RegalRexnord™

Berg™ Master Metric Catalog

HIGH PRECISION PRODUCTS

BERG™

PRODUCT CATALOG

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BELT & CHAIN DRIVES

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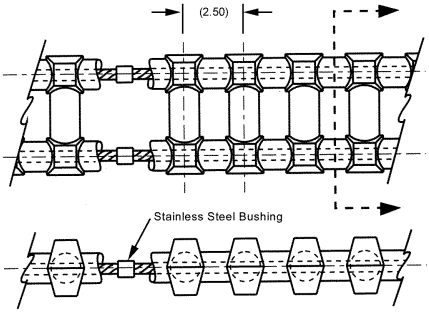
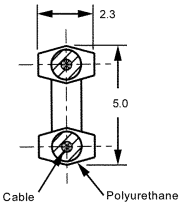
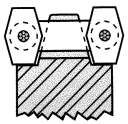
GEAR DRIVE CHAINS

CIRCULAR PITCH	MATERIALS	BERG'S® NAME	SPROCKET
2.50mm	Polyurethane (Blue) 0.5mm Dia. Stainless Steel Cable*	**Flex-E-Gear®**	Operates with 32B, GG33 and GGF33 series.







STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
32GCF-49-E	49	122.2
32GCF-52-E	52	129.7
32GCF-53-E	53	132.2
32GCF-64-E	64	159.6
32GCF-67-E	67	167.1
32GCF-75-E	75	187.0
32GCF-80-E	80	199.5
32GCF-95-E	95	236.9
32GCF-112-E	112	279.3
32GCF-126-E	126	314.2
32GCF-128-E	128	319.2
32GCF-144-E	144	359.1
32GCF-158-E	158	394.1
32GCF-176-E	176	438.9
32GCF-189-E	189	471.4
32GCF-208-E	208	518.8
32GCF-220-E	220	548.7
32GCF-240-E	240	598.6
32GCF-252-E	252	628.5
32GCF-272-E	272	678.4
32GCF-283-E	283	705.8
32GCF-304-E	304	758.2
32GCF-315-E	315	785.6
32GCF-336-E	336	838.0
32GCF-346-E	346	862.9
32GCF-377-E	377	940.2
32GCF-400-E	400	997.6
32GCF-408-E	408	1017.6
32GCF-432-E	432	1077.4
32GCF-440-E	440	1097.4
32GCF-464-E	464	1157.2
32GCF-471-E	471	1174.7
32GCF-480-E	480	1197.1
32GCF-512-E	512	1276.9
32GCF-544-E	544	1356.7
32GCF-592-E	592	1476.4
32GCF-608-E	608	1516.4

- For Field Splice Kit order 32GCF-7.

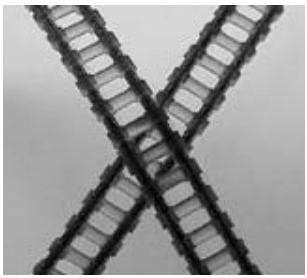
* Available with Aramid Core. See page A-2 in inch catalog for alternative belt construction or reverse bending applications.

** Reduce operating load rating by 50% for field splices.

- Infinite Lengths
- Silent Drive
- Mass 12 Grams/Meter
- Positive Drive
- Zero Backlash
- No Lubrication
- 90A Durometer
- Ultimate Tensile Strength 130N 17N/PIN when belt is used in open loop configuration (without splice, no crimp bushing)
- Temperature Range +82°C to -26°C
- Recommended Operating Load 36N
- Recommended Max. Operating Speed 1.91 m/s

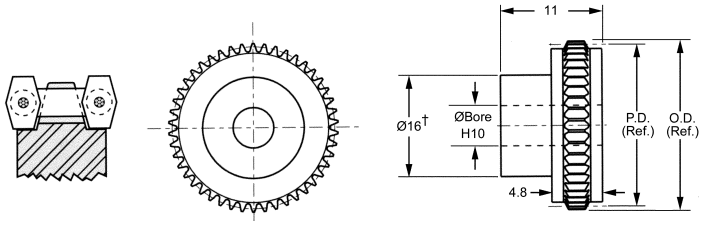
Other numbers of pitches available on request.

BULK LENGTH - NOT SPLICED	
STOCK NO.	LENGTH
32GCF-1.5M	1.5 M
32GCF-3.0M	3.0 M
32GCF-7.5M	7.5 M
32GCF-15.0M	15.0 M
32GCF-30.0M	30.0 M



SPROCKET GEARS

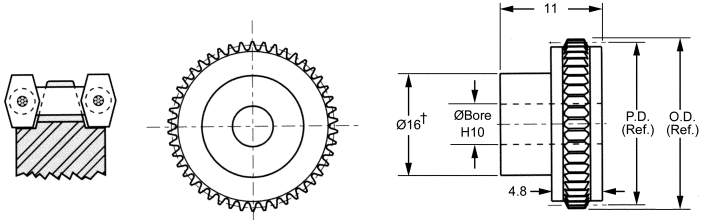
CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
2.50mm	Ø7	PIN HUB	ACETAL	Flex-E-Gear® Chain Drive	Operates with 32GCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
32B107M-18	18†	14.29	15.88
32B107M-20	20†	15.88	17.47
32B107M-22	22†	17.46	19.05
32B107M-24	24†	19.05	20.64
32B107M-26	26	20.64	22.23
32B107M-28	28	22.23	23.82
32B107M-30	30	23.81	25.40
32B107M-32	32	25.40	26.99
32B107M-36	36	28.58	30.17
32B107M-40	40	31.75	33.34
32B107M-48	48	38.10	39.69
32B107M-56	56	44.45	46.04
32B107M-64	64	50.80	52.39
32B107M-72	72	57.15	58.74
32B107M-80	80	63.50	65.09

† Teeth runout on hub.
Other numbers of teeth available on request.

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
2.50mm	Ø8	PIN HUB	ACETAL	Flex-E-Gear® Chain Drive	Operates with 32GCF Series



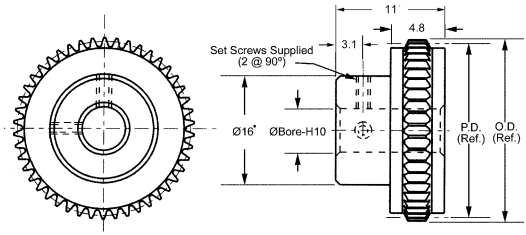
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
32B108M-18	18†	14.29	15.88
32B108M-20	20†	15.88	17.47
32B108M-22	22†	17.46	19.05
32B108M-24	24†	19.05	20.64
32B108M-26	26	20.64	22.23
32B108M-28	28	22.23	23.82
32B108M-30	30	23.81	25.40
32B108M-32	32	25.40	26.99
32B108M-36	36	28.58	30.17
32B108M-40	40	31.75	33.34
32B108M-48	48	38.10	39.69
32B108M-56	56	44.45	46.04
32B108M-64	64	50.80	52.39
32B108M-72	72	57.15	58.74
32B108M-80	80	63.50	65.09

† Teeth runout on hub.
Other numbers of teeth available on request.

SPROCKET GEARS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
2.50mm	**Ø4**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Gear® Chain Drive**	Operates with 32GCF Series

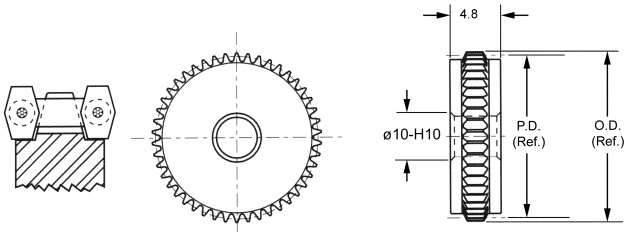
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
32B104-18	18•	14.29	15.88
32B104-20	20•	15.88	17.47
32B104-22	22•	17.46	19.05
32B104-24	24•	19.05	20.64
32B104-26	26	20.64	22.23
32B104-28	28	22.23	23.82
32B104-30	30	23.81	25.40
32B104-32	32	25.40	26.99
32B104-36	36	28.58	30.17
32B104-40	40	31.75	33.34
32B104-48	48	38.10	39.69
32B104-56	56	44.45	46.04
32B104-64	64	50.80	52.39
32B104-72	72	57.15	58.74
32B104-80	80	63.50	65.09
32B104-88	88	69.85	71.44
32B104-96	96	76.20	77.79
32B104-112	112	88.90	90.49
32B104-128	128	101.60	103.19



• For 18-24 teeth, hub diameter equals 11.9.
Other numbers of teeth available on request.

Teeth could be anodized.

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
2.50mm	**Ø10**	**HUBLESS**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Gear® Chain Drive**	Operates with 32GCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
32A110-32	32	25.40	26.99
32A110-36	36	28.58	30.17
32A110-40	40	31.75	33.34
32A110-48	48	38.10	39.69
32A110-56	56	44.45	46.04
32A110-64	64	50.80	52.39
32A110-72	72	57.15	58.74
32A110-80	80	63.50	65.09
32A110-88	88	69.85	71.44
32A110-96	96	76.20	77.79
32A110-112	112	88.90	90.49
32A110-128	128	101.60	103.19

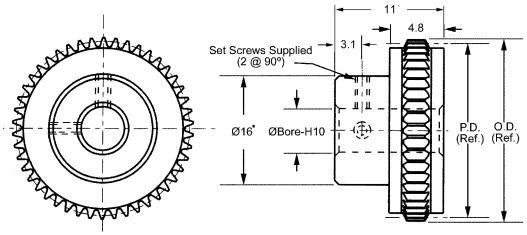
Other numbers of teeth available on request.

Teeth could be anodized.

SPROCKET GEARS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
2.50mm	**Ø6**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Gear® Chain Drive**	Operates with 32GCF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
32B106-18	18•	14.29	15.88
32B106-20	20•	15.88	17.47
32B106-22	22•	17.46	19.05
32B106-24	24•	19.05	20.64
32B106-26	26	20.64	22.23
32B106-28	28	22.23	23.82
32B106-30	30	23.81	25.40
32B106-32	32	25.40	26.99
32B106-36	36	28.58	30.17
32B106-40	40	31.75	33.34
32B106-48	48	38.10	39.69
32B106-56	56	44.45	46.04
32B106-64	64	50.80	52.39
32B106-72	72	57.15	58.74
32B106-80	80	63.50	65.09
32B106-88	88	69.85	71.44
32B106-96	96	76.20	77.79
32B106-112	112	88.90	90.49
32B106-128	128	101.60	103.19

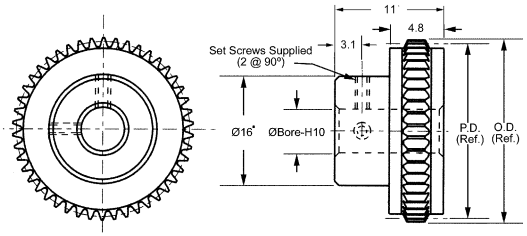


• For 18-24 teeth, hub diameter equals 11.9.
Other numbers of teeth available on request.

Teeth could be anodized.

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
2.50mm	**Ø8**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Gear® Chain Drive**	Operates with 32GCF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
32B108-18	18•	14.29	15.88
32B108-20	20•	15.88	17.47
32B108-22	22•	17.46	19.05
32B108-24	24•	19.05	20.64
32B108-26	26	20.64	22.23
32B108-28	28	22.23	23.82
32B108-30	30	23.81	25.40
32B108-32	32	25.40	26.99
32B108-36	36	28.58	30.17
32B108-40	40	31.75	33.34
32B108-48	48	38.10	39.69
32B108-56	56	44.45	46.04
32B108-64	64	50.80	52.39
32B108-72	72	57.15	58.74
32B108-80	80	63.50	65.09
32B108-88	88	69.85	71.44
32B108-96	96	76.20	77.79
32B108-112	112	88.90	90.49
32B108-128	128	101.60	103.19

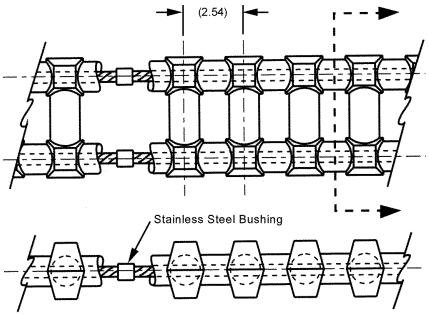


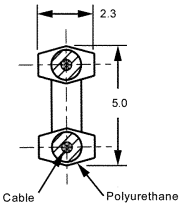
• For 18-24 teeth, hub diameter equals 11.9.
Other numbers of teeth available on request.

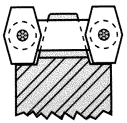
Teeth could be anodized.

GEAR DRIVE CHAINS

CIRCULAR PITCH	MATERIAL	BERG'S® NAME	SPROCKET
2.54mm	Polyurethane (Green) 0.5mm Dia. Stainless Steel Cable*	**Flex-E-Gear®**	Operates with 31A and 31B series.







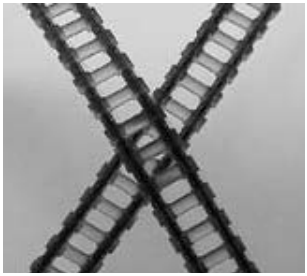
STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
31GCF-45-E	45	114.3
31GCF-50-E	50	127.0
31GCF-55-E	55	139.7
31GCF-60-E	60	152.4
31GCF-65-E	65	165.1
31GCF-70-E	70	177.8
31GCF-75-E	75	190.5
31GCF-80-E	80	203.2
31GCF-85-E	85	215.9
31GCF-90-E	90	228.6
31GCF-95-E	95	241.3
31GCF-100-E	100	254.0
31GCF-105-E	105	266.7
31GCF-110-E	110	279.4
31GCF-115-E	115	292.1
31GCF-120-E	120	304.8
31GCF-125-E	125	317.5
31GCF-130-E	130	330.2
31GCF-135-E	135	342.9
31GCF-140-E	140	355.6
31GCF-150-E	150	381.0
31GCF-160-E	160	406.4
31GCF-170-E	170	431.8
31GCF-180-E	180	457.2
31GCF-190-E	190	482.6
31GCF-200-E	200	508.0
31GCF-210-E	210	533.4
31GCF-220-E	220	558.8
31GCF-230-E	230	584.2
31GCF-240-E	240	609.6
31GCF-250-E	250	635.0
31GCF-300-E	300	762.0
31GCF-360-E	360	914.4
31GCF-420-E	420	1066.8
31GCF-480-E	480	1219.2
31GCF-540-E	540	1371.6
31GCF-600-E	600	1524.0

- For Field Splice Kit order 32GCF-7.
* Available with Aramid Core. See page A-2 in inch catalog for alternative belt construction or reverse bending applications.
** Reduce operating load rating by 50% for field splices.

- Infinite Lengths
- Silent Drive
- Mass 12 Grams/Meter
- Positive Drive
- Zero Backlash
- No Lubrication
- 90A Durometer
- Ultimate Tensile Strength 130N (15N/PIN) when belt is used in open loop configuration (without splice, no crimp bushing)
- Temperature Range +82°C to -26°C
- Recommended Operating Load 36N
- Recommended Max. Operating Speed 1.91 m/s

Other numbers of pitches available on request.

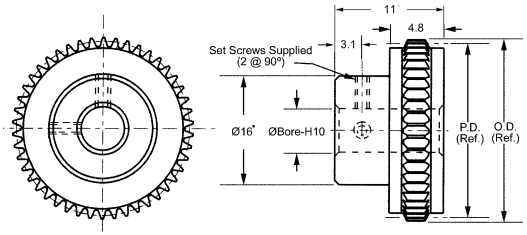
BULK LENGTH - NOT SPLICED	
STOCK NO.	LENGTH
31GCF-1.5M	1.5 M
31GCF-3.0M	3.0 M
31GCF-7.5M	7.5 M
31GCF-15.0M	15.0 M
31GCF-30.0M	30.0 M



SPROCKET GEARS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
2.54mm	Ø4	PIN HUB	Per DIN 3.1355 Aluminum Anodized	Flex-E-Gear® Chain Drive	Operates with 31GCF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
31B104-14	14•*	11.32	12.94
31B104-16	16•	12.94	14.55
31B104-20	20•	16.17	17.79
31B104-22	22•	17.79	19.41
31B104-24	24	19.40	21.02
31B104-26	26	21.02	22.64
31B104-28	28	22.64	24.26
31B104-30	30	24.26	25.87
31B104-32	32	25.87	27.49
31B104-36	36	29.11	30.72
31B104-40	40	32.34	33.96
31B104-48	48	38.81	40.43
31B104-56	56	45.28	46.89
31B104-64	64	51.74	53.36
31B104-72	72	58.21	59.83
31B104-96	96	77.62	79.23
31B104-112	112	90.55	92.17



- For 14-22 teeth, hub diameter equals 8.9.

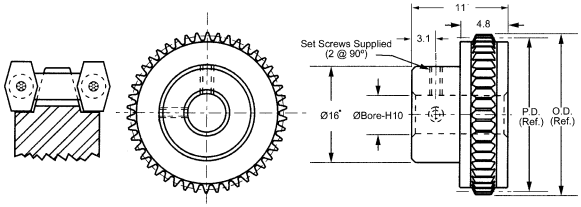
* Sprockets Ø12.7 P.D. and smaller are recommended for idler use only.

Other numbers of teeth available on request.

Teeth could be anodized.

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
2.54mm	Ø6	PIN HUB	Per DIN 3.1355 Aluminum Anodized	Flex-E-Gear® Chain Drive	Operates with 31GCF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
31B106-20	20•	16.17	17.79
31B106-22	22•	17.79	19.41
31B106-24	24	19.40	21.02
31B106-26	26	21.02	22.64
31B106-28	28	22.64	24.26
31B106-30	30	24.26	25.87
31B106-32	32	25.87	27.49
31B106-36	36	29.11	30.72
31B106-40	40	32.34	33.96
31B106-48	48	38.81	40.43
31B106-56	56	45.28	46.89
31B106-64	64	51.74	53.36
31B106-72	72	58.21	59.83
31B106-96	96	77.62	79.23
31B106-112	112	90.55	92.17

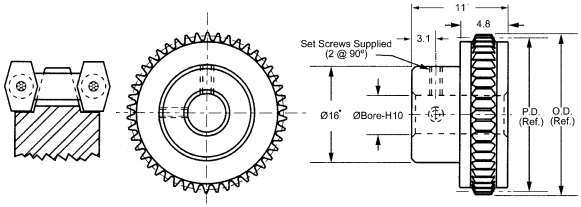


- For 20-22 teeth, hub diameter equals 13.8. Other numbers of teeth available on request.

Teeth could be anodized.

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
2.54mm	Ø8	PIN HUB	Per DIN 3.1355 Aluminum Anodized	Flex-E-Gear® Chain Drive	Operates with 31GCF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
31B108-20	20•	16.17	17.79
31B108-22	22•	17.79	19.41
31B108-24	24	19.40	21.02
31B108-26	26	21.02	22.64
31B108-28	28	22.64	24.26
31B108-30	30	24.26	25.87
31B108-32	32	25.87	27.49
31B108-36	36	29.11	30.72
31B108-40	40	32.34	33.96
31B108-48	48	38.81	40.43
31B108-56	56	45.28	46.89
31B108-64	64	51.74	53.36
31B108-72	72	58.21	59.83
31B108-96	96	77.62	79.23
31B108-112	112	90.55	92.17

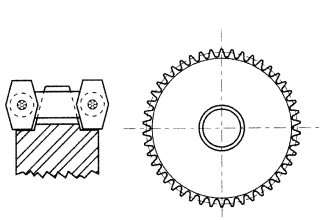


- For 20-22 teeth, hub diameter equals 13.8. Other numbers of teeth available on request.

Teeth could be anodized.

SPROCKET GEARS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
2.54mm	**Ø10**	**HUBLESS**	Per DIN 3.1355 Aluminum Anodized	**Flex-E-Gear® Chain Drive**	Operates with 31GCF Series



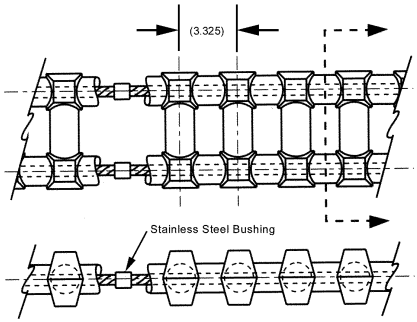
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
31A110-22	22	17.79	19.41
31A110-24	24	19.40	21.02
31A110-26	26	21.02	22.64
31A110-28	28	22.64	24.26
31A110-30	30	24.26	25.87
31A110-32	32	25.87	27.49
31A110-36	36	29.11	30.72
31A110-40	40	32.34	33.96
31A110-48	48	38.81	40.43
31A110-56	56	45.28	46.89
31A110-64	64	51.74	53.36
31A110-72	72	58.21	59.83
31A110-96	96	77.62	79.23
31A110-112	112	90.55	92.17

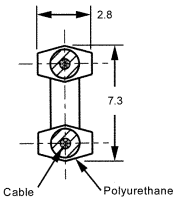
Other numbers of teeth available on request.

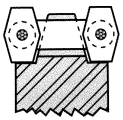
Teeth could be anodized.

GEAR DRIVE CHAINS

CIRCULAR PITCH	MATERIAL	BERG'S® NAME	SPROCKET
3.325mm	Polyurethane (Red) 0.8mm Dia. Stainless Steel Cable*	**Flex-E-Gear®**	Operates with 24A and 24B series.







STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
24GCF-50-E	50	166.3
24GCF-52-E	52	172.9
24GCF-54-E	54	179.6
24GCF-56-E	56	186.2
24GCF-58-E	58	192.9
24GCF-60-E	60	199.5
24GCF-62-E	62	206.2
24GCF-64-E	64	212.8
24GCF-66-E	66	219.5
24GCF-68-E	68	226.1
24GCF-70-E	70	232.8
24GCF-75-E	75	249.4
24GCF-80-E	80	266.0
24GCF-85-E	85	282.6
24GCF-90-E	90	299.3
24GCF-95-E	95	315.9
24GCF-100-E	100	332.5
24GCF-105-E	105	349.1
24GCF-110-E	110	365.8
24GCF-115-E	115	382.4
24GCF-120-E	120	399.0
24GCF-130-E	130	432.3
24GCF-140-E	140	465.5
24GCF-150-E	150	498.8
24GCF-160-E	160	532.0
24GCF-170-E	170	565.3
24GCF-180-E	180	598.5
24GCF-190-E	190	631.8
24GCF-200-E	200	335.0
24GCF-220-E	220	731.5
24GCF-240-E	240	798.0
24GCF-260-E	260	864.5
24GCF-280-E	280	931.0
24GCF-300-E	300	997.5
24GCF-320-E	320	1064.0
24GCF-380-E	380	1263.5
24GCF-420-E	420	1396.5

- For Field Splice Kit order 24GCF-7.

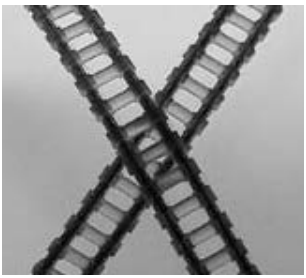
* Available with Aramid Core. See page A-2 in inch catalog for alternative belt construction or reverse bending applications.

** Reduce operating load rating by 50% for field splices.

- Infinite Lengths
- Mass 13 Grams/Meter
- Positive Drive
- Zero Backlash
- No Lubrication
- Silent Drive
- Extra Strong
- 90A Durometer
- Ultimate Tensile Strength 440N (40 N/PIN) - when belt is used in open loop configuration (without splice, no crimp bushing).
- Temperature Range +82°C to -26°C
- Recommended Operating Load 108N
- Recommended Max. Operating Speed 1.91 m/s

Other numbers of pitches available on request.

