however, if any exemption certificate previously accepted is not recognized by the taxing authority involved and the Company is required to pay the tax covered by such exemption certificate, the customer shall be required to promptly reimburse the Company for the taxes so paid.

## 8. Shipments

All shipments are made F.O.B. shipping point (subject to freight allowance under conditions stated in separate price schedules). When ordering, the customer's desired method of shipment must be clearly stated. Where instructions for shipping do not appear on the order, shipment will be made according to the Company's best judgment. Full risk of loss (including transportation delays and losses) shall pass the customer upon delivery of the products to F.O.B. point. Unless otherwise instructed, all Parcel Post shipments are insured at the customers' expense. Parcel Post shipments without insurance are at the customer's risk. Deliveries by Messenger Service to a terminal are made at the customer's risk and expense. Partial shipments shall be permitted and the Company may invoice each shipment separately.

## 9. Refusal of Shipment

In case of the refusal or inability of the customer to accept any shipment in accordance with the terms of the order, the customer shall be liable for freight, express, storage, extra cost of handling and all other expenses incurred by the Company as a result of such refusal or inability.

## 10. Delay or Nonperformance

The Company shall not be liable for any delay or loss of any nature or failure in performance due to or caused by fire, flood, strike, or other differences with workmen, accidents, labor or material or transportation shortages, war (declared or undeclared), insurrection, riot, or by any governmental orders or regulations, legal interferences or prohibitions, defaults on the part of suppliers or other causes beyond the Company's reasonable control.

## 11. Claims and Rejected Material

Any products which have been altered or damaged are not returnable except with the Company's written consent. To reject products on inspection as defective, customer must notify the Company in writing within ten (10) days from receipt of the products. Before allowing or rejecting claim, the Company shall then have the option of reinspection at the customer's plant or its own. Defects that do not impair service shall not be a cause for rejection. The Company shall have the right to replace within a reasonable time any product or products which in its opinion do not conform to the order. No claim will be allowed for any products damaged by the customer or damaged in transit. Expenses incurred in connection with claims for which the Company is not liable, will be charged to the customer. The Company will not be responsible for any work done to correct errors unless such work is authorized by the written consent of the Company. The Company assumes no liability for any claim for infringement of any foreign or domestic patent.

## 12. Limited Warranty

The Company warrants that products manufactured or sold by it shall be free from defects in material and workmanship. Any products which shall within two (2) years of delivery, be proved to the Company's satisfaction to have been defective at the time of delivery in these respects will be replaced or repaired by the Company at its option. Freight is the responsibility of the customer. The Company's liability under this limited warranty is limited to such replacement or repair and it shall not be held liable in any form of action for direct or consequential damages to property or person. THE FOREGOING LIMITED WARRANTY IS EXPRESSLY MADE IN LIEU OF ALL OTHER WARRANTIES WHATSOEVER, EXPRESS, IMPLIED AND STATUTORY AND INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.

No employee, agent, distributor, or other person is authorized to give additional warranties on behalf of Boston Gear, nor to assume for Boston Gear any other liability in connection with any of its products, except an officer of Boston Gear by a signed writing



# Terms and Conditions

**All Quotations And Sales By Boston Gear, The Contracting Party Hereto, A Division Of Regal Rexnord.  
Hereafter Called "Company" Are Made On The Following Terms And Conditions.**

## 13. Waiver of Breach

No waiver by the Company of any breach of these provisions shall constitute a waiver of any other breach.

## 14. Consequential Damages

The Company shall not be liable to the customer or others claiming through the customer for special or consequential charges for any reason whatsoever.

## 15. Laws

To the best of the Company's knowledge and belief it is in compliance with all local, state and federal laws. All orders are subject to the condition that the Company's obligation under such local, state and federal laws and Executive Orders, Rules and Regulations issued thereunder, whether now in force or hereafter made effective, shall be no greater as a result of this agreement and no greater than required by such laws and the Company expressly disclaims assumptions of any of the customer's obligations under such laws.

## 16. General

Any terms and conditions of a customer's order which are inconsistent with or additional to the terms and conditions hereof shall not be binding on the Company and shall not be considered applicable to any sale or shipment of the Company's products. All such terms and conditions are hereby expressly rejected. No waiver, alteration or modification of any of the Company's terms and conditions shall be binding on the Company unless made in writing and agreed to by a duly authorized official of the Company.

## 17. Printers, Stenographic, and Clerical Errors

The Company is not responsible for printers' errors made in any of its publications and other forms of printed matter, or for any stenographic and clerical errors. All such errors are subject to correction.