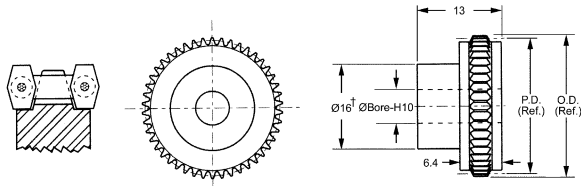
BULK LENGTH - NOT SPLICED	
STOCK NO.	LENGTH
24GCF-1.5M	1.5 M
24GCF-3.0M	3.0 M
24GCF-7.5M	7.5 M
24GCF-15.0M	15.0 M
24GCF-30.0M	30.0 M



SPROCKET GEARS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
3.325mm	**Ø7**	**PIN HUB**	Delrin®	**Flex-E-Gear® Chain Drive**	Operates with 24GCF Series

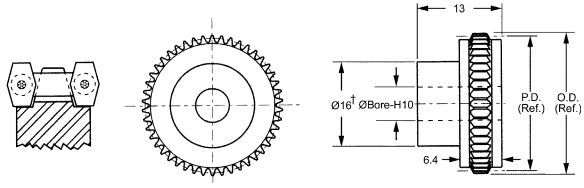
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
24B107M-15	15†	15.86	17.97
24B107M-16	16†	16.91	19.03
24B107M-18	18	19.03	21.14
24B107M-20	20	21.14	23.26
24B107M-21	21	22.20	24.32
24B107M-24	24	25.37	27.49
24B107M-30	30	31.71	33.83
24B107M-36	36	38.06	40.17
24B107M-42	42	44.40	46.52
24B107M-48	48	50.74	52.86
24B107M-60	60	63.43	65.54



† Teeth runout on hub.
Other bore sizes and numbers of teeth available on request.

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
3.325mm	**Ø8**	**PIN HUB**	Delrin®	**Flex-E-Gear® Chain Drive**	Operates with 24GCF Series

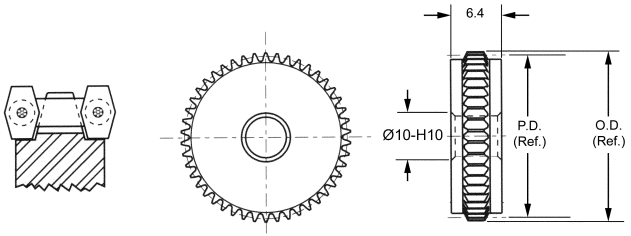
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
24B108M-15	15†	15.86	17.97
24B108M-16	16†	16.91	19.03
24B108M-18	18	19.03	21.14
24B108M-20	20	21.14	23.26
24B108M-21	21	22.20	24.32
24B108M-24	24	25.37	27.49
24B108M-30	30	31.71	33.83
24B108M-36	36	38.06	40.17
24B108M-42	42	44.40	46.52
24B108M-48	48	50.74	52.86
24B108M-60	60	63.43	65.54



† Teeth runout on hub.
Other bore sizes and numbers of teeth available on request.

SPROCKET GEARS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
3.325mm	**Ø10**	**HUBLESS**	ALUMINUM PER DIN 3.1355 - ANODIZED	**Flex-E-Gear® Chain Drive**	Operates with 24GCF Series



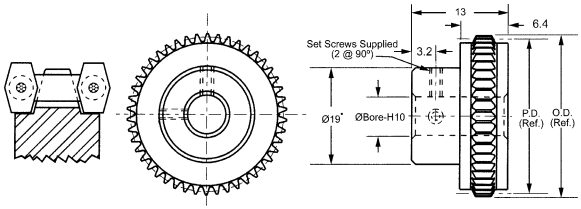
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
24A110-15	15•	15.86*	17.97
24A110-16	16•	16.91*	19.03
24A110-18	18•	19.03*	21.14
24A110-20	20	21.14	23.26
24A110-21	21	22.20	24.32
24A110-24	24	25.37	27.49
24A110-30	30	31.71	33.83
24A110-36	36	38.06	40.17
24A110-42	42	44.40	46.52
24A110-48	48	50.74	52.86
24A110-60	60	63.43	65.54
24A110-72	72	76.11	78.23
24A110-96	96	101.49	103.60
24A110-120	120	126.86	128.97
24A110-144	144	152.23	154.35

• Sprockets Ø19.0mm P.D. and smaller for idler use only.
Other numbers of teeth available on request.
Teeth could be anodized.

SPROCKET GEARS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
3.325mm	**Ø8**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Gear® Chain Drive**	Operates with 24GCF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
24B108-15	15•	15.86*	17.97
24B108-16	16•	16.91*	19.03
24B108-18	18•	19.03*	21.14
24B108-20	20•	21.14	23.26
24B108-21	21	22.20	24.32
24B108-24	24	25.37	27.49
24B108-30	30	31.71	33.83
24B108-36	36	38.06	40.17
24B108-42	42	44.40	46.52
24B108-48	48	50.74	52.86
24B108-60	60	63.43	65.54
24B108-72	72	76.11	78.23
24B108-96	96	101.49	103.60
24B108-120	120	126.86	128.97
24B108-144	144	152.23	154.35



- For 15-20 teeth, hub diameter equals 12.9.

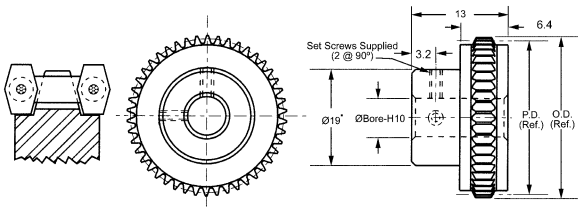
* Sprockets Ø19.0mm P.D. and smaller for idler use only.

Other numbers of teeth available on request.

Teeth could be anodized.

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
3.325mm	**Ø10**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Gear® Chain Drive**	Operates with 24GCF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
24B110-18	18•	19.03*	21.14
24B110-20	20•	21.14	23.26
24B110-21	21	22.20	24.32
24B110-24	24	25.37	27.49
24B110-30	30	31.71	33.83
24B110-36	36	38.06	40.17
24B110-42	42	44.40	46.52
24B110-48	48	50.74	52.86
24B110-60	60	63.43	65.54
24B110-72	72	76.11	78.23
24B110-96	96	101.49	103.60
24B110-120	120	126.86	128.97
24B110-144	144	152.23	154.35



- For 18-20 teeth, hub diameter equals 16.2.

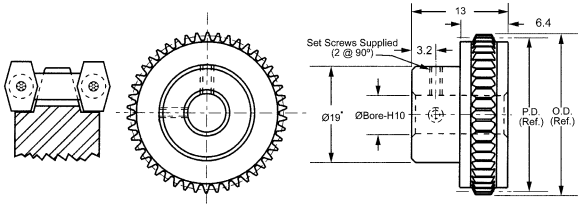
* Sprockets Ø19.0mm P.D. and smaller for idler use only.

Other numbers of teeth available on request.

Teeth could be anodized.

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
3.325mm	**Ø12**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Gear® Chain Drive**	Operates with 24GCF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
24B112-18	18•	19.03*	21.14
24B112-20	20•	21.14	23.26
24B112-21	21	22.20	24.32
24B112-24	24	25.37	27.49
24B112-30	30	31.71	33.83
24B112-36	36	38.06	40.17
24B112-42	42	44.40	46.52
24B112-48	48	50.74	52.86
24B112-60	60	63.43	65.54
24B112-72	72	76.11	78.23
24B112-96	96	101.49	103.60
24B112-120	120	126.86	128.97
24B112-144	144	152.23	154.35



- For 18-20 teeth, hub diameter equals 16.2.

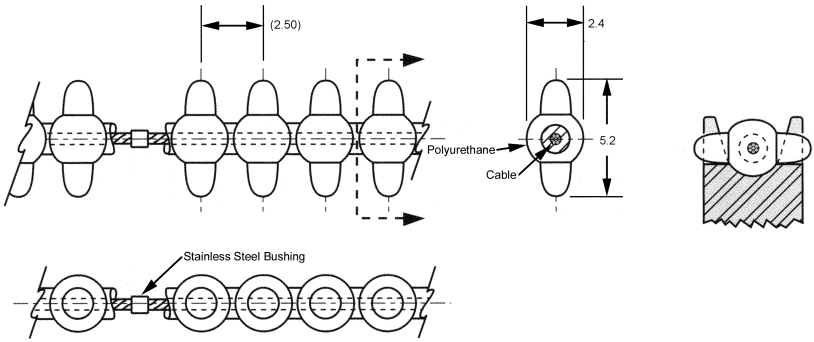
* Sprockets Ø19.0mm P.D. and smaller for idler use only.

Other numbers of teeth available on request.

Teeth could be anodized.

GEAR DRIVE BELTS

CIRCULAR PITCH	MATERIALS	BERG'S® NAME	SPROCKET
2.5mm	Polyurethane (Blue) 0.8mm Dia. Stainless Steel Cable*	**Flex-E-Belt®**	Operates with 32C, 32D, GPS, GP32, GF32 and GC32 series.



STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
32GBF-49-E	49	122.2
32GBF-52-E	52	129.7
32GBF-53-E	53	132.2
32GBF-64-E	64	159.6
32GBF-67-E	67	167.1
32GBF-75-E	75	187.1
32GBF-80-E	80	199.5
32GBF-95-E	95	236.9
32GBF-112-E	112	279.3
32GBF-126-E	126	314.2
32GBF-128-E	128	319.2
32GBF-144-E	144	359.1
32GBF-158-E	158	394.1
32GBF-176-E	176	438.9
32GBF-189-E	189	471.4
32GBF-208-E	208	518.8
32GBF-220-E	220	548.7
32GBF-240-E	240	598.6
32GBF-252-E	252	628.5
32GBF-272-E	272	678.4
32GBF-283-E	283	705.8
32GBF-304-E	304	758.2
32GBF-315-E	315	785.6
32GBF-336-E	336	838.0
32GBF-346-E	346	862.9
32GBF-377-E	377	940.2
32GBF-400-E	400	997.6
32GBF-408-E	408	1017.6
32GBF-432-E	432	1077.4
32GBF-440-E	440	1097.4
32GBF-464-E	464	1157.2
32GBF-471-E	471	1174.7
32GBF-480-E	480	1197.1
32GBF-496-E	496	1237.0
32GBF-512-E	512	1276.9
32GBF-544-E	544	1356.7
32GBF-560-E	560	1396.6
32GBF-576-E	576	1436.5
32GBF-640-E	640	1596.2

- For Field Splice Kit order 32GBF-7.

* Available with Aramid Core. See page A-2 in inch catalog for alternative belt construction or reverse bending applications.

** Reduce operating load rating by 50% for field splices.

Other numbers of pitches available on request.

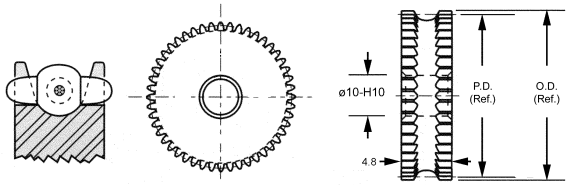
- Accommodates twists and turns
- Odd Angles
- Infinite Lengths
- Silent Drive
- Mass 10 grams/meter
- Positive Drive
- Zero Backlash
- No Lubrication
- 90A Durometer
- Ultimate Tensile Strength 222N -40N/PIN when belt is used in open loop configuration (without splice, no crimp bushing).
- Temperature Range +82°C to -26°C
- Recommended Operating Load 53N
- Recommended Max. Operating Speed 1.91 m/s

BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
32GBF-1.5M	1.5M
32GBF-3.0M	3.0M
32GBF-7.5M	7.5M
32GBF-15.0M	15.0M
32GBF-30.0M	30.0M

E-Z ENTRY BELT PULLEYS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
2.5mm	**Ø10**	**HUBLESS**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Belt®**	Operates with 32GBF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
32C110-20	20•	15.88	17.47
32C110-22	22•	17.46	19.05
32C110-24	24•	19.05	20.64
32C110-26	26	20.64	22.23
32C110-28	28	22.23	23.82
32C110-30	30	23.81	25.40
32C110-32	32	25.40	26.99
32C110-36	36	28.58	30.17
32C110-40	40	31.75	33.34
32C110-48	48	38.10	39.69
32C110-56	56	44.45	46.04
32C110-64	64	50.80	52.39
32C110-72	72	57.15	58.74
32C110-80	80	63.50	65.09
32C110-88	88	69.85	71.44
32C110-96	96	76.20	77.79
32C110-112	112	88.90	90.49
32C110-128	128	101.60	103.19

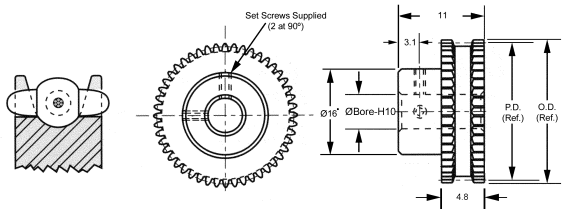


When used with 32GBF belt, use as an idler only.
Other numbers of teeth available on request.

Teeth could be anodized.

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
2.5mm	**Ø4**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Belt®**	Operates with 32GBF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
32D104-16	16•*	12.70	14.29
32D104-18	18•*	14.29	15.88
32D104-20	20•*	15.88	17.47
32D104-22	22•*	17.46	19.05
32D104-24	24*	19.05	20.64
32D104-26	26	20.64	22.23
32D104-28	28	22.23	23.82
32D104-30	30	23.81	25.40
32D104-32	32	25.40	26.99
32D104-36	36	28.58	30.17
32D104-40	40	31.75	33.34
32D104-48	48	38.10	39.69
32D104-56	56	44.45	46.04
32D104-64	64	50.80	52.39
32D104-72	72	57.15	58.74
32D104-80	80	63.50	65.09
32D104-88	88	69.85	71.44
32D104-96	96	76.20	77.79
32D104-112	112	88.90	90.49
32D104-128	128	101.60	103.19



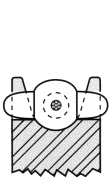
• For 16-22 teeth, hub diameter equals 10.4.
When used with 32GBF belt, use as an idler only.
Other numbers of teeth available on request.

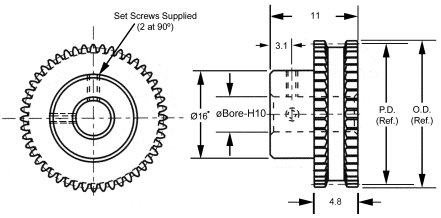
Teeth could be anodized.

E-Z ENTRY BELT PULLEYS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
2.5mm	Ø6	PIN HUB	Aluminum per DIN 3.1355 Anodized	Flex-E-Belt®	Operates with 32GBF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
32D106-16	16•*	12.70	14.29
32D106-18	18•*	14.29	15.88
32D106-20	20•*	15.88	17.47
32D106-22	22•*	17.46	19.05
32D106-24	24*	19.05	20.64
32D106-26	26	20.64	22.23
32D106-28	28	22.23	23.82
32D106-30	30	23.81	25.40
32D106-32	32	25.40	26.99
32D106-36	36	28.58	30.17
32D106-40	40	31.75	33.34
32D106-48	48	38.10	39.69
32D106-56	56	44.45	46.04
32D106-64	64	50.80	52.39
32D106-72	72	57.15	58.74
32D106-80	80	63.50	65.09
32D106-88	88	69.85	71.44
32D106-96	96	76.20	77.79
32D106-112	112	88.90	90.49
32D106-128	128	101.60	103.19



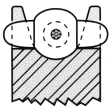


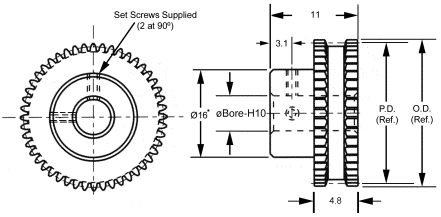
• For 16-22 teeth, hub diameter equals 10.4.
When used with 32GBF belt, use as an idler only.
Other numbers of teeth available on request.

Teeth could be anodized.

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
2.5mm	Ø8	PIN HUB	Aluminum per DIN 3.1355 Anodized	Flex-E-Belt®	Operates with 32GBF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
32D108-16	16•*	12.70	14.29
32D108-18	18•*	14.29	15.88
32D108-20	20•*	15.88	17.47
32D108-22	22•*	17.46	19.05
32D108-24	24*	19.05	20.64
32D108-26	26	20.64	22.23
32D108-28	28	22.23	23.82
32D108-30	30	23.81	25.40
32D108-32	32	25.40	26.99
32D108-36	36	28.58	30.17
32D108-40	40	31.75	33.34
32D108-48	48	38.10	39.69
32D108-56	56	44.45	46.04
32D108-64	64	50.80	52.39
32D108-72	72	57.15	58.74
32D108-80	80	63.50	65.09
32D108-88	88	69.85	71.44
32D108-96	96	76.20	77.79
32D108-112	112	88.90	90.49
32D108-128	128	101.60	103.19



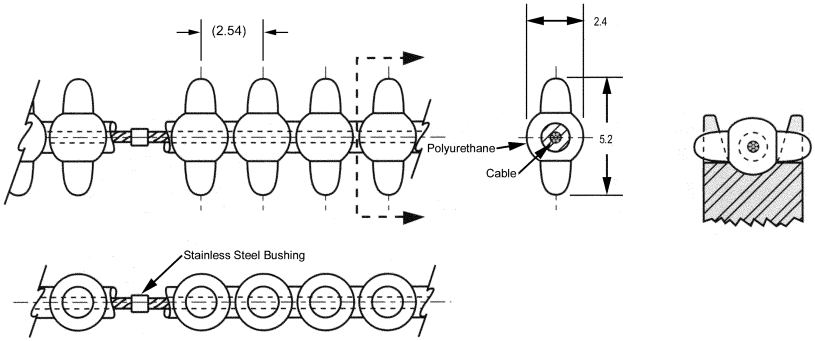


• For 16-22 teeth, hub diameter equals 10.4.
When used with 32GBF belt, use as an idler only.
Other numbers of teeth available on request.

Teeth could be anodized.

GEAR DRIVE BELTS

CIRCULAR PITCH	MATERIAL	BERG'S® NAME	PULLEY
2.54mm	Polyurethane (Red) 0.8mm Dia. Stainless Steel Cable*	**Flex-E-Belt®**	Operates with GP31 and GF31 series.



STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
31GBF-50-E	50	127.0
31GBF-52-E	52	132.1
31GBF-54-E	54	137.2
31GBF-56-E	56	142.2
31GBF-58-E	58	147.3
31GBF-60-E	60	152.4
31GBF-65-E	65	165.1
31GBF-70-E	70	177.8
31GBF-75-E	75	190.5
31GBF-80-E	80	203.2
31GBF-85-E	85	215.9
31GBF-90-E	90	228.6
31GBF-100-E	100	254.0
31GBF-110-E	110	279.4
31GBF-120-E	120	304.8
31GBF-130-E	130	330.2
31GBF-140-E	140	355.6
31GBF-150-E	150	381.0
31GBF-160-E	160	406.4
31GBF-170-E	170	431.8
31GBF-180-E	180	457.2
31GBF-190-E	190	482.6
31GBF-200-E	200	508.0
31GBF-210-E	210	533.4
31GBF-220-E	220	558.8
31GBF-230-E	230	584.2
31GBF-240-E	240	609.6
31GBF-250-E	250	635.0
31GBF-260-E	260	660.4
31GBF-270-E	270	685.8
31GBF-280-E	280	711.2
31GBF-300-E	300	762.0
31GBF-350-E	350	889.0
31GBF-400-E	400	1016.0
31GBF-480-E	480	1143.0
31GBF-500-E	500	1270.0
31GBF-800-E	800	2032.0

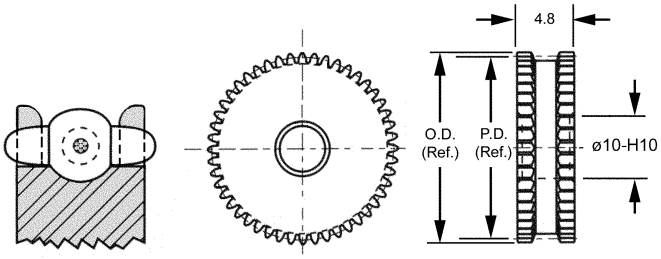
- For Field Splice Kit order 32GBF-7.
* Available with Aramid Core. See page A-2 in inch catalog for alternative belt construction or reverse bending applications.
** Reduce operating load rating by 50% for field splices.

- Odd Angles
- Infinite Lengths
- Accommodates twists and turns
- Positive Drive
- Zero Backlash
- No Lubrication
- Mass 10 grams/meter
- 90A Durometer
- Ultimate Tensile Strength 222N - 40N/PIN
  When belt is used in open loop configuration (without splice, no crimp bushing).
- Temperature Range +85°C to -26°C
- Recommended Operating Load 53N
- Recommended Max. Operating Speed 1.91 M/S

BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
31GBF-1.5M	1.5M
31GBF-3.0M	3.0M
31GBF-7.5M	7.5M
31GBF-15.0M	15.0M
31GBF-30.0M	30.0M

E-Z ENTRY BELT PULLEYS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
2.54mm	**Ø10**	**HUBLESS**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Belt®**	Operates with 31GBF Series



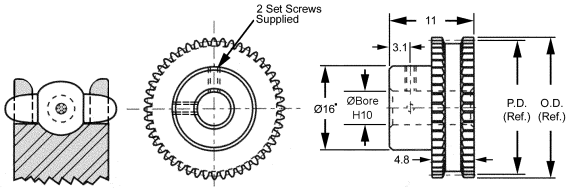
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
31C110-24	24	19.40	21.02
31C110-26	26	21.02	22.64
31C110-28	28	22.64	24.26
31C110-30	30	24.26	25.87
31C110-32	32	25.87	27.49
31C110-36	36	29.11	30.72
31C110-40	40	32.34	33.96
31C110-48	48	38.81	40.43
31C110-56	56	45.28	46.89
31C110-64	64	51.74	53.36
31C110-72	72	58.21	59.83
31C110-80	80	64.68	66.30
31C110-88	88	71.15	72.77
31C110-96	96	77.62	79.23
31C110-112	112	90.55	92.17
31C110-128	128	103.48	105.11

Teeth could be anodized.

E-Z ENTRY BELT PULLEYS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
2.54mm	Ø4	PIN HUB	Aluminum per DIN 3.1355 Anodized	Flex-E-Belt®	Operates with 31GBF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
31D104-20	20*•	16.17	17.79
31D104-22	22*•	17.79	19.41
31D104-24	24	19.40	21.02
31D104-26	26	21.02	22.64
31D104-28	28	22.64	24.26
31D104-30	30	24.26	25.87
31D104-32	32	25.87	27.49
31D104-36	36	29.11	30.72
31D104-40	40	32.34	33.96
31D104-48	48	38.81	40.43
31D104-56	56	45.28	46.89
31D104-64	64	51.74	53.36
31D104-72	72	58.21	59.83
31D104-80	80	64.68	66.30
31D104-88	88	71.15	72.77
31D104-96	96	77.62	79.23
31D104-112	112	90.55	92.17
31D104-128	128	103.48	105.11

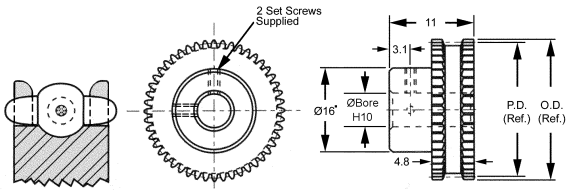


• For 20-22 teeth, hub diameter equals 13.9.
* Sprockets 19.0mm and smaller for idler use only.
Other numbers of teeth are available on request.

Teeth could be anodized.

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
2.54mm	Ø6	PIN HUB	Aluminum per DIN 3.1355 Anodized	Flex-E-Belt®	Operates with 31GBF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
31D106-20	20*•	16.17	17.79
31D106-22	22*•	17.79	19.41
31D106-24	24	19.40	21.02
31D106-26	26	21.02	22.64
31D106-28	28	22.64	24.26
31D106-30	30	24.26	25.87
31D106-32	32	25.87	27.49
31D106-36	36	29.11	30.72
31D106-40	40	32.34	33.96
31D106-48	48	38.81	40.43
31D106-56	56	45.28	46.89
31D106-64	64	51.74	53.36
31D106-72	72	58.21	59.83
31D106-80	80	64.68	66.30
31D106-88	88	71.15	72.77
31D106-96	96	77.62	79.23
31D106-112	112	90.55	92.17
31D106-128	128	103.48	105.11

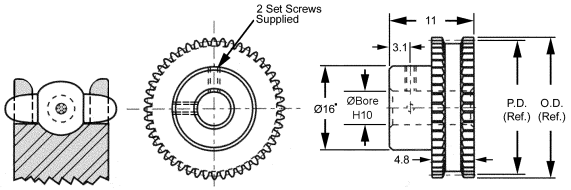


• For 20-22 teeth, hub diameter equals 13.9.
* Sprockets 19.0mm and smaller for idler use only.
Other numbers of teeth are available on request.

Teeth could be anodized.

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
2.54mm	Ø6	PIN HUB	Aluminum per DIN 3.1355 Anodized	Flex-E-Belt®	Operates with 31GBF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
31D108-20	20*•	16.17	17.79
31D108-22	22*•	17.79	19.41
31D108-24	24	19.40	21.02
31D108-26	26	21.02	22.64
31D108-28	28	22.64	24.26
31D108-30	30	24.26	25.87
31D108-32	32	25.87	27.49
31D108-36	36	29.11	30.72
31D108-40	40	32.34	33.96
31D108-48	48	38.81	40.43
31D108-56	56	45.28	46.89
31D108-64	64	51.74	53.36
31D108-72	72	58.21	59.83
31D108-80	80	64.68	66.30
31D108-88	88	71.15	72.77
31D108-96	96	77.62	79.23
31D108-112	112	90.55	92.17
31D108-128	128	103.48	105.11

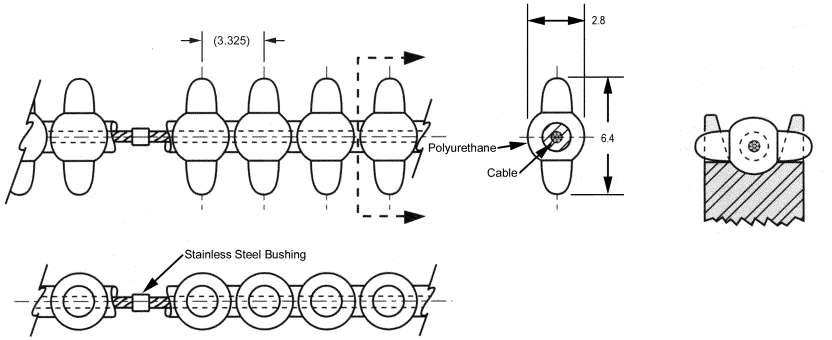


• For 20-22 teeth, hub diameter equals 13.9.
* Sprockets 19.0mm and smaller for idler use only.
Other numbers of teeth are available on request.

Teeth could be anodized.

GEAR DRIVE BELTS

CIRCULAR PITCH	MATERIALS	BERG'S® NAME	PULLEY
3.325mm	Polyurethane (Red) 0.8mm Dia. Stainless Steel Cable	**Flex-E-Belt®**	Operates with 24C and 24D series.



STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
24GBF-50-E	50	166.3
24GBF-52-E	52	172.9
24GBF-54-E	54	179.6
24GBF-56-E	56	186.2
24GBF-58-E	58	192.9
24GBF-60-E	60	199.5
24GBF-62-E	62	206.2
24GBF-64-E	64	212.8
24GBF-66-E	66	219.5
24GBF-68-E	68	226.1
24GBF-70-E	70	232.8
24GBF-75-E	75	249.4
24GBF-80-E	80	266.0
24GBF-85-E	85	282.6
24GBF-90-E	90	299.3
24GBF-95-E	95	315.9
24GBF-100-E	100	332.5
24GBF-105-E	105	349.1
24GBF-110-E	110	365.8
24GBF-115-E	115	382.4
24GBF-120-E	120	399.0
24GBF-130-E	130	432.3
24GBF-140-E	140	465.5
24GBF-150-E	150	498.8
24GBF-160-E	160	532.0
24GBF-170-E	170	565.3
24GBF-180-E	180	598.5
24GBF-190-E	190	631.8
24GBF-200-E	200	665.0
24GBF-220-E	220	731.5
24GBF-240-E	240	798.0
24GBF-260-E	260	864.5
24GBF-280-E	280	931.0
24GBF-300-E	300	997.5
24GBF-320-E	320	1064.0
24GBF-360-E	360	1197.0
24GBF-420-E	420	1396.0

- For Field Splice Kit order 24GBF-7.

** Reduce operating load rating by 50% for field splices.

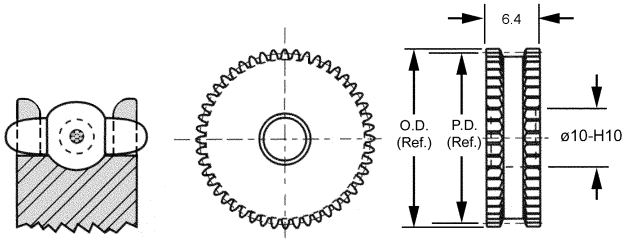
- Positive Drive
- Accommodates twists and turns
- Odd Angles
- No Lubrication
- Infinite Lengths
- Zero Backlash
- Mass 12 Grams/Meter
- 90A Durometer
- Ultimate Tensile Strength 222N - 40N/PIN
  When belt is used in open loop configuration (without splice, no crimp bushing)
- Recommended Operating Load 53N
- Recommended Max. Operating Speed 1.91 M/S
- Temperature Range +82°C to -26°C

Other numbers of pitches available on request.

BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
24GBF-1.5M	1.5M
24GBF-3.0M	3.0M
24GBF-7.5M	7.5M
24GBF-15.0M	15.0M
24GBF-30.0M	30.0M

E-Z ENTRY BELT PULLEYS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
3.325mm	**Ø10**	**HUBLESS**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Belt®**	Operates with 24GBF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
24C110-15	15•	15.88	17.99
24C110-16	16•	16.93	19.05
24C110-18	18•	19.05	21.17
24C110-20	20	21.17	23.28
24C110-21	21	22.23	24.34
24C110-24	24	25.40	27.52
24C110-30	30	31.75	33.87
24C110-36	36	38.10	40.22
24C110-42	42	44.45	46.57
24C110-48	48	50.80	52.92
24C110-60	60	63.50	65.62
24C110-72	72	76.20	78.32
24C110-96	96	101.60	103.72
24C110-120	120	127.00	129.12
24C110-144	144	152.40	154.52

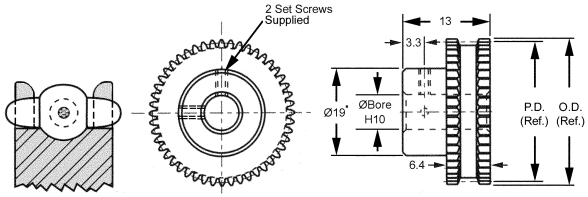
• Pulleys with19.0 mm P.D. and smaller for idler use only.

Teeth could be anodized..

E-Z ENTRY BELT PULLEYS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
3.325mm	**Ø8**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Belt®**	Operates with 24GBF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
24D108-15	15*•	15.88	17.99
24D108-16	16*•	16.93	19.05
24D108-18	18*•	19.05	21.17
24D108-20	20	21.17	23.28
24D108-21	21	22.23	24.34
24D108-24	24	25.40	27.52
24D108-30	30	31.75	33.87
24D108-36	36	38.10	40.22
24D108-42	42	44.45	46.57
24D108-48	48	50.80	52.92
24D108-60	60	63.50	65.62
24D108-72	72	76.20	78.32
24D108-96	96	101.60	103.72
24D108-120	120	127.00	129.12
24D108-144	144	152.40	154.52

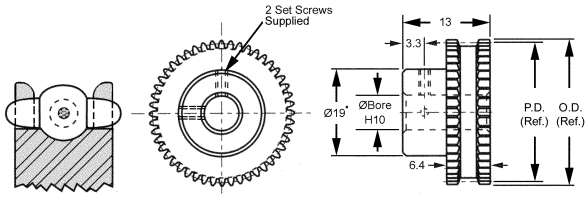


• For 15-18 teeth, hub diameter equals 13.1.
* Pulleys Ø19.0mm P.D. and smaller for idler use only.

Teeth could be anodized.

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
3.325mm	**Ø10**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Belt®**	Operates with 24GBF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
24D110-18	18*•	19.05	21.17
24D110-20	20	21.17	23.28
24D110-21	21	22.23	24.34
24D110-24	24	25.40	27.52
24D110-30	30	31.75	33.87
24D110-36	36	38.10	40.22
24D110-42	42	44.45	46.57
24D110-48	48	50.80	52.92
24D110-60	60	63.50	65.62
24D110-72	72	76.20	78.32
24D110-96	96	101.60	103.72
24D110-120	120	127.00	129.12
24D110-144	144	152.40	154.52

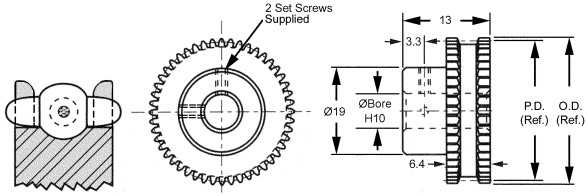


• For 18 teeth, hub diameter equals 16.3.
* Pulleys Ø19.0mm P.D. and smaller for idler use only.

Teeth could be anodized.

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
3.325mm	**Ø12**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Belt®**	Operates with 24GBF Series

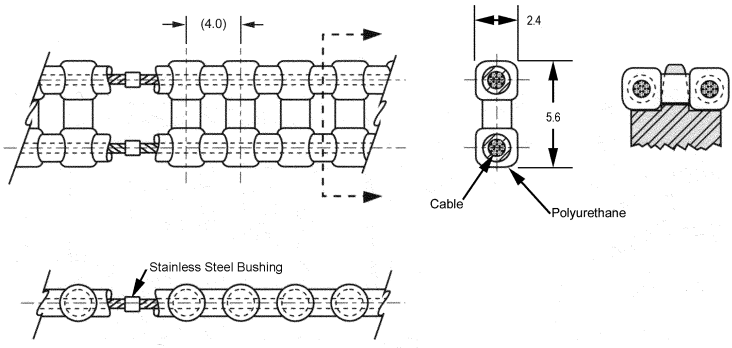
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
24D112-20	20	21.17	23.28
24D112-21	21	22.23	24.34
24D112-24	24	25.40	27.52
24D112-30	30	31.75	33.87
24D112-36	36	38.10	40.22
24D112-42	42	44.45	46.57
24D112-48	48	50.80	52.92
24D112-60	60	63.50	65.62
24D112-72	72	76.20	78.32
24D112-96	96	101.60	103.72
24D112-120	120	127.00	129.12
24D112-144	144	152.40	154.52



Teeth could be anodized.

CABLE CHAINS

CIRCULAR PITCH	MATERIAL	BERG'S® NAME	SPROCKET
4mm	Polyurethane (Red) 0.8mm Dia. Stainless Steel Cable*	**Min-E-Pitch®**	Operates with 3C, 3MP, 3MF, and 3MC series.

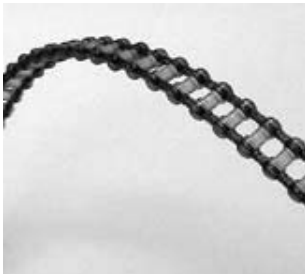


STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
3CCF-30-E	30	120.0
3CCF-35-E	35	140.0
3CCF-40-E	40	160.0
3CCF-45-E	45	180.0
3CCF-50-E	50	200.0
3CCF-55-E	55	220.0
3CCF-60-E	60	240.0
3CCF-70-E	70	280.0
3CCF-80-E	80	320.0
3CCF-90-E	90	360.0
3CCF-100-E	100	400.0
3CCF-110-E	110	440.0
3CCF-120-E	120	480.0
3CCF-130-E	130	520.0
3CCF-140-E	140	560.0
3CCF-150-E	150	600.0
3CCF-160-E	160	640.0
3CCF-170-E	170	680.0
3CCF-180-E	180	720.0
3CCF-190-E	190	760.0
3CCF-200-E	200	800.0
3CCF-210-E	210	840.0
3CCF-220-E	220	880.0
3CCF-230-E	230	920.0
3CCF-240-E	240	960.0
3CCF-250-E	250	1000.0
3CCF-260-E	260	1040.0
3CCF-270-E	270	1080.0
3CCF-280-E	280	1120.0
3CCF-290-E	290	1160.0
3CCF-300-E	300	1200.0
3CCF-310-E	310	1240.0
3CCF-320-E	320	1280.0
3CCF-330-E	330	1320.0
3CCF-340-E	340	1360.0
3CCF-350-E	350	1520.0
3CCF-370-E	370	1600.0
3CCF-400-E	400	1680.0
3CCF-440-E	440	1760.0

- For Field Splice Kit order 3CCR-7.
* Available with Aramid Core. See page A-2 in inch catalog for alternative belt construction or reverse bending applications.
** Reduce Operating Load Rating by 50% for field splices.

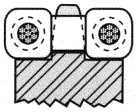
- Infinite Lengths
- Silent Drive
- Mass 12 Grams/Meter
- Non-Magnetic
- Positive Drive
- Zero Backlash
- No Lubrication
- 90A Durometer
- Ultimate Tensile Strength 445N - 89N/PIN when belt is used in open loop configuration (without splice, no crimp bushings).
- Temperature Range +82°C to -26°C
- Recommended Operating Load 111N
- Recommended Max. Operating Speed 1.91 M/S
- Other numbers of pitches available on request.

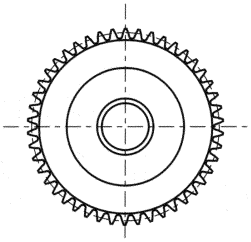
BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
3CCF-1.5M	1.5M
3CCF-3.0M	3.0M
3CCF-7.5M	7.5M
3CCF-15.0M	15.0M
3CCF-30.0M	30.0M

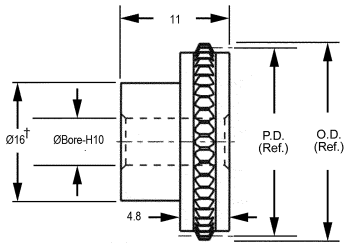


CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
4mm	**Ø7**	**PIN HUB**	Polyacetal	**Min-E-Pitch® Chain Drive**	Operates with 3CCF Series





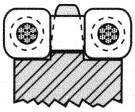


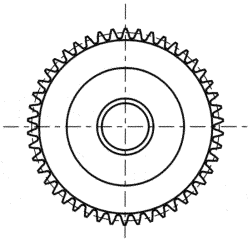
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3CC107M-13	13*†	16.49	18.07
3CC107M-14	14*†	17.76	19.34
3CC107M-15	15	19.03	20.61
3CC107M-16	16	20.29	21.87
3CC107M-18	18	22.83	24.41
3CC107M-20	20	25.37	26.95
3CC107M-22	22	27.90	29.48
3CC107M-24	24	30.44	32.02
3CC107M-26	26	32.98	34.56
3CC107M-28	28	35.51	37.09
3CC107M-30	30	38.05	39.63
3CC107M-32	32	40.59	42.17
3CC107M-35	35	44.39	45.97
3CC107M-36	36	45.66	47.24
3CC107M-40	40	50.74	52.32
3CC107M-45	45	57.08	58.66
3CC107M-50	50	63.42	64.00
3CC107M-55	55	69.76	71.34

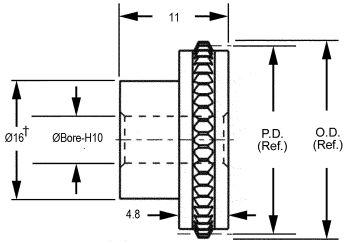
† Teeth runout on hub.
* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.
Other numbers of teeth available on request.

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
4mm	**Ø8**	**PIN HUB**	Polyacetal	**Min-E-Pitch® Chain Drive**	Operates with 3CCF Series





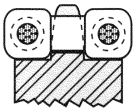


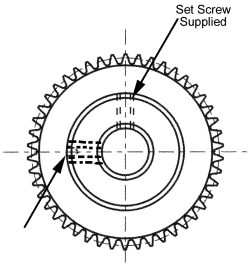
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3CC108M-13	13*†	16.49	18.07
3CC108M-14	14*†	17.76	19.34
3CC108M-15	15	19.03	20.61
3CC108M-16	16	20.29	21.87
3CC108M-18	18	22.83	24.41
3CC108M-20	20	25.37	26.95
3CC108M-22	22	27.90	29.48
3CC108M-24	24	30.44	32.02
3CC108M-26	26	32.98	34.56
3CC108M-28	28	35.51	37.09
3CC108M-30	30	38.05	39.63
3CC108M-32	32	40.59	42.17
3CC108M-35	35	44.39	45.97
3CC108M-36	36	45.66	47.24
3CC108M-40	40	50.74	52.32
3CC108M-45	45	57.08	58.66
3CC108M-50	50	63.42	64.00
3CC108M-55	55	69.76	71.34

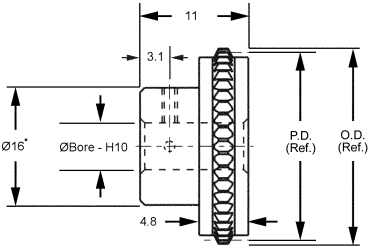
† Teeth runout on hub.
* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.
Other numbers of teeth available on request.

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
4mm	**Ø4**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Min-E-Pitch® Chain Drive**	Operates with 3CCF Series







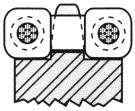
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3MP165A-13	13•	16.49	18.07
3MP165A-14	14•	17.76	19.34
3MP165A-15	15	19.03	20.61
3MP165A-16	16	20.29	21.87
3MP165A-17	17	21.56	23.14
3MP165A-18	18	22.83	24.41
3MP165A-19	19	24.10	25.68
3MP165A-20	20	25.37	26.95
3MP165A-22	22	27.90	29.48
3MP165A-24	24	30.44	32.02
3MP165A-25	26	31.71	33.29
3MP165A-26	26	32.98	34.56
3MP165A-28	28	35.51	37.09
3MP165A-30	30	38.05	39.63
3MP165A-32	32	40.59	42.17
3MP165A-35	35	44.39	45.97
3MP165A-36	36	45.66	47.24
3MP165A-40	40	50.74	52.32
3MP165A-45	45	57.08	58.66
3MP165A-50	50	63.42	65.00
3MP165A-55	55	69.76	71.34
3MP165A-60	60	76.10	77.68
3MP165A-65	65	82.45	84.02
3MP165A-70	70	88.79	90.37
3MP165A-75	75	95.13	96.71
3MP165A-80	80	101.47	103.05

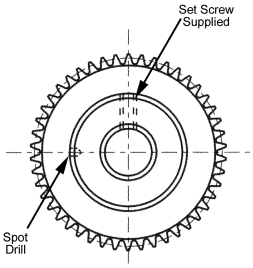
• For 13-14 teeth, hub diameter equals 14.0.
Other numbers of teeth are available upon request.
Stainless Steel equivalent available.

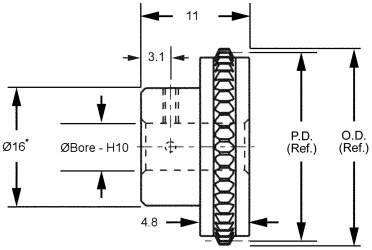
Teeth could be anodized.

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
4mm	**Ø6**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Min-E-Pitch® Chain Drive**	Operates with 3CCF Series







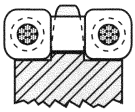
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3MP164A-13	13•	16.49	18.07
3MP164A-14	14•	17.76	19.34
3MP164A-15	15	19.03	20.61
3MP164A-16	16	20.29	21.87
3MP164A-17	17	21.56	23.14
3MP164A-18	18	22.83	24.41
3MP164A-19	19	24.10	25.68
3MP164A-20	20	25.37	26.95
3MP164A-22	22	27.90	29.48
3MP164A-24	24	30.44	32.02
3MP164A-25	26	31.71	33.29
3MP164A-26	26	32.98	34.56
3MP164A-28	28	35.51	37.09
3MP164A-30	30	38.05	39.63
3MP164A-32	32	40.59	42.17
3MP164A-35	35	44.39	45.97
3MP164A-36	36	45.66	47.24
3MP164A-40	40	50.74	52.32
3MP164A-45	45	57.08	58.66
3MP164A-50	50	63.42	65.00
3MP164A-55	55	69.76	71.34
3MP164A-60	60	76.10	77.68
3MP164A-65	65	82.45	84.02
3MP164A-70	70	88.79	90.37
3MP164A-75	75	95.13	96.71
3MP164A-80	80	101.47	103.05

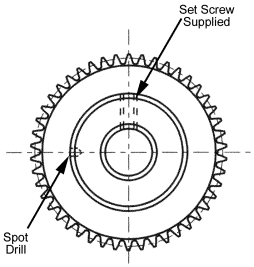
• For 13-14 teeth, hub diameter equals 14.0.
Other numbers of teeth are available upon request.
Stainless Steel equivalent available.

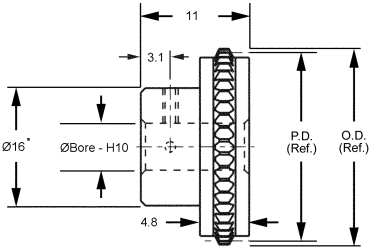
Teeth could be anodized.

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
4mm	**Ø8**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Min-E-Pitch® Chain Drive**	Operates with 3CCF Series







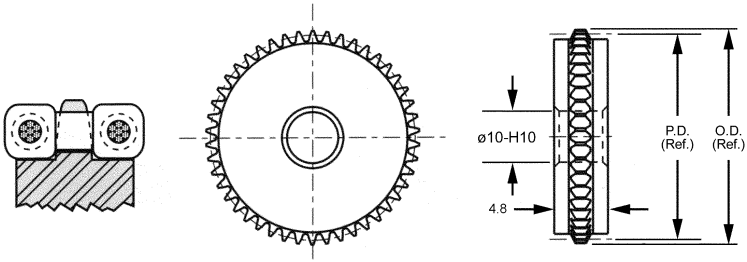
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3MP263A-13	13•	16.49	18.07
3MP263A-14	14•	17.76	19.34
3MP263A-15	15	19.03	20.61
3MP263A-16	16	20.29	21.87
3MP263A-17	17	21.56	23.14
3MP263A-18	18	22.83	24.41
3MP263A-19	19	24.10	25.68
3MP263A-20	20	25.37	26.95
3MP263A-22	22	27.90	29.48
3MP263A-24	24	30.44	32.02
3MP263A-25	25	31.71	33.29
3MP263A-26	26	32.98	34.56
3MP263A-28	28	35.51	37.09
3MP263A-30	30	38.05	39.63
3MP263A-32	32	40.59	42.17
3MP263A-35	35	44.39	45.97
3MP263A-36	36	45.66	47.24
3MP263A-40	40	50.74	52.32
3MP263A-45	45	57.08	58.66
3MP263A-50	50	63.42	65.00
3MP263A-55	55	69.76	71.34
3MP263A-60	60	76.10	77.68
3MP263A-65	65	82.45	84.02
3MP263A-70	70	88.79	90.37
3MP263A-75	75	95.13	96.71
3MP263A-80	80	101.47	103.05

• For 13-14 teeth, hub diameter equals 14.0.
Other numbers of teeth are available upon request.
Stainless Steel equivalent available.

Teeth could be anodized.

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	CHAIN
4mm	**Ø10**	**HUBLESS**	Aluminum per DIN 3.1355 Anodized	**Min-E-Pitch® Chain Drive**	Operates with 3CCF Series



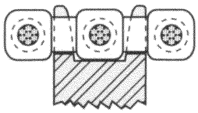
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3MF176A-14	14*	17.76	19.34
3MF176A-15	15	19.03	20.61
3MF176A-16	16	20.29	21.87
3MF176A-17	17	21.56	23.14
3MF176A-18	18	22.83	24.41
3MF176A-19	19	24.10	25.68
3MF176A-20	20	25.37	26.95
3MF176A-22	22	27.90	29.48
3MF176A-24	24	30.44	32.02
3MF176A-25	26	31.71	33.29
3MF176A-26	26	32.98	34.56
3MF176A-28	28	35.51	37.09
3MF176A-30	30	38.05	39.63
3MF176A-32	32	40.59	42.17
3MF176A-35	35	44.39	45.97
3MF176A-36	36	45.66	47.24
3MF176A-40	40	50.74	52.32
3MF176A-45	45	57.08	58.66
3MF176A-50	50	63.42	65.00
3MF176A-55	55	69.76	71.34
3MF176A-60	60	76.10	77.68
3MF176A-65	65	82.45	84.02
3MF176A-70	70	88.79	90.37
3MF176A-75	75	95.13	96.71
3MF176A-80	80	101.47	103.05

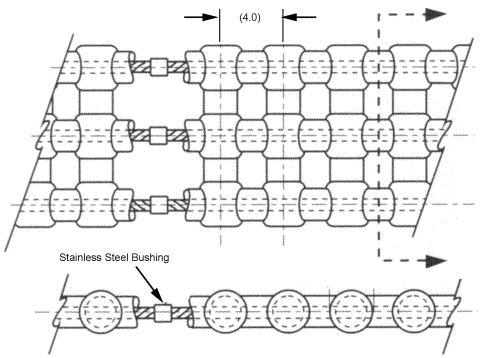
* Sprockets Ø19.0mm P.D. and smaller are recommended for idler use only.
Other numbers of teeth are available upon request.
Stainless Steel equivalent available.