## 18. Reducer Express

- Quantities of reducers covered as part of this program are a maximum of:  
6 pieces for any 710-726 or 221-231 and 832-843  
2 pieces for any 730-760 or 239-247 and 852-873
- Bost-Kleen, Stainless Bost-Kleen and modified reducers are not included as part of this program.
- Boston Gear will utilize any major courier to handle air shipments.
- Consult Boston Gear for details.

## 19. Guaranteed Same Day Shipment

- Products must be available from stock.
- Does not apply to WOG or scheduled release shipments.
- Same day shipment available Monday through Friday excluding U.S. holidays. For emergency service, please call 704-688-7350.
- In the event your freight carrier is unable to meet your requirements, we reserve the right to substitute a carrier of equivalent quality.
- If a shipment is missed and Boston Gear pays the freight, we'll pay for the freight charges as they were originally specified on the order.
- Brokerage and export fees still apply to shipments outside the U.S.
- Video Terminal Orders entered up to 8 p.m. Eastern Time will be shipped the same day.



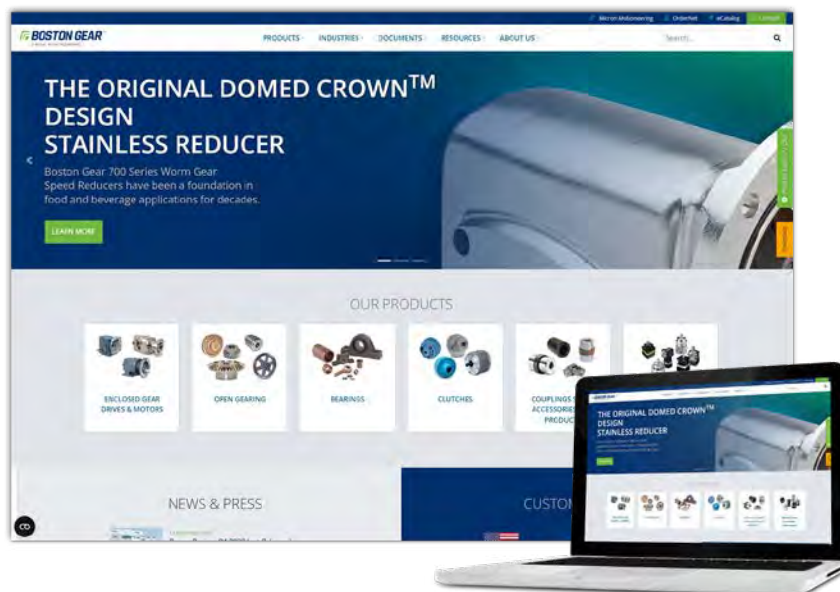
# Boston Gear Online Resources

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**WWW.BOSTONGEAR.COM**

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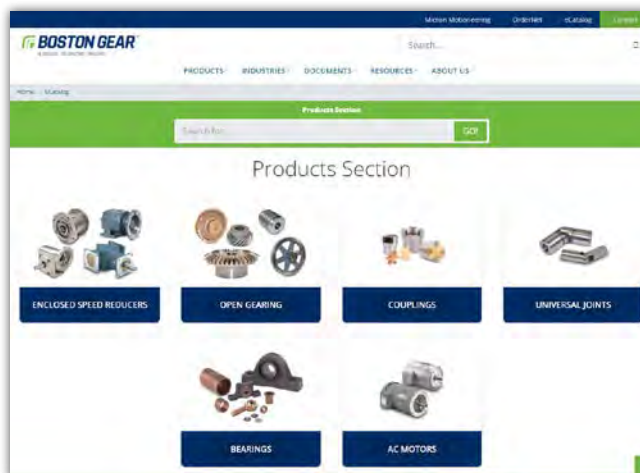
**WWW.BOSTONGEAR.COM/NEWSROOM**

## Boston Gear eCatalog

The eCatalog offers product selections and comparisons to meet your specific needs. Download 2D and 3D CAD formats and dimensional line drawings.

Submit an online RFQ to the local distributor of your choice.

**WWW.BOSTONGEAR.COM/ECATALOG**



## Boston Gear Facilities

### North America

#### USA

701 Carrier Drive  
Charlotte, NC 28216 - USA  
704-588-5610

*Enclosed and Open Gearing,  
Electrical and Mechanical  
P.T. Components*

#### Customer Service

1-888-999-9860

#### Application Support

1-800-816-5608



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