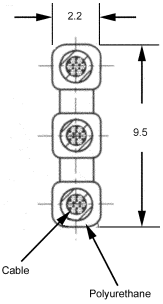
Teeth could be anodized.

DUAL CHAINS

CIRCULAR PITCH	MATERIAL	BERG'S® NAME	SPROCKET
4mm	Polyurethane (Brown) 0.8mm Dia. Stainless Steel Cable*	**Min-E-Pitch® Dual Chain**	Operates with 3MDP, and 3MDF series.





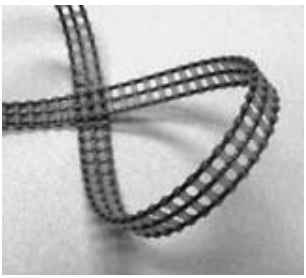


STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
3DCF-30-E	30	120.0
3DCF-35-E	35	140.0
3DCF-40-E	40	160.0
3DCF-45-E	45	180.0
3DCF-50-E	50	200.0
3DCF-55-E	55	220.0
3DCF-60-E	60	240.0
3DCF-70-E	70	280.0
3DCF-80-E	80	320.0
3DCF-90-E	90	360.0
3DCF-100-E	100	400.0
3DCF-110-E	110	440.0
3DCF-120-E	120	480.0
3DCF-130-E	130	520.0
3DCF-140-E	140	560.0
3DCF-150-E	150	600.0
3DCF-160-E	160	640.0
3DCF-170-E	170	680.0
3DCF-180-E	180	720.0
3DCF-190-E	190	760.0
3DCF-200-E	200	800.0
3DCF-210-E	210	840.0
3DCF-220-E	220	880.0
3DCF-230-E	230	920.0
3DCF-240-E	240	960.0
3DCF-250-E	250	1000.0
3DCF-260-E	260	1040.0
3DCF-270-E	270	1080.0
3DCF-280-E	280	1120.0
3DCF-290-E	290	1160.0
3DCF-300-E	300	1200.0
3DCF-310-E	310	1240.0
3DCF-320-E	320	1280.0
3DCF-330-E	330	1320.0
3DCF-340-E	340	1360.0
3DCF-350-E	350	1520.0
3DCF-370-E	370	1600.0
3DCF-400-E	400	1680.0
3DCF-440-E	440	1760.0

* This series is not available with alternate core configuration.
** Reduce Operating Load Rating by 50% for field splices.

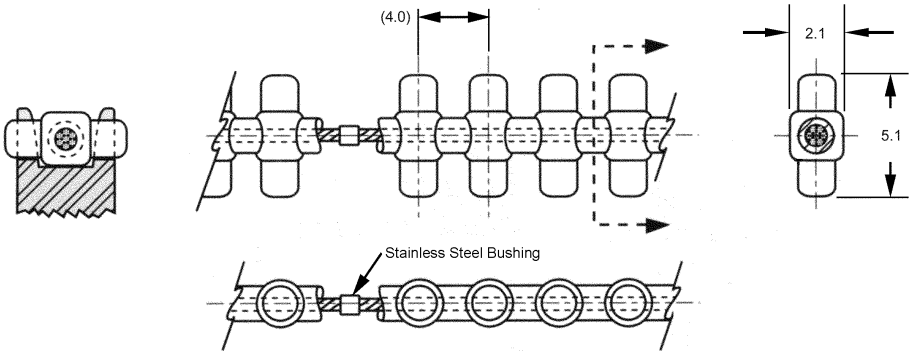
- For Field Splice Kit order 3CCR-7.
- Zero Backlash
- Mass 20 Grams/Meter
- Silent Drive
- No Lubrication
- Infinite Lengths
- 90A Durometer
- Positive Drive
- Non-Magnetic
- Ultimate Tensile Strength 533N - 133N/PIN
  When belt is used in open loop configuration (without splice, no crimp bushing)
- Temperature Range +82°C to -26°C
- Recommended Operating Load 133N
- Recommended Max. Operating Speed 1.91M/S

BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
3DCF-1.5M	1.5M
3DCF-3.0M	3.0M
3DCF-7.5M	7.5M
3DCF-15.0M	15.0M
3DCF-30.0M	30.0M



BELTS

CIRCULAR PITCH	MATERIALS	BERG'S® NAME	SPROCKET
4mm	Polyurethane (Yellow) .8mm Dia. Stainless Steel Cable*	**Min-E-Pitch® Belt Drive**	Operates with 3MDP, and 3MDF series.

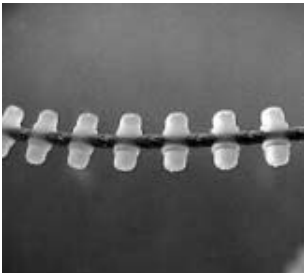


STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
3CBF-30-E	30	120.0
3CBF-35-E	35	140.0
3CBF-40-E	40	160.0
3CBF-45-E	45	180.0
3CBF-50-E	50	200.0
3CBF-55-E	55	220.0
3CBF-60-E	60	240.0
3CBF-70-E	70	280.0
3CBF-80-E	80	320.0
3CBF-90-E	90	360.0
3CBF-100-E	100	400.0
3CBF-110-E	110	440.0
3CBF-120-E	120	480.0
3CBF-130-E	130	520.0
3CBF-140-E	140	560.0
3CBF-150-E	150	600.0
3CBF-160-E	160	640.0
3CBF-170-E	170	680.0
3CBF-180-E	180	720.0
3CBF-190-E	190	760.0
3CBF-200-E	200	800.0
3CBF-210-E	210	840.0
3CBF-220-E	220	880.0
3CBF-230-E	230	920.0
3CBF-240-E	240	960.0
3CBF-250-E	250	1000.0
3CBF-260-E	260	1040.0
3CBF-270-E	270	1080.0
3CBF-280-E	280	1120.0
3CBF-290-E	290	1160.0
3CBF-300-E	300	1200.0
3CBF-310-E	310	1240.0
3CBF-320-E	320	1280.0
3CBF-330-E	330	1320.0
3CBF-340-E	340	1360.0
3CBF-350-E	350	1520.0
3CBF-370-E	370	1600.0
3CBF-400-E	400	1680.0
3CBF-440-E	440	1760.0

* This series is not available with alternate core configuration.
** Reduce Operating Load Rating by 50% for field splices.

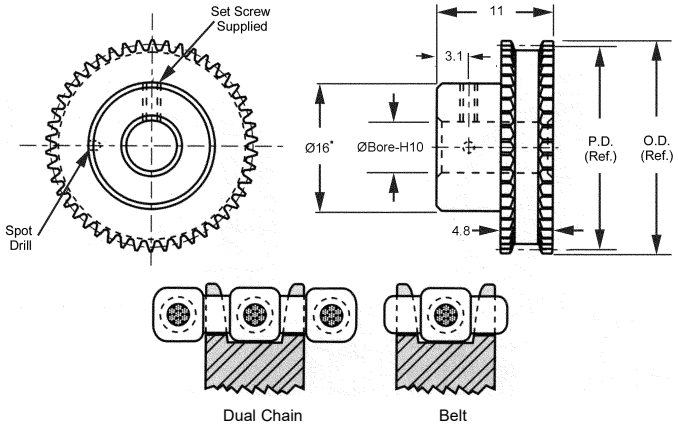
- For Field Splice Kit order 3CCR-7.
- Zero Backlash
- Odd Angles
- Silent Drive
- Infinite Lengths
- 90A Durometer
- No Lubrication
- Mass 11 Grams/Meter
- Positive Drive
- Ultimate Tensile Strength 222N - 40N/PIN
  When belt is used in open loop configuration (without splice, no crimp bushing)
- Temperature Range +82°C to -26°C
- Recommended Operating Load 53N
- Recommended Max. Operating Speed 1.91 M/S

BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
3CBF-1.5M	1.5M
3CBF-3.0M	3.0M
3CBF-7.5M	7.5M
3CBF-15.0M	15.0M
3CBF-30.0M	30.0M



DOUBLE SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	BELT/CHAIN
4mm	**Ø4**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Min-E-Pitch®**	Operates with 3CBF & 3DCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3MDP165A-12	12•*	15.33	16.79
3MDP165A-13	13•*	16.49	18.06
3MDP165A-14	14•*	17.76	19.33
3MDP165A-15	15*	19.02	20.57
3MDP165A-16	16	20.29	21.87
3MDP165A-17	17	21.56	23.11
3MDP165A-18	18	22.83	24.38
3MDP165A-19	19	24.10	25.65
3MDP165A-20	20	25.37	26.92
3MDP165A-22	22	27.90	29.46
3MDP165A-24	24	30.44	32.00
3MDP165A-25	25	31.71	33.27
3MDP165A-26	26	32.98	34.54
3MDP165A-28	28	35.51	37.08
3MDP165A-30	30	38.05	39.62
3MDP165A-32	32	40.59	42.16
3MDP165A-35	35	44.39	45.95
3MDP165A-36	36	45.66	47.22
3MDP165A-40	40	50.73	52.30
3MDP165A-45	45	57.08	58.65
3MDP165A-50	50	63.42	64.97
3MDP165A-55	55	69.76	71.32
3MDP165A-60	60	76.10	77.67
3MDP165A-65	65	82.44	84.00
3MDP165A-70	70	88.79	90.35
3MDP165A-75	75	95.13	96.70
3MDP165A-80	80	101.47	103.02

* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.

• For 12-14 teeth, hub diameter equals 12.9.

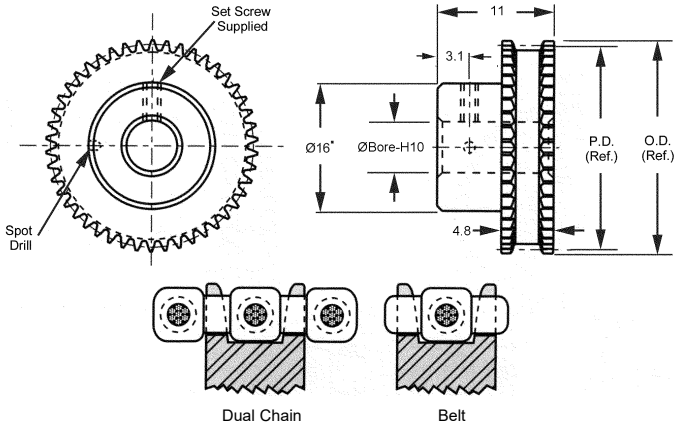
Other numbers of teeth are available on request.

Stainless Steel equivalent available.

Teeth could be anodized.

DOUBLE SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	BELT/CHAIN
4mm	**Ø6**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Min-E-Pitch®**	Operates with 3CBF & 3DCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3MDP164A-12	12•*	15.33	16.79
3MDP164A-13	13•*	16.49	18.06
3MDP164A-14	14•*	17.76	19.33
3MDP164A-15	15*	19.02	20.57
3MDP164A-16	16	20.29	21.87
3MDP164A-17	17	21.56	23.11
3MDP164A-18	18	22.83	24.38
3MDP164A-19	19	24.10	25.65
3MDP164A-20	20	25.37	26.92
3MDP164A-22	22	27.90	29.46
3MDP164A-24	24	30.44	32.00
3MDP164A-25	25	31.71	33.27
3MDP164A-26	26	32.98	34.54
3MDP164A-28	28	35.51	37.08
3MDP164A-30	30	38.05	39.62
3MDP164A-32	32	40.59	42.16
3MDP164A-35	35	44.39	45.95
3MDP164A-36	36	45.66	47.22
3MDP164A-40	40	50.73	52.30
3MDP164A-45	45	57.08	58.65
3MDP164A-50	50	63.42	64.97
3MDP164A-55	55	69.76	71.32
3MDP164A-60	60	76.10	77.67
3MDP164A-65	65	82.44	84.00
3MDP164A-70	70	88.79	90.35
3MDP164A-75	75	95.13	96.70
3MDP164A-80	80	101.47	103.02

* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.

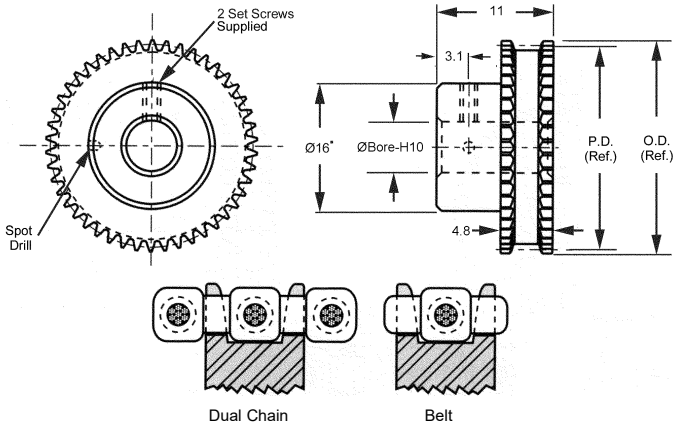
• For 12-14 teeth, hub diameter equals 12.9.

Other numbers of teeth are available on request. Stainless Steel equivalent available.

Teeth could be anodized.

DOUBLE SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	BELT/CHAIN
4mm	**Ø8**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Min-E-Pitch®**	Operates with 3CBF & 3DCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3MDP263A-12	12•*	15.33	16.79
3MDP263A-13	13•*	16.49	18.06
3MDP263A-14	14•*	17.76	19.33
3MDP263A-15	15*	19.02	20.57
3MDP263A-16	16	20.29	21.87
3MDP263A-17	17	21.56	23.11
3MDP263A-18	18	22.83	24.38
3MDP263A-19	19	24.10	25.65
3MDP263A-20	20	25.37	26.92
3MDP263A-22	22	27.90	29.46
3MDP263A-24	24	30.44	32.00
3MDP263A-25	25	31.71	33.27
3MDP263A-26	26	32.98	34.54
3MDP263A-28	28	35.51	37.08
3MDP263A-30	30	38.05	39.62
3MDP263A-32	32	40.59	42.16
3MDP263A-35	35	44.39	45.95
3MDP263A-36	36	45.66	47.22
3MDP263A-40	40	50.73	52.30
3MDP263A-45	45	57.08	58.65
3MDP263A-50	50	63.42	64.97
3MDP263A-55	55	69.76	71.32
3MDP263A-60	60	76.10	77.67
3MDP263A-65	65	82.44	84.00
3MDP263A-70	70	88.79	90.35
3MDP263A-75	75	95.13	96.70
3MDP263A-80	80	101.47	103.02

* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.

• For 12-14 teeth, hub diameter equals 12.9.

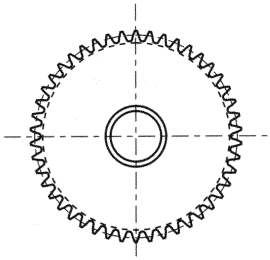
Other numbers of teeth are available on request.

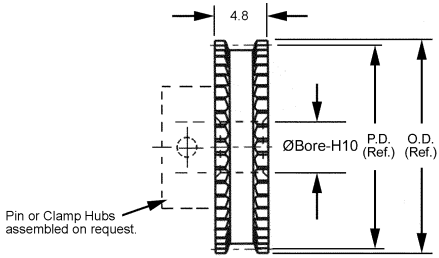
Stainless Steel equivalent available.

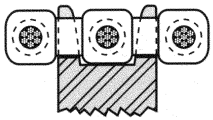
Teeth could be anodized.

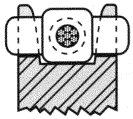
DOUBLE SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT/CHAIN
4mm	**Ø10**	**HUBLESS**	Aluminum per DIN 3.1355 Anodized	**Min-E-Pitch®**	Operates with 3CBF & 3DCF Series






Dual Chain


Belt

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3MDF176A-14	14*	17.76	19.33
3MDF176A-15	15*	19.02	20.57
3MDF176A-16	16	20.29	21.87
3MDF176A-17	17	21.56	23.11
3MDF176A-18	18	22.83	24.38
3MDF176A-19	19	24.10	25.65
3MDF176A-20	20	25.37	26.92
3MDF176A-22	22	27.90	29.46
3MDF176A-24	24	30.44	32.00
3MDF176A-25	25	31.71	33.27
3MDF176A-26	26	32.98	34.54
3MDF176A-28	28	35.51	37.08
3MDF176A-30	30	38.05	39.62
3MDF176A-32	32	40.59	42.16
3MDF176A-35	35	44.39	45.95
3MDF176A-36	36	45.66	47.22
3MDF176A-40	40	50.73	52.30
3MDF176A-45	45	57.08	58.65
3MDF176A-50	50	63.42	64.97
3MDF176A-55	55	69.76	71.32
3MDF176A-60	60	76.10	77.67
3MDF176A-65	65	82.44	84.00
3MDF176A-70	70	88.79	90.35
3MDF176A-75	75	95.13	96.70
3MDF176A-80	80	101.47	103.02

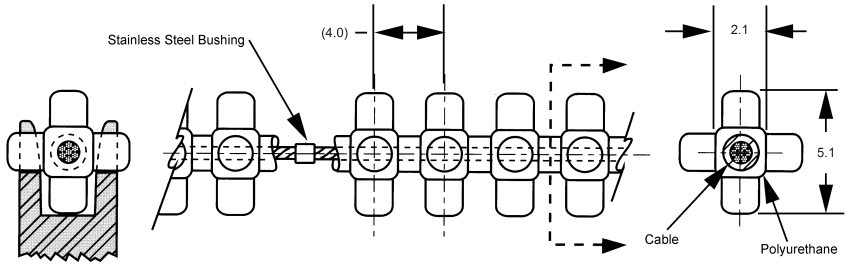
* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.

Other numbers of teeth are available on request.
Stainless Steel equivalent available.

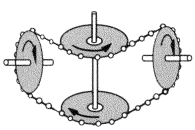
Teeth could be anodized.

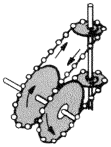
3-D BELTS

CIRCULAR PITCH	MATERIALS	BERG'S® NAME	PULLEY
4mm	Polyurethane (Green) .8mm Dia. Stainless Steel Cable*	**Min-E-Pitch®**	Operates with 3TDP, 3TF, and 3MTB series.



STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
3TDF-30-E	30	120.0
3TDF-35-E	36	144.0
3TDF-40-E	40	160.0
3TDF-45-E	46	184.0
3TDF-50-E	50	200.0
3TDF-55-E	56	224.0
3TDF-60-E	60	240.0
3TDF-70-E	70	280.0
3TDF-80-E	80	320.0
3TDF-90-E	90	360.0
3TDF-100-E	100	400.0
3TDF-110-E	110	440.0
3TDF-120-E	120	480.0
3TDF-130-E	130	520.0
3TDF-140-E	140	560.0
3TDF-150-E	150	600.0
3TDF-160-E	160	640.0
3TDF-170-E	170	680.0
3TDF-180-E	180	720.0
3TDF-190-E	190	760.0
3TDF-200-E	200	800.0
3TDF-210-E	210	840.0
3TDF-220-E	220	880.0
3TDF-230-E	230	920.0
3TDF-240-E	240	960.0
3TDF-250-E	250	1000.0
3TDF-260-E	260	1040.0
3TDF-270-E	270	1080.0
3TDF-280-E	280	1120.0
3TDF-290-E	290	1160.0
3TDF-300-E	300	1200.0
3TDF-310-E	310	1240.0
3TDF-320-E	320	1280.0
3TDF-330-E	330	1320.0
3TDF-340-E	340	1360.0
3TDF-350-E	350	1400.0
3TDF-370-E	360	1440.0
3TDF-400-E	400	1600.0
3TDF-440-E	440	1760.0





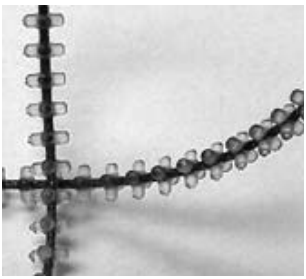
- For Field Splice Kit order 3CCR-7.

* Available with Aramid Core. See page A-2 in inch catalog for alternate belt construction and reverse bending applications.

** Reduce Operating Load Rating by 50% for field splices.

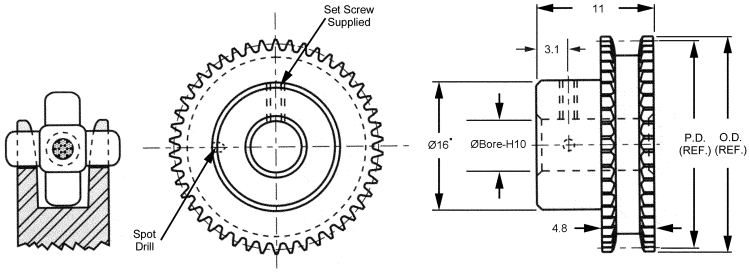
- Three Dimensional Drive
- Zero Backlash
- Silent Drive
- Infinite Lengths
- 90A Durometer
- No Lubrication
- Mass 11 Grams/Meter
- Positive Drive
- Ultimate Tensile Strength 222N - 40N/PIN
  When belt is used in open loop configuration
  (without splice, no crimp bushing).
- Temperature Range +82°C to -26°C
- Recommended Operating Load 53N
- Recommended Max. Operating Speed 1.91 M/S

BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
3TDF-1.5M	1.5M
3TDF-3.0M	3.0M
3TDF-7.5M	7.5M
3TDF-15.0M	15.0M
3TDF-30.0M	30.0M



3-D PULLEYS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	BELT
4mm	**Ø4**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Min-E-Pitch® Three D Drive**	Operates with 3TDF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3TDP165A-12	12•*	15.22	16.80
3TDP165A-13	13•*	16.49	18.07
3TDP165A-14	14•*	17.76	19.34
3TDP165A-15	15•*	19.03	20.61
3TDP165A-16	16•	20.29	21.87
3TDP165A-17	17	21.56	23.14
3TDP165A-18	18	22.83	24.41
3TDP165A-19	19	24.10	25.68
3TDP165A-20	20	25.37	26.95
3TDP165A-22	22	27.90	29.48
3TDP165A-24	24	30.44	32.02
3TDP165A-25	25	31.71	33.26
3TDP165A-26	26	32.98	34.56
3TDP165A-28	28	35.51	37.09
3TDP165A-30	30	38.05	39.63
3TDP165A-32	32	40.59	42.17
3TDP165A-35	35	44.39	45.97
3TDP165A-36	36	45.66	47.24
3TDP165A-40	40	50.47	52.32
3TDP165A-45	45	57.10	58.66
3TDP165A-50	50	63.42	65.00
3TDP165A-55	55	69.76	71.34
3TDP165A-60	60	76.10	77.68
3TDP165A-65	65	82.45	84.02
3TDP165A-70	70	88.79	90.37
3TDP165A-75	75	95.13	96.71
3TDP165A-80	80	101.47	103.05

* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.

• For 12-16 teeth, hub diameter equals 10.0.

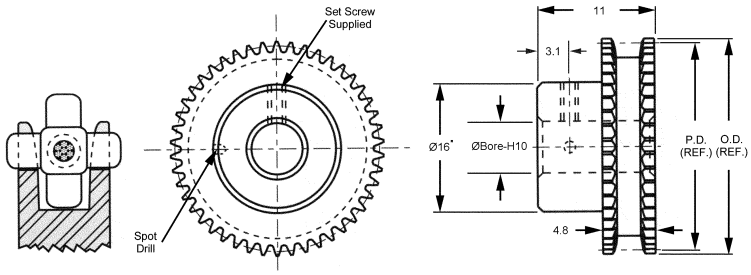
Other numbers of teeth are available on request.

Stainless Steel equivalent available.

Teeth could be anodized.

3-D PULLEYS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	BELT
4mm	**Ø6**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Min-E-Pitch® Three D Drive**	Operates with 3TDF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3TDP164A-12	12•*	15.22	16.80
3TDP164A-13	13•*	16.49	18.07
3TDP164A-14	14•*	17.76	19.34
3TDP164A-15	15•*	19.03	20.61
3TDP164A-16	16•	20.29	21.87
3TDP164A-17	17	21.56	23.14
3TDP164A-18	18	22.83	24.41
3TDP164A-19	19	24.10	25.68
3TDP164A-20	20	25.37	26.95
3TDP164A-22	22	27.90	29.48
3TDP164A-24	24	30.44	32.02
3TDP164A-25	25	31.71	33.26
3TDP164A-26	26	32.98	34.56
3TDP164A-28	28	35.51	37.09
3TDP164A-30	30	38.05	39.63
3TDP164A-32	32	40.59	42.17
3TDP164A-35	35	44.39	45.97
3TDP164A-36	36	45.66	47.24
3TDP164A-40	40	50.47	52.32
3TDP164A-45	45	57.10	58.66
3TDP164A-50	50	63.42	65.00
3TDP164A-55	55	69.76	71.34
3TDP164A-60	60	76.10	77.68
3TDP164A-65	65	82.45	84.02
3TDP164A-70	70	88.79	90.37
3TDP164A-75	75	95.13	96.71
3TDP164A-80	80	101.47	103.05

* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.

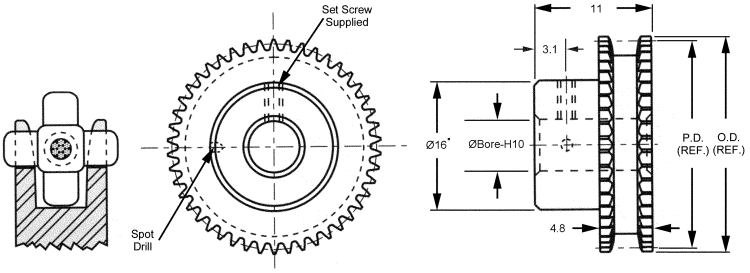
• For 12-16 teeth, hub diameter equals 10.0.

Other numbers of teeth are available on request. Stainless Steel equivalent available.

Teeth could be anodized.

3-D PULLEYS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	BELT
4mm	**Ø8**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Min-E-Pitch® Three D Drive**	Operates with 3TDF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3TDP263A-12	12•*	15.22	16.80
3TDP263A-13	13•*	16.49	18.07
3TDP263A-14	14•*	17.76	19.34
3TDP263A-15	15•*	19.03	20.61
3TDP263A-16	16•	20.29	21.87
3TDP263A-17	17	21.56	23.14
3TDP263A-18	18	22.83	24.41
3TDP263A-19	19	24.10	25.68
3TDP263A-20	20	25.37	26.95
3TDP263A-22	22	27.90	29.48
3TDP263A-24	24	30.44	32.02
3TDP263A-25	25	31.71	33.26
3TDP263A-26	26	32.98	34.56
3TDP263A-28	28	35.51	37.09
3TDP263A-30	30	38.05	39.63
3TDP263A-32	32	40.59	42.17
3TDP263A-35	35	44.39	45.97
3TDP263A-36	36	45.66	47.24
3TDP263A-40	40	50.47	52.32
3TDP263A-45	45	57.10	58.66
3TDP263A-50	50	63.42	65.00
3TDP263A-55	55	69.76	71.34
3TDP263A-60	60	76.10	77.68
3TDP263A-65	65	82.45	84.02
3TDP263A-70	70	88.79	90.37
3TDP263A-75	75	95.13	96.71
3TDP263A-80	80	101.47	103.05

* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.

• For 12-16 teeth, hub diameter equals 10.0.

Other numbers of teeth are available on request.

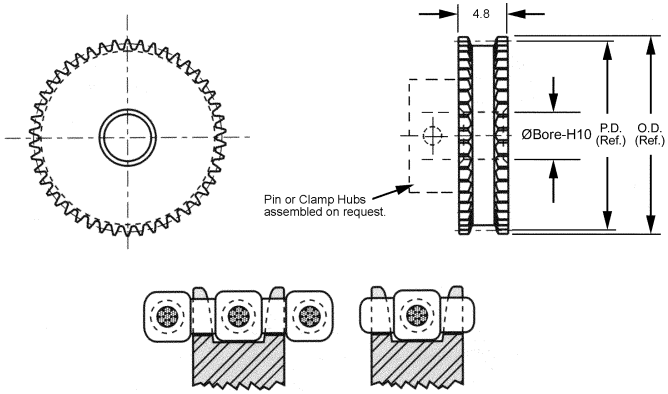
Stainless Steel equivalent available.

Teeth could be anodized.

3-D PULLEYS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	BELT
4mm	**Ø10**	**HUBLESS**	Aluminum per DIN 3.1355 Anodized	**Min-E-Pitch® Three D Drive**	Operates with 3TDF Series

A



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3MDF176A-12	12•*	15.22	16.80
3MDF176A-13	13•*	16.49	18.07
3MDF176A-14	14•*	17.76	19.34
3MDF176A-15	15•*	19.03	20.61
3MDF176A-16	16•	20.29	21.87
3MDF176A-17	17	21.56	23.14
3MDF176A-18	18	22.83	24.41
3MDF176A-19	19	24.10	25.68
3MDF176A-20	20	25.37	26.95
3MDF176A-22	22	27.90	29.48
3MDF176A-24	24	30.44	32.02
3MDF176A-25	25	31.71	33.26
3MDF176A-26	26	32.98	34.56
3MDF176A-28	28	35.51	37.09
3MDF176A-30	30	38.05	39.63
3MDF176A-32	32	40.59	42.17
3MDF176A-35	35	44.39	45.97
3MDF176A-36	36	45.66	47.24
3MDF176A-40	40	50.47	52.32
3MDF176A-45	45	57.10	58.66
3MDF176A-50	50	63.42	65.00
3MDF176A-55	55	69.76	71.34
3MDF176A-60	60	76.10	77.68
3MDF176A-65	65	82.45	84.02
3MDF176A-70	70	88.79	90.37
3MDF176A-75	75	95.13	96.71
3MDF176A-80	80	101.47	103.05

* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.

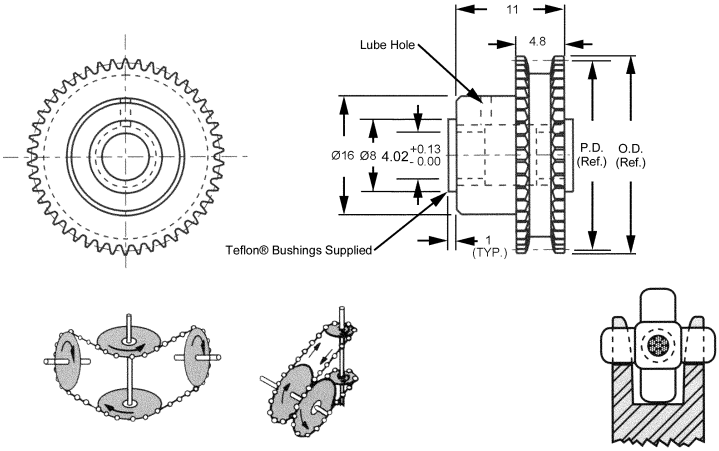
Other numbers of teeth are available on request.

Stainless Steel equivalent available.

Teeth could be anodized.

3-D PULLEYS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	BELT
4mm	**Ø4**	**IDLER**	Aluminum Pulley w/Teflon® Bushings	**Min-E-Pitch® Three D Drive**	Operates with 3TDF Series



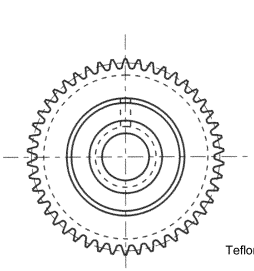
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3MTB163A-25	25	31.71	33.27
3MTB163A-26	26	32.98	34.54
3MTB163A-28	28	35.51	37.08
3MTB163A-30	30	38.05	39.62
3MTB163A-32	32	40.59	40.64
3MTB163A-34	34	43.13	44.70
3MTB163A-35	35	44.39	45.95
3MTB163A-36	36	45.66	47.22
3MTB163A-38	38	48.20	49.78
3MTB163A-40	40	50.74	52.30
3MTB163A-44	44	55.81	57.38
3MTB163A-45	45	57.08	58.65
3MTB163A-50	50	63.42	64.97
3MTB163A-55	55	69.75	71.12
3MTB163A-60	60	76.10	77.67
3MTB163A-65	65	82.45	84.02
3MTB163A-70	70	88.79	90.37
3MTB163A-75	75	95.13	96.70
3MTB163A-80	80	101.47	103.05

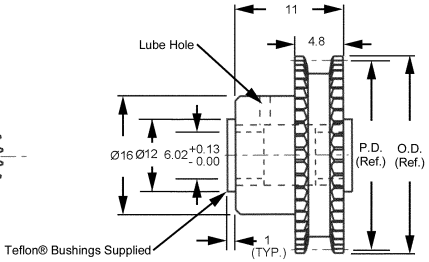
Other numbers of teeth are available on request.

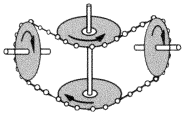
Teeth could be anodized.

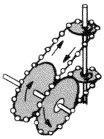
3-D PULLEYS

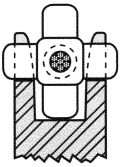
CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	BELT
4mm	**Ø6**	**IDLER**	Aluminum Pulley w/Teflon® Bushings	**Min-E-Pitch® Three D Drive**	Operates with 3TDF Series











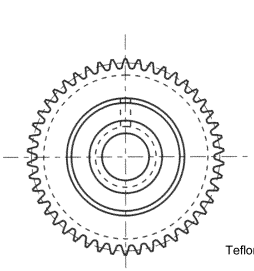
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3MTB183A-25	25	31.71	33.27
3MTB183A-26	26	32.98	34.54
3MTB183A-28	28	35.51	37.08
3MTB183A-30	30	38.05	39.62
3MTB183A-32	32	40.59	40.64
3MTB183A-34	34	43.13	44.70
3MTB183A-35	35	44.39	45.95
3MTB183A-36	36	45.66	47.22
3MTB183A-38	38	48.20	49.78
3MTB183A-40	40	50.74	52.30
3MTB183A-44	44	55.81	57.38
3MTB183A-45	45	57.08	58.65
3MTB183A-50	50	63.42	64.97
3MTB183A-55	55	69.75	71.12
3MTB183A-60	60	76.10	77.67
3MTB183A-65	65	82.45	84.02
3MTB183A-70	70	88.79	90.37
3MTB183A-75	75	95.13	96.70
3MTB183A-80	80	101.47	103.05

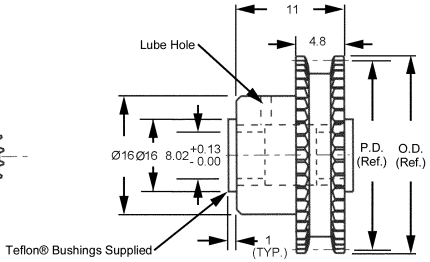
Other numbers of teeth are available on request.

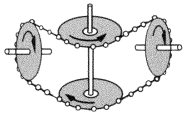
Teeth could be anodized.

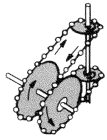
3-D PULLEYS

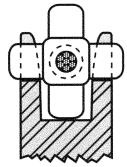
CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	BELT
4mm	**Ø8**	**IDLER**	Aluminum Pulley w/Teflon® Bushings	**Min-E-Pitch® Three D Drive**	Operates with 3TDF Series











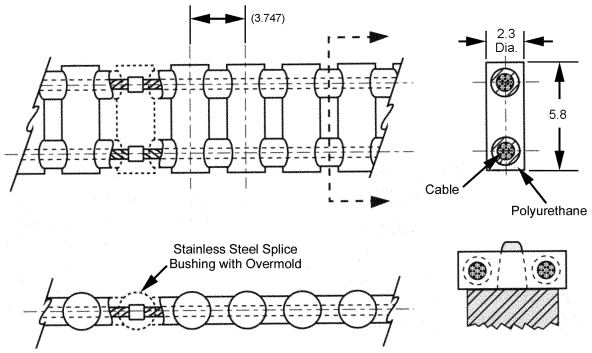
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
3MTB293A-25	25	31.71	33.27
3MTB293A-26	26	32.98	34.54
3MTB293A-28	28	35.51	37.08
3MTB293A-30	30	38.05	39.62
3MTB293A-32	32	40.59	40.64
3MTB293A-34	34	43.13	44.70
3MTB293A-35	35	44.39	45.95
3MTB293A-36	36	45.66	47.22
3MTB293A-38	38	48.20	49.78
3MTB293A-40	40	50.74	52.30
3MTB293A-44	44	55.81	57.38
3MTB293A-45	45	57.08	58.65
3MTB293A-50	50	63.42	64.97
3MTB293A-55	55	69.75	71.12
3MTB293A-60	60	76.10	77.67
3MTB293A-65	65	82.45	84.02
3MTB293A-70	70	88.79	90.37
3MTB293A-75	75	95.13	96.70
3MTB293A-80	80	101.47	103.05

Other numbers of teeth are available on request.

Teeth could be anodized.

CHAINS

CIRCULAR PITCH	PIN DIAMETER	MATERIAL	BERG'S® NAME	SPROCKET
3.747mm	**2.3mm**	Polyurethane (Blue) 0.8mm Stainless Steel Cable*	**Flex-E-Pitch®**	Operates with 14LC, and 14LP series.



STOCK NO.	NO. OF PITCHES	LENGTH MM
14CCF-40-E	40	149.9
14CCF-50-E	50	187.4
14CCF-60-E	60	224.8
14CCF-70-E	70	262.3
14CCF-80-E	80	299.8
14CCF-90-E	90	337.2
14CCF-100-E	100	374.7
14CCF-110-E	110	412.2
14CCF-120-E	120	449.6
14CCF-130-E	130	487.1
14CCF-140-E	140	524.6
14CCF-150-E	150	562.1
14CCF-160-E	160	599.5
14CCF-170-E	170	637.0
14CCF-180-E	180	674.5
14CCF-190-E	190	711.9
14CCF-200-E	200	749.4
14CCF-210-E	210	786.9
14CCF-220-E	220	824.3
14CCF-230-E	230	861.8
14CCF-240-E	240	899.3
14CCF-250-E	250	936.8
14CCF-260-E	260	974.2
14CCF-270-E	270	1011.7
14CCF-280-E	280	1049.2
14CCF-290-E	290	1086.6
14CCF-300-E	300	1124.1
14CCF-310-E	310	1161.6
14CCF-320-E	320	1199.0
14CCF-330-E	330	1236.5
14CCF-340-E	340	1274.0
14CCF-370-E	370	1386.4
14CCF-390-E	390	1461.3

- For Field Splice Kit order 14CCF-7.

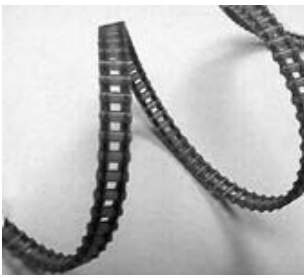
* Available with Aramid Core construction. See page A-2 in inch catalog for alternate belt construction and reverse belt bending applications.

** Reduce Operating Load Rating by 50% for field splices.

Designed to replace standard metal roller chain systems:

- No multiple link joints to bind.
- Lubrication is never required.
- Easily modified to any length.
- Large selection of mating sprockets.
- Infinite Lengths
- Silent Drive
- Rust Proof
- 90A Durometer
- Non-Magnetic
- Positive Drive
- Mass 14 Grams/Meter
- Ultimate Tensile Strength 445N - 53N/ PIN - when belt is used in an open configuration (without splice, no crimp bushing)
- Temperature Range +82°C to -26°C
- Recommended Operating Load 111N
- Recommended Max. Operating Speed 1.91 m/s

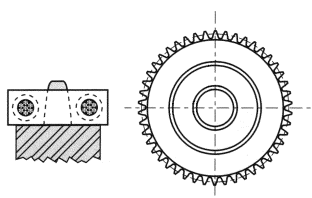
BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
14CCF-1.5M	1.5 M
14CCF-3.0M	3.0 M
14CCF-7.5M	7.5 M
14CCF-15.0M	15.0 M
14CCF-30.0M	30.0 M

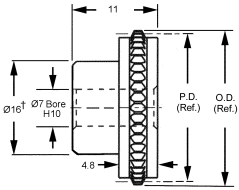


CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
3.747mm	**Ø7**	**PIN HUB**	Acetal	**Flex-E-Pitch®**	Operates with 14CCF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
14LC107M-14	14†*	16.80	18.83
14LC107M-15	15†*	18.00	20.03
14LC107M-16	16	19.20	21.23
14LC107M-18	18	21.60	23.63
14LC107M-20	20	24.00	26.03
14LC107M-22	22	26.40	28.43
14LC107M-24	24	28.80	30.83
14LC107M-26	26	31.20	33.23
14LC107M-30	30	35.99	38.03
14LC107M-32	32	38.39	40.42
14LC107M-36	36	43.19	45.23
14LC107M-40	40	47.99	50.03
14LC107M-42	42	50.39	52.42
14LC107M-44	44	52.79	54.83
14LC107M-45	45	53.99	56.02
14LC107M-50	50	59.99	62.02
14LC107M-60	60	71.99	74.02

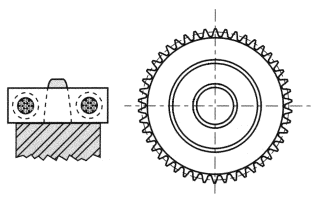


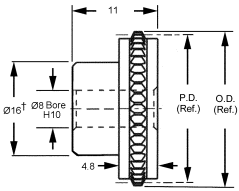


† Teeth runout on hub.
• Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.
Other numbers of teeth available on request.

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
3.747mm	**Ø8**	**PIN HUB**	Acetal	**Flex-E-Pitch®**	Operates with 14CCF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
14LC108M-14	14†*	16.80	18.83
14LC108M-15	15†*	18.00	20.03
14LC108M-16	16	19.20	21.23
14LC108M-18	18	21.60	23.63
14LC108M-20	20	24.00	26.03
14LC108M-22	22	26.40	28.43
14LC108M-24	24	28.80	30.83
14LC108M-26	26	31.20	33.23
14LC108M-30	30	35.99	38.03
14LC108M-32	32	38.39	40.42
14LC108M-36	36	43.19	45.23
14LC108M-40	40	47.99	50.03
14LC108M-42	42	50.39	52.42
14LC108M-44	44	52.79	54.83
14LC108M-45	45	53.99	56.02
14LC108M-50	50	59.99	62.02
14LC108M-60	60	71.99	74.02

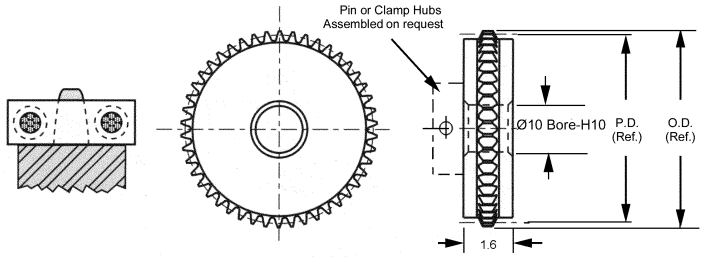




† Teeth runout on hub.
• Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.
Other numbers of teeth available on request.

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
3.747mm	**Ø10**	**HUBLESS**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Pitch®**	Operates with 14CCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
14LP176A-14	14*	16.80	18.82
14LP176A-15	15*	18.00	20.03
14LP176A-16	16	19.20	21.23
14LP176A-18	18	21.60	23.63
14LP176A-20	20	24.00	26.03
14LP176A-24	24	28.80	30.83
14LP176A-25	25	30.00	32.03
14LP176A-27	27	32.40	34.43
14LP176A-28	28	33.60	35.63
14LP176A-29	29	34.80	36.83
14LP176A-30	30	35.99	38.03
14LP176A-32	32	38.39	40.43
14LP176A-34	34	40.79	42.83
14LP176A-36	36	43.19	45.23
14LP176A-38	38	45.59	47.63
14LP176A-40	40	47.99	50.03
14LP176A-42	42	50.39	52.42
14LP176A-44	44	52.79	54.82
14LP176A-48	48	57.59	59.62
14LP176A-50	50	59.99	62.02
14LP176A-52	52	62.39	64.42
14LP176A-54	54	64.79	66.82
14LP176A-56	56	67.19	69.22
14LP176A-60	60	71.99	74.02
14LP176A-65	65	77.99	80.02
14LP176A-70	70	83.99	86.02
14LP176A-80	80	95.99	98.02

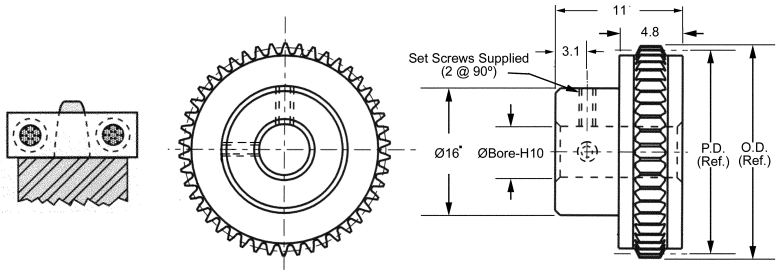
* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.

Other numbers of teeth available on request.

Teeth could be anodized.

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
3.747mm	**Ø4**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Pitch®**	Operates with 14CCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
14LC165A-13	13*•	15.60	17.63
14LC165A-14	14*•	16.80	18.82
14LC165A-15	15*•	18.00	20.03
14LC165A-16	16	19.20	21.23
14LC165A-18	18	21.60	23.63
14LC165A-20	20	24.00	26.03
14LC165A-24	24	28.80	30.83
14LC165A-25	25	30.00	32.03
14LC165A-27	27	32.40	34.43
14LC165A-28	28	33.60	35.63
14LC165A-29	29	34.80	36.83
14LC165A-30	30	35.99	38.03
14LC165A-32	32	38.39	40.43
14LC165A-34	34	40.79	42.83
14LC165A-36	36	43.19	45.23
14LC165A-38	38	45.59	47.63
14LC165A-40	40	47.99	50.03
14LC165A-42	42	50.39	52.42
14LC165A-44	44	52.79	54.82
14LC165A-48	48	57.59	59.62
14LC165A-50	50	59.99	62.02
14LC165A-52	52	62.39	64.42
14LC165A-54	54	64.79	66.82
14LC165A-56	56	67.19	69.22
14LC165A-60	60	71.99	74.02
14LC165A-65	65	77.99	80.02
14LC165A-70	70	83.99	86.02
14LC165A-80	80	95.99	98.02

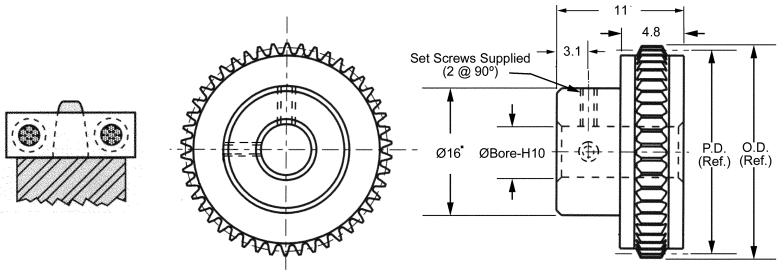
• For 13-15 teeth, hub diameter equals 13.3.
* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.

Other numbers of teeth available on request.

Teeth could be anodized.

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
3.747mm	**Ø6**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Pitch®**	Operates with 14CCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
14LC164A-13	13*•	15.60	17.63
14LC164A-14	14*•	16.80	18.82
14LC164A-15	15*•	18.00	20.03
14LC164A-16	16	19.20	21.23
14LC164A-18	18	21.60	23.63
14LC164A-20	20	24.00	26.03
14LC164A-24	24	28.80	30.83
14LC164A-25	25	30.00	32.03
14LC164A-27	27	32.40	34.43
14LC164A-28	28	33.60	35.63
14LC164A-29	29	34.80	36.83
14LC164A-30	30	35.99	38.03
14LC164A-32	32	38.39	40.43
14LC164A-34	34	40.79	42.83
14LC164A-36	36	43.19	45.23
14LC164A-38	38	45.59	47.63
14LC164A-40	40	47.99	50.03
14LC164A-42	42	50.39	52.42
14LC164A-44	44	52.79	54.82
14LC164A-48	48	57.59	59.62
14LC164A-50	50	59.99	62.02
14LC164A-52	52	62.39	64.42
14LC164A-54	54	64.79	66.82
14LC164A-56	56	67.19	69.22
14LC164A-60	60	71.99	74.02
14LC164A-65	65	77.99	80.02
14LC164A-70	70	83.99	86.02
14LC164A-80	80	95.99	98.02

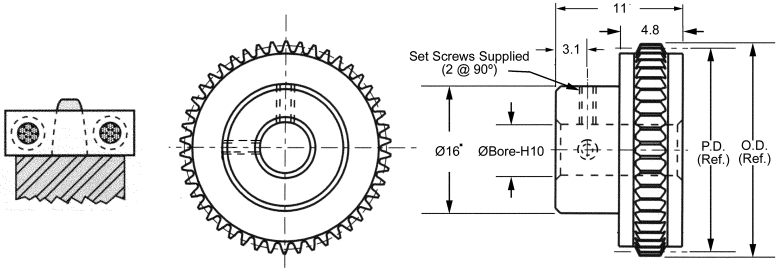
• For 13-15 teeth, hub diameter equals 13.3.
* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.

Other numbers of teeth available on request.

Teeth could be anodized.

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
3.747mm	**Ø8**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Pitch®**	Operates with 14CCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
14LC263A-13	13*•	15.60	17.63
14LC263A-14	14*•	16.80	18.82
14LC263A-15	15*•	18.00	20.03
14LC263A-16	16	19.20	21.23
14LC263A-18	18	21.60	23.63
14LC263A-20	20	24.00	26.03
14LC263A-24	24	28.80	30.83
14LC263A-25	25	30.00	32.03
14LC263A-27	27	32.40	34.43
14LC263A-28	28	33.60	35.63
14LC263A-29	29	34.80	36.83
14LC263A-30	30	35.99	38.03
14LC263A-32	32	38.39	40.43
14LC263A-34	34	40.79	42.83
14LC263A-36	36	43.19	45.23
14LC263A-38	38	45.59	47.63
14LC263A-40	40	47.99	50.03
14LC263A-42	42	50.39	52.42
14LC263A-44	44	52.79	54.82
14LC263A-48	48	57.59	59.62
14LC263A-50	50	59.99	62.02
14LC263A-52	52	62.39	64.42
14LC263A-54	54	64.79	66.82
14LC263A-56	56	67.19	69.22
14LC263A-60	60	71.99	74.02
14LC263A-65	65	77.99	80.02
14LC263A-70	70	83.99	86.02
14LC263A-80	80	95.99	98.02

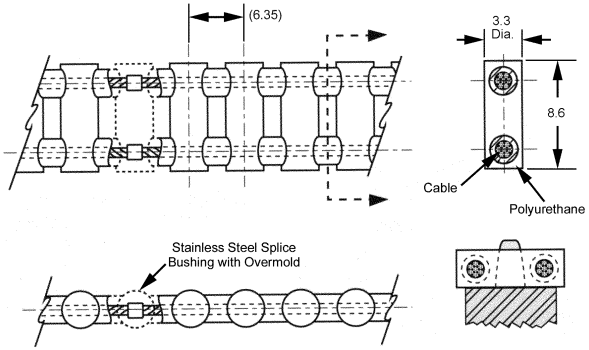
• For 13-15 teeth, hub diameter equals 13.3.
* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.

Other numbers of teeth available on request.

Teeth could be anodized.

CHAINS

CIRCULAR PITCH	PIN DIAMETER	MATERIALS	BERG'S® NAME	SPROCKET
6.35mm	**3.3mm**	Polyurethane (Yellow) 0.8mm Dia. Stainless Steel Cable*	**Flex-E-Pitch®**	Operates with 25CF, 25CP, and 25LC series.



STOCK NO.	NO. OF PITCHES	LENGTH MM
25CCF-40-E	40	254.0
25CCF-50-E	50	317.5
25CCF-60-E	60	381.0
25CCF-70-E	70	444.5
25CCF-80-E	80	508.0
25CCF-90-E	90	571.5
25CCF-100-E	100	635.0
25CCF-110-E	110	698.5
25CCF-120-E	120	762.0
25CCF-130-E	130	825.5
25CCF-140-E	140	889.0
25CCF-150-E	150	952.5
25CCF-160-E	160	1016.0
25CCF-170-E	170	1079.5
25CCF-180-E	180	1143.0
25CCF-190-E	190	1206.5
25CCF-200-E	200	1270.0
25CCF-210-E	210	1333.5
25CCF-220-E	220	1397.0
25CCF-230-E	230	1460.5
25CCF-240-E	240	1524.0
25CCF-250-E	250	1587.5
25CCF-260-E	260	1651.0
25CCF-270-E	270	1714.5
25CCF-280-E	280	1778.0
25CCF-290-E	290	1841.5
25CCF-300-E	300	1905.0
25CCF-310-E	310	1968.5
25CCF-320-E	320	2032.0
25CCF-330-E	330	2095.5
25CCF-370-E	370	2349.5
25CCF-380-E	380	2413.0
25CCF-390-E	390	2476.5

- For Field Splice Kit order 25CCF-7.

* Available with Aramid Core construction.

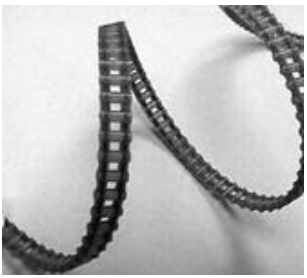
** Reduce Operating Load Rating by 50% for field splices.

Alternate belt construction and reverse belt bending applications available.

Designed to replace standard metal roller chain systems:

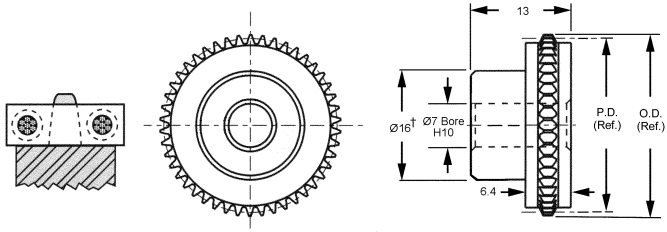
- No multiple link joints to bind.
- Lubrication is never required.
- Easily modified to any length.
- Large selection of mating sprockets.
- Infinite Lengths
- Silent Drive
- Rust Proof
- 90A Durometer
- Non-Magnetic
- Positive Drive
- Zero Backlash
- Mass 28 Grams/Meter
- Ultimate Tensile Strength 445N - (22 lbs./Pin) When belt is used in an open configuration (without splice, no crimp bushing)
- Temperature Range +82°C to -26°C
- Recommended Operating Load 111N
- Recommended Max. Operating Speed 1.91 m/s

BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
25CCF-1.5M	1.5 M
25CCF-3.0M	3.0 M
25CCF-7.5M	7.5 M
25CCF-15.0M	15.0 M
25CCF-30.0M	30.0 M



CHAIN SPROCKETS

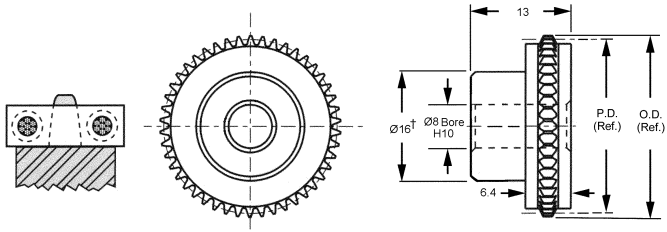
CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	Ø7	PIN HUB	ACETAL	Flex-E-Pitch®	Operates with 25CCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
25LC107M-9	9†*	18.19	21.24
25LC107M-10	10	20.21	23.26
25LC107M-12	12	24.26	27.30
25LC107M-13	13	26.28	29.32
25LC107M-14	14	28.30	31.35
25LC107M-15	15	30.32	33.37
25LC107M-16	16	32.34	35.39
25LC107M-18	18	36.38	39.43
25LC107M-20	20	40.43	43.47
25LC107M-24	24	48.51	51.56
25LC107M-25	25	50.53	53.58
25LC107M-28	28	56.60	59.64
25LC107M-30	30	60.64	63.69
25LC107M-36	36	72.77	75.81

† Teeth runout on hub.
* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.
Other numbers of teeth available on request.

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	Ø8	PIN HUB	ACETAL	Flex-E-Pitch®	Operates with 25CCF Series

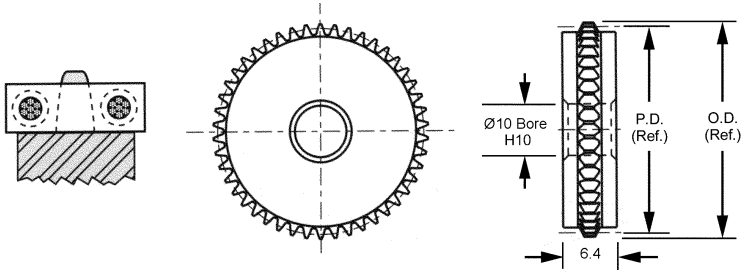


STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
25LC108M-9	9†*	18.19	21.24
25LC108M-10	10	20.21	23.26
25LC108M-12	12	24.26	27.30
25LC108M-13	13	26.28	29.32
25LC108M-14	14	28.30	31.35
25LC108M-15	15	30.32	33.37
25LC108M-16	16	32.34	35.39
25LC108M-18	18	36.38	39.43
25LC108M-20	20	40.43	43.47
25LC108M-24	24	48.51	51.56
25LC108M-25	25	50.53	53.58
25LC108M-28	28	56.60	59.64
25LC108M-30	30	60.64	63.69
25LC108M-36	36	72.77	75.81

† Teeth runout on hub.
* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.
Other numbers of teeth available on request.

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	**Ø10**	**HUBLESS**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Pitch®**	Operates with 25CCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
25CF177A-9	9*	18.19	21.24
25CF177A-10	10	20.21	23.26
25CF177A-12	12	24.26	27.30
25CF177A-13	13	28.28	29.32
25CF177A-14	14	28.30	31.35
25CF177A-15	15	30.32	33.37
25CF177A-16	16	32.34	35.39
25CF177A-18	18	36.38	39.43
25CF177A-20	20	40.43	43.47
25CF177A-24	24	48.51	51.56
25CF177A-25	25	50.53	53.58
25CF177A-28	28	56.60	59.64
25CF177A-30	30	60.64	63.69
25CF177A-36	36	72.77	75.81
25CF177A-40	40	80.85	83.90
25CF177A-48	48	97.02	100.07
25CF177A-60	60	121.28	124.32
25CF177A-72	72	145.53	148.58

* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.

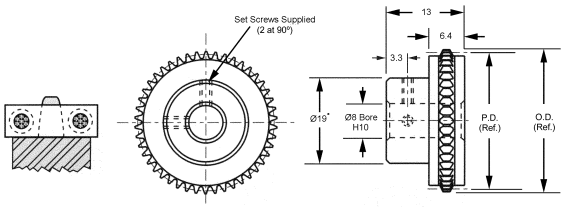
Other numbers of teeth available on request.

Teeth could be anodized.

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	**Ø8**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Pitch®**	Operates with 25CCF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
25CP266A-9	9•*	18.19	21.24
25CP266A-10	10•	20.21	23.26
25CP266A-12	12	24.26	27.30
25CP266A-13	13	28.28	29.32
25CP266A-14	14	28.30	31.35
25CP266A-15	15	30.32	33.37
25CP266A-16	16	32.34	35.39
25CP266A-18	18	36.38	39.43
25CP266A-20	20	40.43	43.47
25CP266A-24	24	48.51	51.56
25CP266A-25	25	50.53	53.58
25CP266A-28	28	56.60	59.64
25CP266A-30	30	60.64	63.69
25CP266A-36	36	72.77	75.81
25CP266A-40	40	80.85	83.90
25CP266A-48	48	97.02	100.07
25CP266A-60	60	121.28	124.32
25CP266A-72	72	145.53	148.58

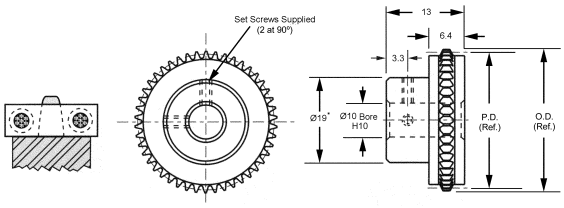


• For 9-10 teeth, hub diameter equals 14.5.
* Sprockets with Ø19.0mm P.D. and smaller are recommended for idler use only.
Other numbers of teeth available on request.

Teeth could be anodized

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	**Ø10**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Pitch®**	Operates with 25CCF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
25CP167A-10	10•	20.21	23.26
25CP167A-12	12	24.26	27.30
25CP167A-13	13	28.28	29.32
25CP167A-14	14	28.30	31.35
25CP167A-15	15	30.32	33.37
25CP167A-16	16	32.34	35.39
25CP167A-18	18	36.38	39.43
25CP167A-20	20	40.43	43.47
25CP167A-24	24	48.51	51.56
25CP167A-25	25	50.53	53.58
25CP167A-28	28	56.60	59.64
25CP167A-30	30	60.64	63.69
25CP167A-36	36	72.77	75.81
25CP167A-40	40	80.85	83.90
25CP167A-48	48	97.02	100.07
25CP167A-60	60	121.28	124.32
25CP167A-72	72	145.53	148.58

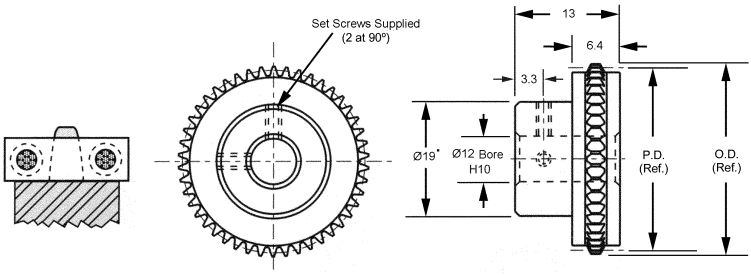


• For 10 teeth, hub diameter equals 16.9.
Other numbers of teeth available on request.

Teeth could be anodized

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	**Ø12**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Pitch®**	Operates with 25CCF Series



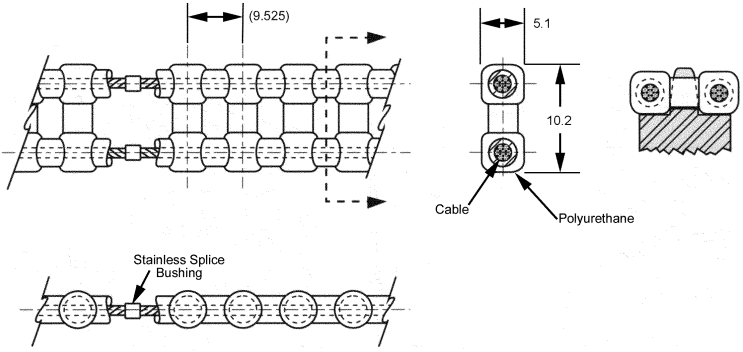
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
25CP168A-10	10•	20.21	23.26
25CP168A-12	12	24.26	27.30
25CP168A-13	13	28.28	29.32
25CP168A-14	14	28.30	31.35
25CP168A-15	15	30.32	33.37
25CP168A-16	16	32.34	35.39
25CP168A-18	18	36.38	39.43
25CP168A-20	20	40.43	43.47
25CP168A-24	24	48.51	51.56
25CP168A-25	25	50.53	53.58
25CP168A-28	28	56.60	59.64
25CP168A-30	30	60.64	63.69
25CP168A-36	36	72.77	75.81
25CP168A-40	40	80.85	83.90
25CP168A-48	48	97.02	100.07
25CP168A-60	60	121.28	124.32
25CP168A-72	72	145.53	148.58

• For 10 teeth, hub diameter equals 16.9.
Other numbers of teeth available on request.

Teeth could be anodized

CHAINS

CIRCULAR PITCH	ROLL DIAMETER	MATERIALS	BERG'S® NAME	SPROCKET
9.525mm	**5.1mm**	Polyurethane (Brown) 1.2mm Dia. Stainless Steel Cable*	**Flex-E-Pitch®**	Operates with 35CF and 35CP series.



STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
35CCF-40-E	40	381.0
35CCF-50-E	50	476.2
35CCF-60-E	60	571.5
35CCF-70-E	70	666.7
35CCF-80-E	80	762.0
35CCF-90-E	90	857.2
35CCF-100-E	100	952.5
35CCF-110-E	110	1047.7
35CCF-120-E	120	1143.0
35CCF-130-E	130	1238.2
35CCF-140-E	140	1333.5
35CCF-150-E	150	1428.7
35CCF-160-E	160	1524.0
35CCF-170-E	170	1617.2
35CCF-180-E	180	1714.5
35CCF-190-E	190	1809.7
35CCF-200-E	200	1905.0
35CCF-210-E	210	2000.2
35CCF-220-E	220	2095.5
35CCF-230-E	230	2190.7
35CCF-240-E	240	2286.0
35CCF-250-E	250	2381.2
35CCF-260-E	260	2476.5
35CCF-270-E	270	2571.7
35CCF-280-E	280	2667.0
35CCF-290-E	290	2762.2
35CCF-300-E	300	2857.5
35CCF-310-E	310	2952.7
35CCF-320-E	320	3048.0
35CCF-330-E	330	3143.2
35CCF-370-E	370	3429.0
35CCF-380-E	380	3524.2
35CCF-390-E	390	3714.7

- For Field Splice Kit order 35CCF-7.

* Available with Aramid Core construction.

** Reduce Operating Load Rating by 50% for field splices.

Alternate belt construction and reverse belt bending applications available.

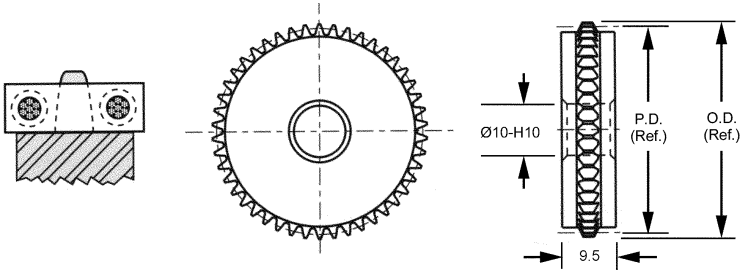
Designed to replace standard metal roller chain systems:

- No multiple link joints to bind.
- Lubrication is never required.
- Easily modified to any length.
- Large selection of mating sprockets.
- Infinite Lengths
- Silent Drive
- Rust Proof
- 90A Durometer
- Non-Magnetic
- Positive Drive
- Zero Backlash
- Mass 46.5 Grams/Meter
- Ultimate Tensile Strength 890N (222N/PIN)
  When belt is used in open loop configuration
  (without splice, no crimp bushing)
- Temperature Range +82°C to -26°C
- Recommended Operating Load 245N
- Recommended Max. Operating Speed 1.91 m/s

BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
35CCF-1.5M	1.5 M
35CCF-3.0M	3.0 M
35CCF-7.5M	7.5 M
35CCF-15.0M	15.0 M
35CCF-30.0M	30.0 M

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
9.525mm	**Ø10**	**HUBLESS**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Pitch®**	Operates with 35CCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
35CF174A-8	8*	24.19	29.27
35CF174A-9	9*	27.22	32.30
35CF174A-10	10*	30.24	35.32
35CF174A-11	11*	33.27	38.35
35CF174A-12	12	36.29	41.37
35CF174A-14	14	42.34	47.42
35CF174A-15	15	45.36	50.44
35CF174A-16	16	48.39	53.47
35CF174A-18	18	54.43	59.51
35CF174A-20	20	60.48	65.56
35CF174A-24	24	72.58	77.66
35CF174A-25	25	75.60	80.68
35CF174A-30	30	90.72	95.80
35CF174A-32	32	96.77	101.85
35CF174A-36	36	108.87	113.95
35CF174A-40	40	120.96	126.04
35CF174A-48	48	145.16	150.24

* Sprockets with Ø35.0mm P.D. and smaller are recommended for idler use only.

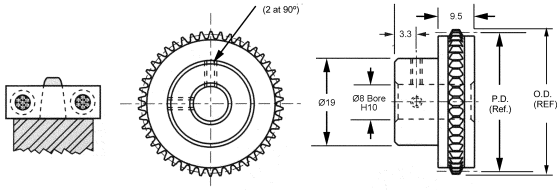
Other numbers of teeth available on request.

Teeth could be anodized.

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
9.525mm	Ø8	PIN HUB	Aluminum per DIN 3.1355 Anodized	Flex-E-Pitch®	Operates with 35CCF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
35CP257A-8	8*	24.19	29.27
35CP257A-9	9*	27.22	32.30
35CP257A-10	10*	30.24	35.32
35CP257A-11	11*	33.27	38.35
35CP257A-12	12	36.29	41.37
35CP257A-14	14	42.34	47.42
35CP257A-15	15	45.36	50.44
35CP257A-16	16	48.39	53.47
35CP257A-18	18	54.43	59.51
35CP257A-20	20	60.48	65.56
35CP257A-24	24	72.58	77.66
35CP257A-25	25	75.60	80.68
35CP257A-30	30	90.72	95.80
35CP257A-32	32	96.77	101.85
35CP257A-36	36	108.87	113.95
35CP257A-40	40	120.96	126.04
35CP257A-48	48	145.16	150.24

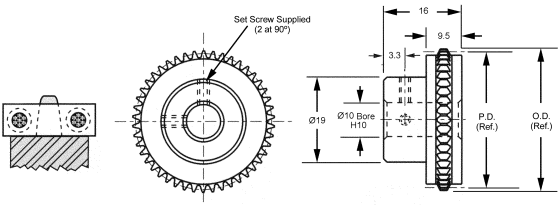


* Sprockets with Ø35.0mm P.D. and smaller are recommended for idler use only.
Other numbers of teeth available on request.

Teeth could be anodized.

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
9.525mm	Ø10	PIN HUB	Aluminum per DIN 3.1355 Anodized	Flex-E-Pitch®	Operates with 35CCF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
35CP158A-8	8*	24.19	29.27
35CP158A-9	9*	27.22	32.30
35CP158A-10	10*	30.24	35.32
35CP158A-11	11*	33.27	38.35
35CP158A-12	12	36.29	41.37
35CP158A-14	14	42.34	47.42
35CP158A-15	15	45.36	50.44
35CP158A-16	16	48.39	53.47
35CP158A-18	18	54.43	59.51
35CP158A-20	20	60.48	65.56
35CP158A-24	24	72.58	77.66
35CP158A-25	25	75.60	80.68
35CP158A-30	30	90.72	95.80
35CP158A-32	32	96.77	101.85
35CP158A-36	36	108.87	113.95
35CP158A-40	40	120.96	126.04
35CP158A-48	48	145.16	150.24

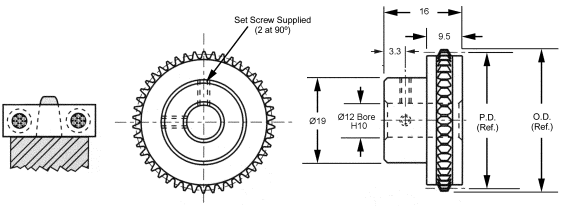


* Sprockets with Ø35.0mm P.D. and smaller are recommended for idler use only.
Other numbers of teeth available on request.

Teeth could be anodized.

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
9.525mm	Ø12	PIN HUB	Aluminum per DIN 3.1355 Anodized	Flex-E-Pitch®	Operates with 35CCF Series

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
35CP159A-8	8*	24.19	29.27
35CP159A-9	9*	27.22	32.30
35CP159A-10	10*	30.24	35.32
35CP159A-11	11*	33.27	38.35
35CP159A-12	12	36.29	41.37
35CP159A-14	14	42.34	47.42
35CP159A-15	15	45.36	50.44
35CP159A-16	16	48.39	53.47
35CP159A-18	18	54.43	59.51
35CP159A-20	20	60.48	65.56
35CP159A-24	24	72.58	77.66
35CP159A-25	25	75.60	80.68
35CP159A-30	30	90.72	95.80
35CP159A-32	32	96.77	101.85
35CP159A-36	36	108.87	113.95
35CP159A-40	40	120.96	126.04
35CP159A-48	48	145.16	150.24

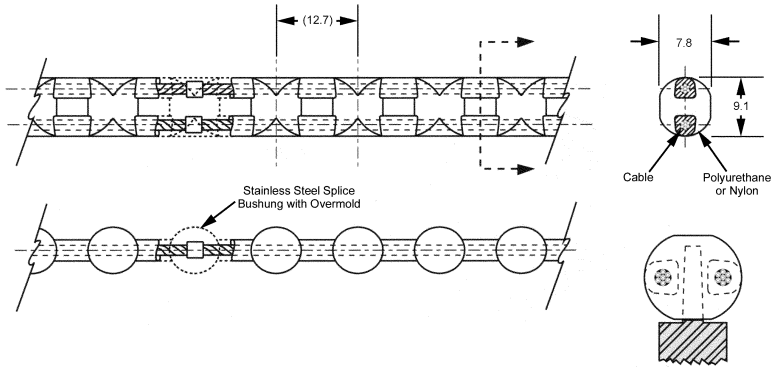


* Sprockets with Ø35.0mm P.D. and smaller are recommended for idler use only.
Other numbers of teeth available on request.

Teeth could be anodized.

CHAINS

CIRCULAR PITCH	PIN DIAMETER	MATERIALS	BERG'S® NAME	SPROCKET
12.7mm	**7.8mm**	Polyurethane (Red) 1.6mm Dia. Stainless Steel Cable*	**Flex-E-Pitch®**	Operates with 7CF, and 7CP series.

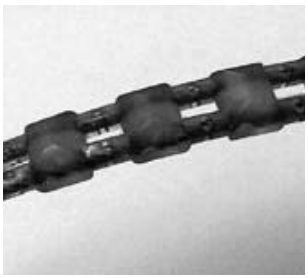


STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
7CCF-20-U	20	254.0
7CCF-22-U	22	279.4
7CCF-24-U	24	304.8
7CCF-26-U	26	330.2
7CCF-28-U	28	355.6
7CCF-30-U	30	381.0
7CCF-32-U	32	406.4
7CCF-34-U	34	431.8
7CCF-36-U	36	457.2
7CCF-38-U	38	482.6
7CCF-40-U	40	508.0
7CCF-42-U	42	533.4
7CCF-44-U	44	558.8
7CCF-46-U	46	584.2
7CCF-48-U	48	609.6
7CCF-50-U	50	635.0
7CCF-52-U	52	660.4
7CCF-54-U	54	685.8
7CCF-56-U	56	711.2
7CCF-60-U	60	762.0
7CCF-64-U	64	685.8
7CCF-68-U	68	863.6
7CCF-72-U	72	914.4
7CCF-76-U	76	965.2
7CCF-80-U	80	1016.0
7CCF-84-U	84	1066.8
7CCF-88-U	88	1117.6
7CCF-92-U	92	1168.4
7CCF-96-U	96	1219.2
7CCF-100-U	100	1270.0
7CCF-104-U	104	1320.8
7CCF-108-U	108	1371.6
7CCF-112-U	112	1422.4
7CCF-116-U	116	1473.2
7CCF-130-U	130	1651.0
7CCF-140-U	140	1778.0
7CCF-200-U	200	2540.0

- Aramid & Anti-Static alternate construction available. Aramid Core and/or Anti-Static Materials, and reverse belt bending applications available.
- For Field Splice Kit order 7CCF-7.
- Infinite Lengths
- Rust Proof
- Non Magnetic
- Zero Backlash
- No Lubrication Required
- Positive Drive
- Mass 111 Grams/Meter
- 90A Durometer
- Ultimate Tensile Strength 1335N (311N/Pin) When belt is used in an open loop configuration (without splice, no crimp bushing)
- Temperature Range +82°C to -26°C
- Recommended Operating Load 334N
- Recommended Operating Speed 1.91m/s

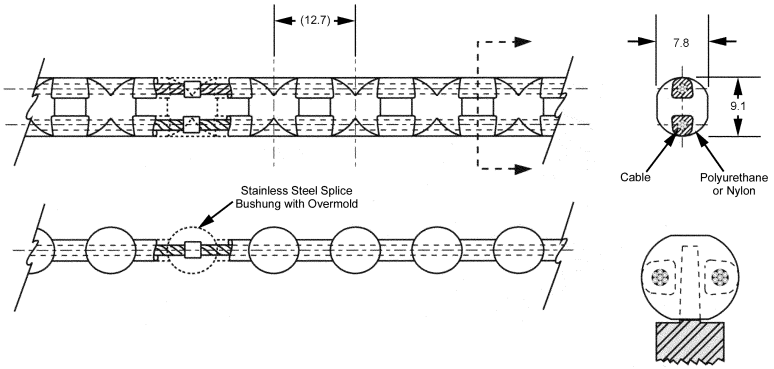
Other lengths available on request.

BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
7CCF-U-1.5M	1.5 M
7CCF-U-3.0M	3.0 M
7CCF-U-7.5M	7.5 M
7CCF-U-15.0M	15.0 M
7CCF-U-30.0M	30.0 M



CHAINS

CIRCULAR PITCH	ROLL DIAMETER	MATERIALS	BERG'S® NAME	SPROCKET
12.7mm	**7.8mm**	Nylon (Green) 1.6mm Dia. Stainless Steel Cable*	**Flex-E-Pitch®**	Operates with 7CP, and 7CF series

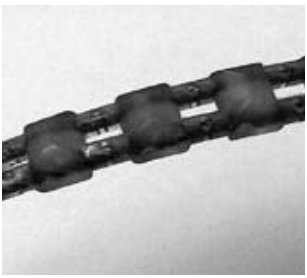


STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
7CCF-20-N	20	254.0
7CCF-22-N	22	279.4
7CCF-24-N	24	304.8
7CCF-26-N	26	330.2
7CCF-28-N	28	355.6
7CCF-30-N	30	381.0
7CCF-32-N	32	406.4
7CCF-34-N	34	431.8
7CCF-36-N	36	457.2
7CCF-38-N	38	482.6
7CCF-40-N	40	508.0
7CCF-42-N	42	533.4
7CCF-44-N	44	558.8
7CCF-46-N	46	584.2
7CCF-48-N	48	609.6
7CCF-50-N	50	635.0
7CCF-52-N	52	660.4
7CCF-54-N	54	685.8
7CCF-56-N	56	711.2
7CCF-60-N	60	762.0
7CCF-64-N	64	685.8
7CCF-68-N	68	863.6
7CCF-72-N	72	914.4
7CCF-76-N	76	965.2
7CCF-80-N	80	1016.0
7CCF-84-N	84	1066.8
7CCF-88-N	88	1117.6
7CCF-92-N	92	1168.4
7CCF-96-N	96	1219.2
7CCF-100-N	100	1270.0
7CCF-104-N	104	1320.8
7CCF-108-N	108	1371.6
7CCF-112-N	112	1422.4
7CCF-116-N	116	1473.2
7CCF-130-N	130	1651.0
7CCF-140-N	140	1778.0
7CCF-200-N	200	2540.0

- Aramid & Anti-Static alternate construction available. Aramid Core and/or Anti-Static Materials, and reverse belt bending applications available.
- For Field Splice Kit order 7CCF-7.
- Infinite Lengths
- Rust Proof
- Non Magnetic
- Zero Backlash
- No Lubrication Required
- Positive Drive
- Mass 111 Grams/Meter
- 90A Durometer
- Ultimate Tensile Strength 1335N (311N/Pin) When belt is used in an open loop configuration (without splice, no crimp bushing)
- Temperature Range +121°C to -40°C
- Recommended Operating Load 334N
- Recommended Operating Speed 1.91m/s

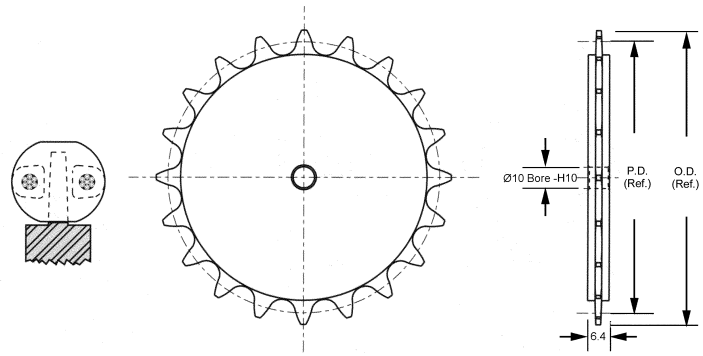
Other lengths available on request.

BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
7CCF-N-1.5M	1.5 M
7CCF-N-3.0M	3.0 M
7CCF-N-7.5M	7.5 M
7CCF-N-15.0M	15.0 M
7CCF-N-30.0M	30.0 M



CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
12.7mm	**Ø10**	**HUBLESS**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Pitch®**	Operates with 7CCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
7CF177A-8	8*	32.51	38.86
7CF177A-9	9*	36.58	42.93
7CF177A-10	10*	40.64	46.99
7CF177A-11	11*	44.70	51.05
7CF177A-12	12	48.77	55.12
7CF177A-13	13	52.83	59.18
7CF177A-14	14	56.90	63.25
7CF177A-15	15	60.96	67.31
7CF177A-16	16	65.02	71.37
7CF177A-18	18	73.15	79.50
7CF177A-20	20	81.28	87.63
7CF177A-22	22	89.41	95.76
7CF177A-24	24	97.54	103.89
7CF177A-25	25	101.60	107.95
7CF177A-28	28	113.79	120.14
7CF177A-30	30	121.92	128.27
7CF177A-32	32	130.05	136.40
7CF177A-34	34	138.18	144.53
7CF177A-36	36	146.30	152.65
7CF177A-38	38	154.43	160.78

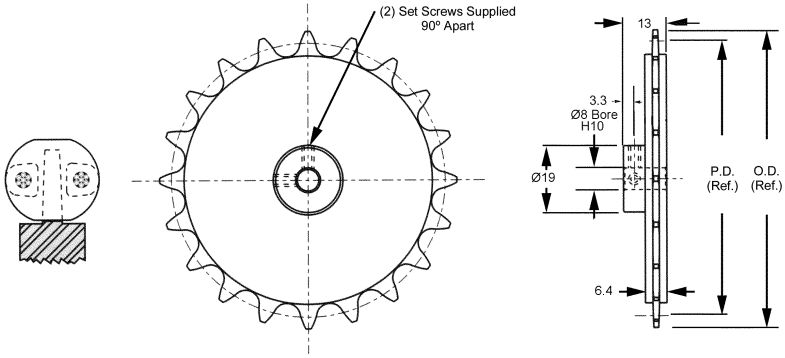
* Sprockets with Ø45.0mm P.D. and smaller are recommended for idler use only.

Other numbers of teeth available on request.

Teeth could be anodized.

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
12.7mm	**Ø8**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Pitch®**	Operates with 7CCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
7CP266A-8	8*	32.51	38.86
7CP266A-9	9*	36.58	42.93
7CP266A-10	10*	40.64	46.99
7CP266A-11	11*	44.70	51.05
7CP266A-12	12	48.77	55.12
7CP266A-13	13	52.83	59.18
7CP266A-14	14	56.90	63.25
7CP266A-15	15	60.96	67.31
7CP266A-16	16	65.02	71.37
7CP266A-18	18	73.15	79.50
7CP266A-20	20	81.28	87.63
7CP266A-22	22	89.41	95.76
7CP266A-24	24	97.54	103.89
7CP266A-25	25	101.60	107.95
7CP266A-28	28	113.79	120.14
7CP266A-30	30	121.92	128.27
7CP266A-32	32	130.05	136.40
7CP266A-34	34	138.18	144.53
7CP266A-36	36	146.30	152.65
7CP266A-38	38	154.43	160.78

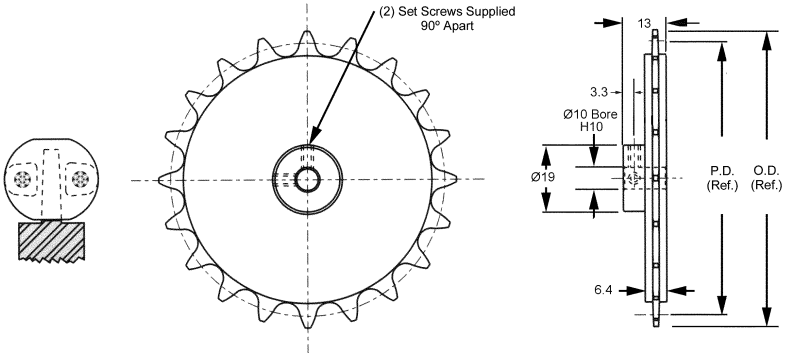
* Sprockets with Ø45.0mm P.D. and smaller are recommended for idler use only.

Other numbers of teeth available on request.

Teeth could be anodized.

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
12.7mm	**Ø10**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Pitch®**	Operates with 7CCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
7CP167A-8	8*	32.51	38.86
7CP167A-9	9*	36.58	42.93
7CP167A-10	10*	40.64	46.99
7CP167A-11	11*	44.70	51.05
7CP167A-12	12	48.77	55.12
7CP167A-13	13	52.83	59.18
7CP167A-14	14	56.90	63.25
7CP167A-15	15	60.96	67.31
7CP167A-16	16	65.02	71.37
7CP167A-18	18	73.15	79.50
7CP167A-20	20	81.28	87.63
7CP167A-22	22	89.41	95.76
7CP167A-24	24	97.54	103.89
7CP167A-25	25	101.60	107.95
7CP167A-28	28	113.79	120.14
7CP167A-30	30	121.92	128.27
7CP167A-32	32	130.05	136.40
7CP167A-34	34	138.18	144.53
7CP167A-36	36	146.30	152.65
7CP167A-38	38	154.43	160.78

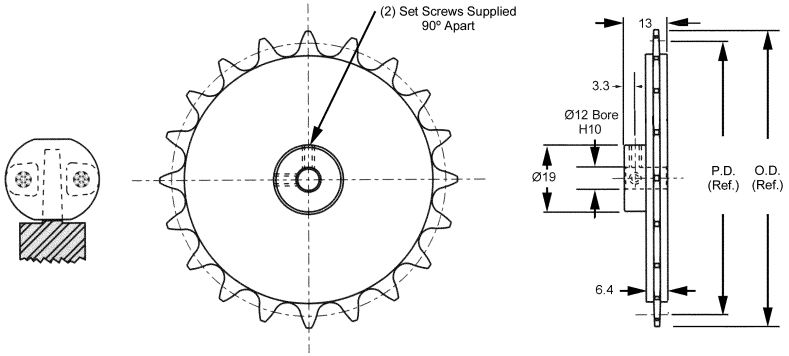
* Sprockets with Ø45.0mm P.D. and smaller are recommended for idler use only.

Other numbers of teeth available on request.

Teeth could be anodized.

CHAIN SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
12.7mm	**Ø12**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**Flex-E-Pitch®**	Operates with 7CCF Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
7CP168A-8	8*	32.51	38.86
7CP168A-9	9*	36.58	42.93
7CP168A-10	10*	40.64	46.99
7CP168A-11	11*	44.70	51.05
7CP168A-12	12	48.77	55.12
7CP168A-13	13	52.83	59.18
7CP168A-14	14	56.90	63.25
7CP168A-15	15	60.96	67.31
7CP168A-16	16	65.02	71.37
7CP168A-18	18	73.15	79.50
7CP168A-20	20	81.28	87.63
7CP168A-22	22	89.41	95.76
7CP168A-24	24	97.54	103.89
7CP168A-25	25	101.60	107.95
7CP168A-28	28	113.79	120.14
7CP168A-30	30	121.92	128.27
7CP168A-32	32	130.05	136.40
7CP168A-34	34	138.18	144.53
7CP168A-36	36	146.30	152.65
7CP168A-38	38	154.43	160.78

* Sprockets with Ø45.0mm P.D. and smaller are recommended for idler use only.

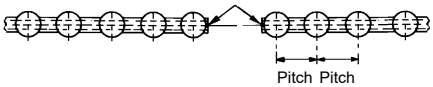
Other numbers of teeth available on request.

Teeth could be anodized.

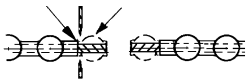
FIELD SPLICE KITS

Splicing Procedures:

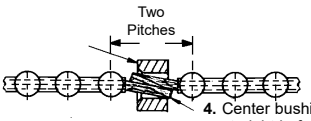
1. Cut "BERG" FLEX-E-PITCH® sharp and square as shown, using cutter, to desired number of pitches, plus one pitch.



2. Cut plastic jacket (one pitch each side) lightly, with a sharp razor blade, as shown (all around). Caution: do not nick cable. Strip or twist off jacket carefully.

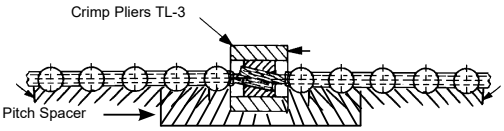


3. Slide stripped cable into oval splice bushing carefully. Caution: Do not fray cable. Feed cable into chamfered end of bushing last.

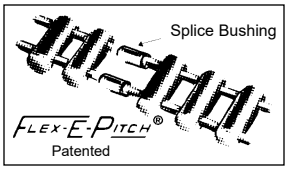


4. Center bushing and be certain chain is straight before crimping.

5. Position crimp tool over splice bushing and squeeze tightly for maximum splice strength.



CHAIN SERIES	STOCK NO.	FIELD SPLICE KIT AND ACCESSORIES
14CCF 25CCF 35CCF 7CCF	14CCF-7 25CCF-7 35CCF-7 7CCF-7	Complete Kit Consists of: Crimp tool, Pitch Spacer, Sample Chain Cable cutter, Bushings, Razor Blades & Instructions
	TL-3 TL-7	Crimp Tool For 14CCF,25CCF,35CCF Crimp Tool 7CCF
	BU-032-S BU-046-S BU-062-S	Extra Splice Bushings for: 14CCF & 25CCF (0.8 Dia. Cable) 35CCF (1.2 Dia. Cable) 7CCF (1.6 Dia. Cable)
	TL-1 TL-2	Cable Cutter for up to 1.2 Dia. Cable Cable Cutter for 7CCF (1.6 Dia. Cable)
	TL-9	7CCF Pitch Space Fixture

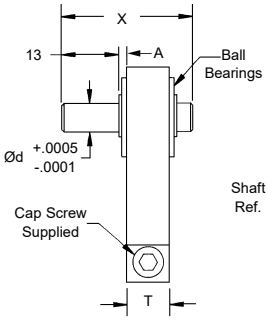


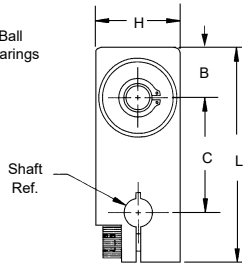
Field Splices Offer Only 50% of Catalog Rated Loads

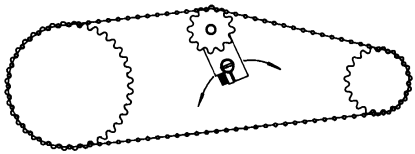
BELT TENSIONERS

MATERIALS

HOUSING - DIN 3.1355 Aluminum Black Anodized **Shafting -** DIN 1.4305 Stainless Steel







- Berg's Belt Tensioner installs quickly into existing or new belting systems. Its clamp style design allows for mounting on shoulder screws or shafts.
- Tension is easily adjusted by pivoting tensioner about mounting surface.
- The Belt Tensioner has been designed to handle most of Berg's Belt and Sprocket series as well as available similar products.

STOCK NO.	d	SHAFT REF.	X	L	T	H	C	A	B
TENS-1M	1.000	4.0	30.0	48	9.5	19	25	1.8	11.2
TENS-2M	6.000	6.0	30.0	48	9.5	19	25	1.8	11.2
TENS-3M	8.000	8.0	35.0	64	12.5	25	40	2.2	12.5

ROW-L-ER® CHAIN TECHNICAL DATA

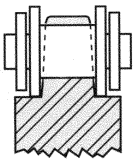
Operating Notes:

ROW-L-ER Chain offers no slippage due to the positive drive between chain and tooth. This series will also have negligible stretch, long life, and the ability to operate in many different hostile environments such as high temperature, high moisture, high dust or dirty areas, and corrosive atmospheres.

CIRCULAR PITCH	ROLLER DIAMETER	MATERIAL	SPROCKET
3.75mm	**2.3mm**	Stainless Steel, Non-Magnetic, Prestretched Single Strand	Operates with 14EM and 14SP series.

3.75 Pitch Series

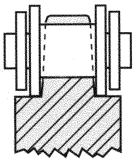
- Ultimate tensile 801N - Max operating load 89N
- Mass 52 gms/m



CIRCULAR PITCH	ROLLER DIAMETER	MATERIAL	SPROCKET
6.35mm	**3.3mm**	Stainless Steel, Mild Steel Single Strand, Delrin and Nylatron	Operates with 25EM and 25SP series.

6.35 Pitch Series

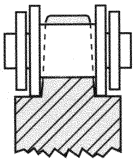
- Ultimate tensile 3113N, for Stainless Steel - Max. operating load 342N
  3892N, for Mild Steel - Max. operating load 431N
  280N, for Delrin - Max operating load 93N
  290N for Nylatron - Max. operating load 98N
- Mass 133gms/m (Stainless and Mild Steel) - Must be lubricated



CIRCULAR PITCH	ROLLER DIAMETER	MATERIAL	SPROCKET
9.53mm	**5.1mm**	Delrin and Nylatron	Operates with 35EM and 35SP series.

9.53 Pitch Series

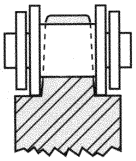
- Ultimate tensile 605N, for Delrin - Max. operating load 200N
  605N, for Nylatron - Max. operating load 200N



CIRCULAR PITCH	ROLLER DIAMETER	MATERIAL	SPROCKET
12.7mm	**7.9mm**	Delrin and Nylatron	Operates with 40EM series.

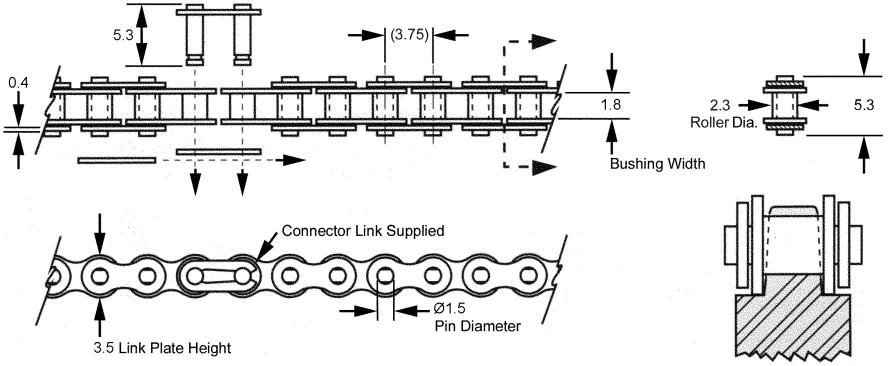
12.70 Pitch Series

- Ultimate tensile 778N, for Delrin - Max. operating load 258N
  769N, for Nylatron - Max. operating load 254N



LINK CHAINS

CIRCULAR PITCH	ROLLER DIAMETER	BERG'S® NAME	MATERIAL	SPROCKET
3.75mm	**2.3mm**	**ROW-L-ER®**	Stainless Steel, Non-Magnetic, Prestretched Single Strand	Operates with 14EM and 14SP series.



STOCK NO.	NO. OF PITCHES	LENGTH MM
RC14SS-40	40	150.0
RC14SS-50	50	187.5
RC14SS-60	60	225.0
RC14SS-70	70	262.5
RC14SS-80	80	300.0
RC14SS-90	90	337.5
RC14SS-100	100	375.0
RC14SS-110	110	412.5
RC14SS-120	120	450.0
RC14SS-130	130	487.5
RC14SS-140	140	525.0
RC14SS-150	150	562.5
RC14SS-160	160	600.0
RC14SS-170	170	637.5
RC14SS-180	180	675.0
RC14SS-190	190	712.5
RC14SS-200	200	750.0
RC14SS-210	210	787.5
RC14SS-220	220	825.0
RC14SS-230	230	862.5
RC14SS-240	240	900.0
RC14SS-250	250	937.5
RC14SS-260	260	975.0
RC14SS-270	270	1012.5
RC14SS-280	280	1050.0
RC14SS-290	290	1087.5
RC14SS-300	300	1125.0
RC14SS-310	310	1162.5
RC14SS-320	320	1200.0
RC14SS-330	330	1237.5
RC14SS-340	340	1275.0
RC14SS-350	350	1312.5
RC14SS-360	360	1350.0
RC14SS-370	370	1387.5
RC14SS-380	380	1425.0
RC14SS-390	390	1462.5

* Maximum recommended operating load is for a slip fit connecting link, which is standard. A press fit connecting link is a special available on request.

Special lengths available on request (only even numbers of links).

Maximum recommended Operating Load = 89N

Ultimate Tensile Strength = 801N

52gms/m - Must be lubricated.

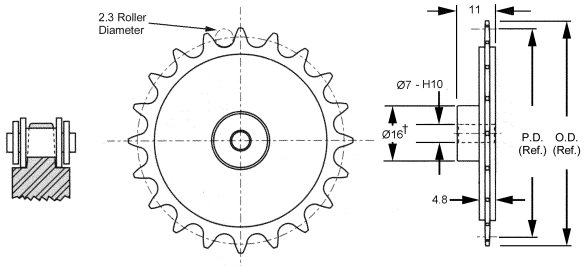
Use Connector Link Berg P/N RC14SS-CL.

STOCK NO.	LENGTH
RC14SS-1.5M	1.5M
RC14SS-3.0M	3.0M
RC14SS-7.5M	7.5M
RC14SS-15.0M	15.0M
RC14SS-30.0M	30.0M

SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
3.75mm	Ø7	PIN HUB	ACETAL	ROW-L-ER®	Operates with RC14SS Series

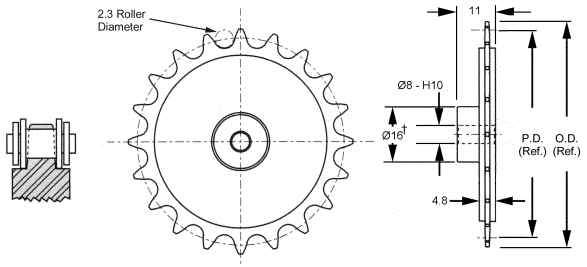
STOCK NO.	NO. OF TEETH	P. D.	O.D.
14EM107M-15	15†	18.02	19.33
14EM107M-16	16†	19.22	20.52
14EM107M-18	18	21.60	22.89
14EM107M-20	20	23.97	25.25
14EM107M-22	22	26.35	27.64
14EM107M-24	24	28.73	30.02
14EM107M-26	26	31.11	32.39
14EM107M-30	30	35.88	37.39
14EM107M-32	32	38.26	39.52
14EM107M-36	36	43.03	44.30
14EM107M-40	40	47.80	49.07
14EM107M-42	42	50.18	51.44
14EM107M-44	44	52.57	53.82
14EM107M-45	45	53.76	55.02
14EM107M-50	50	59.72	60.99
14EM107M-55	55	65.69	66.93
14EM107M-60	60	71.65	72.90



† Teeth runout on hub.
Other Bore sizes and other numbers of teeth are available on request.

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
3.75mm	Ø8	PIN HUB	ACETAL	ROW-L-ER®	Operates with RC14SS Series

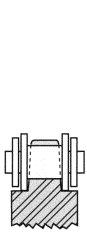
STOCK NO.	NO. OF TEETH	P. D.	O.D.
14EM108M-15	15†	18.02	19.33
14EM108M-16	16†	19.22	20.52
14EM108M-18	18	21.60	22.89
14EM108M-20	20	23.97	25.25
14EM108M-22	22	26.35	27.64
14EM108M-24	24	28.73	30.02
14EM108M-26	26	31.11	32.39
14EM108M-30	30	35.88	37.39
14EM108M-32	32	38.26	39.52
14EM108M-36	36	43.03	44.30
14EM108M-40	40	47.80	49.07
14EM108M-42	42	50.18	51.44
14EM108M-44	44	52.57	53.82
14EM108M-45	45	53.76	55.02
14EM108M-50	50	59.72	60.99
14EM108M-55	55	65.69	66.93
14EM108M-60	60	71.65	72.90

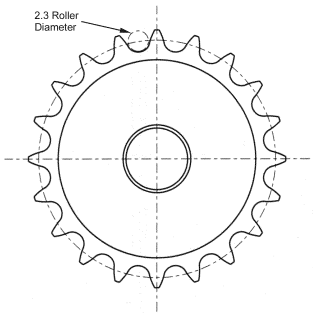


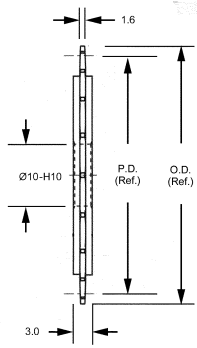
† Teeth runout on hub.
Other Bore sizes and other numbers of teeth are available on request.

SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
3.75mm	**Ø10**	**HUBLESS**	Aluminum per DIN 3.1355 Anodized	**ROW-L-ER®**	Operates with RC14SS Series







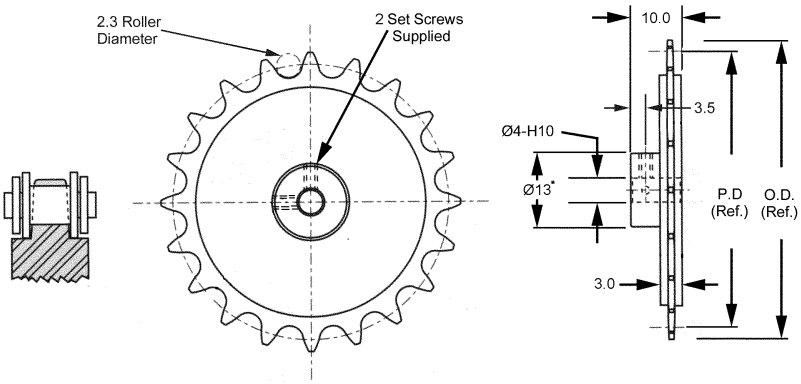
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
14SP175A-16	16	19.22	20.52
14SP175A-17	17	20.41	21.72
14SP175A-18	18	21.60	22.89
14SP175A-19	19	22.78	24.08
14SP175A-20	20	23.97	25.27
14SP175A-21	21	25.16	26.47
14SP175A-22	22	26..35	27.63
14SP175A-23	23	27.54	28.83
14SP175A-24	24	28.73	30.02
14SP175A-25	25	29.92	31.22
14SP175A-26	26	31.11	32.41
14SP175A-27	27	32.30	33.58
14SP175A-28	28	33.49	34.77
14SP175A-29	29	34.68	35.97
14SP175A-30	30	35.88	37.16
14SP175A-31	31	37.07	38.35
14SP175A-32	32	38.26	39.55
14SP175A-33	33	39.45	40.75
14SP175A-34	34	40.64	41.91
14SP175A-35	35	41.83	43.12
14SP175A-36	36	43.03	44.30

Other Bore sizes and other numbers of teeth are available on request.

Teeth could be anodized.

SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
3.75mm	**Ø4**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**ROW-L-ER®**	Operates with RC14SS Series



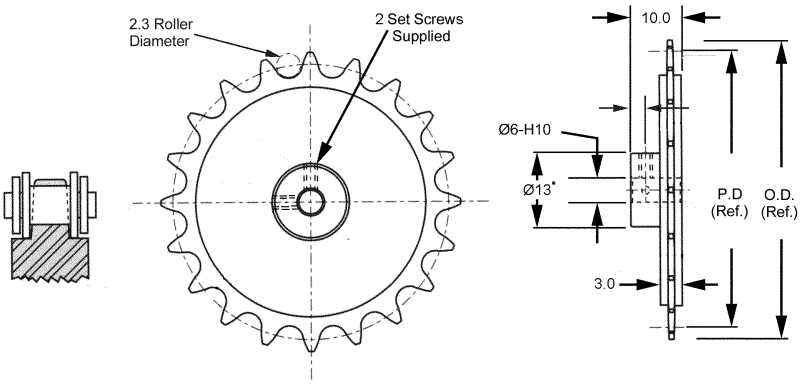
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
14EM162A-10	10•	12.14	13.44
14EM162A-11	11•	13.31	14.63
14EM162A-12	12•	14.49	15.80
14EM162A-13	13•	15.67	16.97
14EM162A-14	14•	16.85	18.16
14EM162A-15	15	18.04	19.33
14EM162A-16	16	19.22	20.52
14EM162A-17	17	20.41	21.72
14EM162A-18	18	21.60	22.89
14EM162A-19	19	22.78	24.08
14EM162A-20	20	23.97	25.27
14EM162A-21	21	25.16	26.47
14EM162A-22	22	26.35	27.63
14EM162A-23	23	27.54	28.83
14EM162A-24	24	28.73	30.02
14EM162A-25	25	29.92	31.22
14EM162A-26	26	31.11	32.41
14EM162A-27	27	32.30	33.58
14EM162A-28	28	33.49	34.77
14EM162A-29	29	34.68	35.97
14EM162A-30	30	35.88	37.16
14EM162A-31	31	37.07	38.35
14EM162A-32	32	38.26	39.55
14EM162A-33	33	39.45	40.75
14EM162A-34	34	40.64	41.91
14EM162A-35	35	41.83	43.12
14EM162A-36	36	43.03	44.30

• For 10-14 teeth, hub diameter equals 7.1.
Other Bore sizes and other numbers of teeth are available on request.

Teeth could be anodized.

SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
3.75mm	**Ø6**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**ROW-L-ER®**	Operates with RC14SS Series



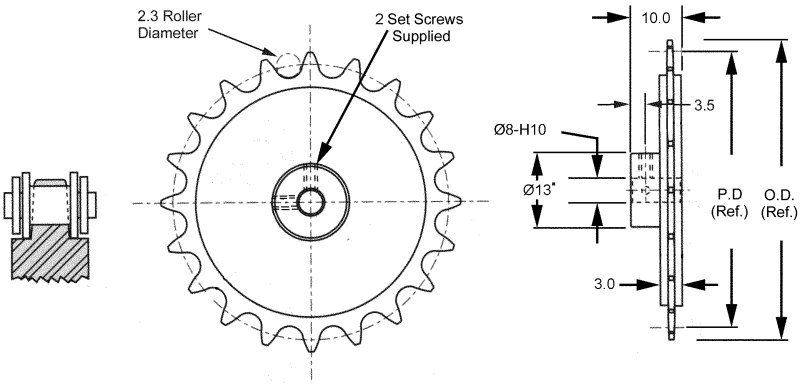
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
14EM161A-13	13•	15.67	16.97
14EM161A-14	14•	16.85	18.16
14EM161A-15	15	18.04	19.33
14EM161A-16	16	19.22	20.52
14EM161A-17	17	20.41	21.72
14EM161A-18	18	21.60	22.89
14EM161A-19	19	22.78	24.08
14EM161A-20	20	23.97	25.27
14EM161A-21	21	25.16	26.47
14EM161A-22	22	26.35	27.63
14EM161A-23	23	27.54	28.83
14EM161A-24	24	28.73	30.02
14EM161A-25	25	29.92	31.22
14EM161A-26	26	31.11	32.41
14EM161A-27	27	32.30	33.58
14EM161A-28	28	33.49	34.77
14EM161A-29	29	34.68	35.97
14EM161A-30	30	35.88	37.16
14EM161A-31	31	37.07	38.35
14EM161A-32	32	38.26	39.55
14EM161A-33	33	39.45	40.75
14EM161A-34	34	40.64	41.91
14EM161A-35	35	41.83	43.12
14EM161A-36	36	43.03	44.30

• For 13-14 teeth, hub diameter equals 10.5.
Other Bore sizes and other numbers of teeth are available on request.

Teeth could be anodized.

SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
3.75mm	**Ø8**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**ROW-L-ER®**	Operates with RC14SS Series



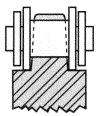
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
14EM260A-13	13•	15.67	16.97
14EM260A-14	14•	16.85	18.16
14EM260A-15	15	18.04	19.33
14EM260A-16	16	19.22	20.52
14EM260A-17	17	20.41	21.72
14EM260A-18	18	21.60	22.89
14EM260A-19	19	22.78	24.08
14EM260A-20	20	23.97	25.27
14EM260A-21	21	25.16	26.47
14EM260A-22	22	26.35	27.63
14EM260A-23	23	27.54	28.83
14EM260A-24	24	28.73	30.02
14EM260A-25	25	29.92	31.22
14EM260A-26	26	31.11	32.41
14EM260A-27	27	32.30	33.58
14EM260A-28	28	33.49	34.77
14EM260A-29	29	34.68	35.97
14EM260A-30	30	35.88	37.16
14EM260A-31	31	37.07	38.35
14EM260A-32	32	38.26	39.55
14EM260A-33	33	39.45	40.75
14EM260A-34	34	40.64	41.91
14EM260A-35	35	41.83	43.12
14EM260A-36	36	43.03	44.30

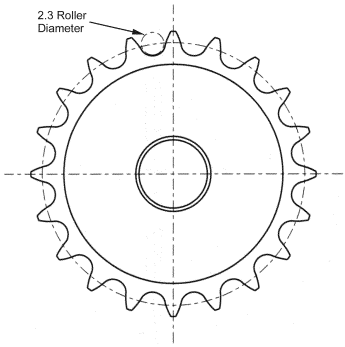
• For 13-14 teeth, hub diameter equals 10.7.
Other Bore sizes and other numbers of teeth are available on request.

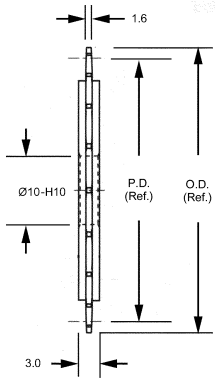
Teeth could be anodized.

SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
3.75mm	**Ø10**	**HUBLESS**	Aluminum DIN-3.1355 Anodized	**ROW-L-ER®**	Operates with RC14SS Series







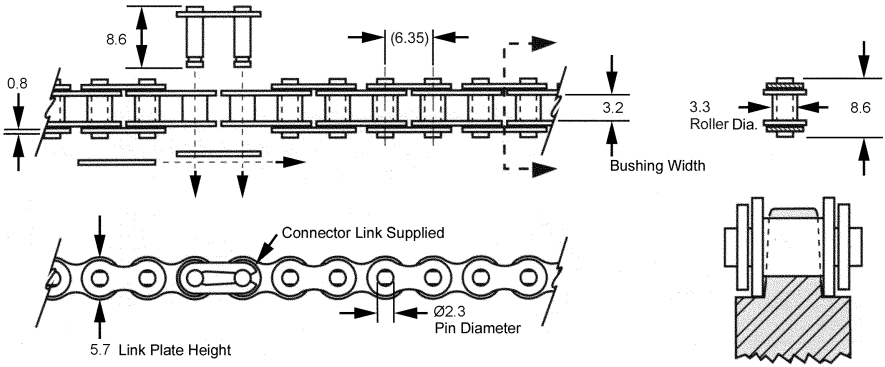
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
14SP175A-16	16	19.22	20.52
14SP175A-17	17	20.41	21.72
14SP175A-18	18	21.60	22.89
14SP175A-19	19	22.78	24.08
14SP175A-20	20	23.97	25.27
14SP175A-21	21	25.16	26.47
14SP175A-22	22	26.35	27.63
14SP175A-23	23	27.54	28.83
14SP175A-24	24	28.73	30.02
14SP175A-25	25	29.92	31.22
14SP175A-26	26	31.11	32.41
14SP175A-27	27	32.30	33.58
14SP175A-28	28	33.49	34.77
14SP175A-29	29	34.68	35.97
14SP175A-30	30	35.88	37.16
14SP175A-31	31	37.07	38.35
14SP175A-32	32	38.26	39.55
14SP175A-33	33	39.45	40.75
14SP175A-34	34	40.64	41.91
14SP175A-35	35	41.83	43.12
14SP175A-36	36	43.03	44.30

Other Bore sizes and other numbers of teeth are available on request.

Teeth could be anodized.

LINK CHAINS

CIRCULAR PITCH	ROLLER DIAMETER	BERG NAME	MATERIAL	SPROCKET
6.35mm	**3.3mm**	**ROW-L-ER®**	Stainless Steel or Mild Steel Single Strand	Operates with 25EM and 25SP series.



STAINLESS STEEL STOCK NO.	MILD STEEL STOCK NO.	NO. OF PITCHES	LENGTH MM
RC25SS-40	RC25-40	40	254
RC25SS-50	RC25-50	50	317.5
RC25SS-60	RC25-60	60	381
RC25SS-70	RC25-70	70	444.5
RC25SS-80	RC25-80	80	508
RC25SS-90	RC25-90	90	571.5
RC25SS-100	RC25-100	100	635
RC25SS-110	RC25-110	110	698.5
RC25SS-120	RC25-120	120	762
RC25SS-130	RC25-130	130	825.5
RC25SS-140	RC25-140	140	889
RC25SS-150	RC25-150	150	952.5
RC25SS-160	RC25-160	160	1016
RC25SS-170	RC25-170	170	1079.5
RC25SS-180	RC25-180	180	1143
RC25SS-190	RC25-190	190	1206.5
RC25SS-200	RC25-200	200	1270
RC25SS-210	RC25-210	210	1333.5
RC25SS-220	RC25-220	220	1397
RC25SS-230	RC25-230	230	1460.5
RC25SS-240	RC25-240	240	1524
RC25SS-250	RC25-250	250	1587.5
RC25SS-260	RC25-260	260	1651
RC25SS-270	RC25-270	270	1714.5
RC25SS-280	RC25-280	280	1778

STAINLESS STEEL STOCK NO.	MILD STEEL STOCK NO.	LENGTH
RC25SS-1.5M	RC25-1.5M	1.5M
RC25SS-3.0M	RC25-3.0M	3.0M
RC25SS-7.5M	RC25-7.5M	7.5M
RC25SS-15.0M	RC25-15.0M	15.0M
RC25SS-30.0M	RC25-30.0M	30.0M

* Maximum recommended operating load is for a slip fit connecting link, which is standard. A press fit connecting link is a special available on request.

Special lengths available on request (only even numbers of links).

Max. recommended operating load =
342N for Stainless Steel
431N for Mild Steel

Ultimate Tensile Strength =

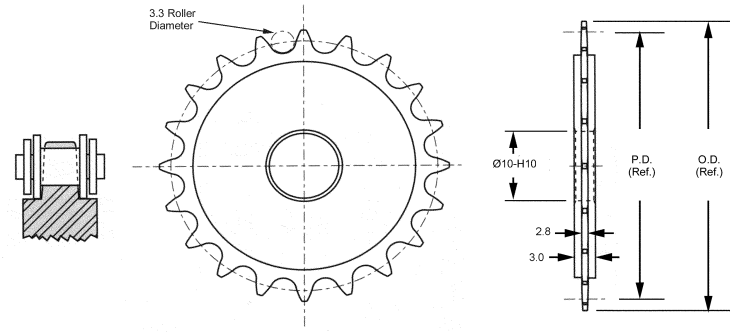
3113N -Stainless Steel
3892N - Mild Steel

133gms/m - Must be lubricated.

Use Connector Link Berg P/N RC25SS-CL for Stainless Steel, P/N RC25-CL for Mild Steel.

SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	**Ø10**	**HUBLESS**	Aluminum per DIN 3.1355 Anodized	**ROW-L-ER®**	Operates with RC25 and RC25SS series



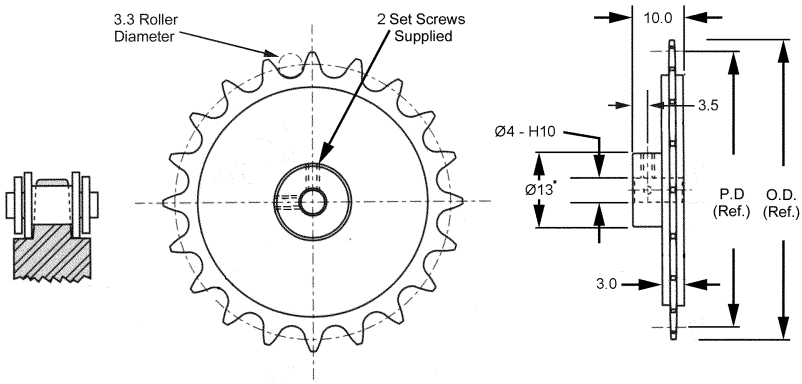
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
25SP175A-9	9	18.57	21.23
25SP175A-10	10	20.55	23.34
25SP175A-11	11	22.54	25.43
25SP175A-12	12	24.53	27.51
25SP175A-13	13	26.53	29.57
25SP175A-14	14	28.54	31.62
25SP175A-15	15	30.54	33.68
25SP175A-16	16	32.55	35.71
25SP175A-18	18	36.57	39.80
25SP175A-20	20	40.59	43.89
25SP175A-21	21	42.61	45.92
25SP175A-22	22	44.62	47.96
25SP175A-24	24	48.65	52.02
25SP175A-25	25	50.66	54.05
25SP175A-26	26	52.68	56.08
25SP175A-28	28	56.71	60.15
25SP175A-30	30	60.75	64.21
25SP175A-32	32	64.78	68.28
25SP175A-36	36	72.86	76.38

Other Bore sizes and other numbers of teeth are available on request.

Teeth could be anodized.

SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	**Ø4**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**ROW-L-ER®**	Operates with RC25 and RC25SS series



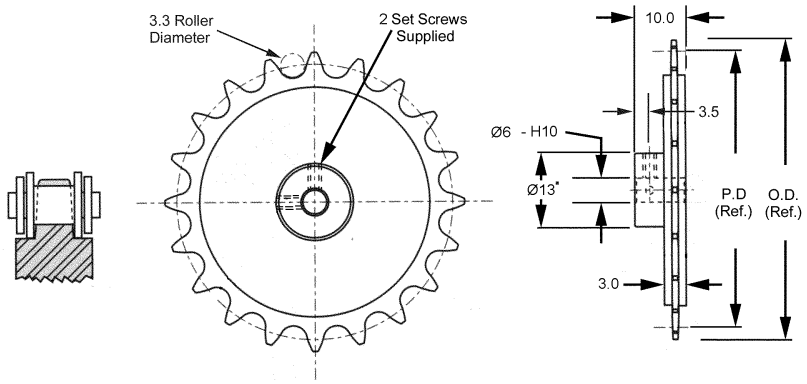
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
25EM162A-9	9•	18.57	21.23
25EM162A-10	10	20.55	23.34
25EM162A-11	11	22.54	25.43
25EM162A-12	12	24.53	27.51
25EM162A-13	13	26.53	29.57
25EM162A-14	14	28.54	31.62
25EM162A-15	15	30.54	33.68
25EM162A-16	16	32.55	35.71
25EM162A-18	18	36.57	39.80
25EM162A-20	20	40.59	43.89
25EM162A-21	21	42.61	45.92
25EM162A-22	22	44.62	47.96
25EM162A-24	24	48.65	52.02
25EM162A-25	25	50.66	54.05
25EM162A-26	26	52.68	56.08
25EM162A-28	28	56.71	60.15
25EM162A-30	30	60.75	64.21
25EM162A-32	32	64.78	68.28
25EM162A-36	36	72.86	76.38

• For 9 teeth, hub diameter equals 11.7.
Other Bore sizes and other numbers of teeth are available on request.

Teeth could be anodized.

SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	**Ø6**	**PIN HUB**	Aluminum per DIN 3.1355 Anodized	**ROW-L-ER®**	Operates with RC25 and RC25SS series



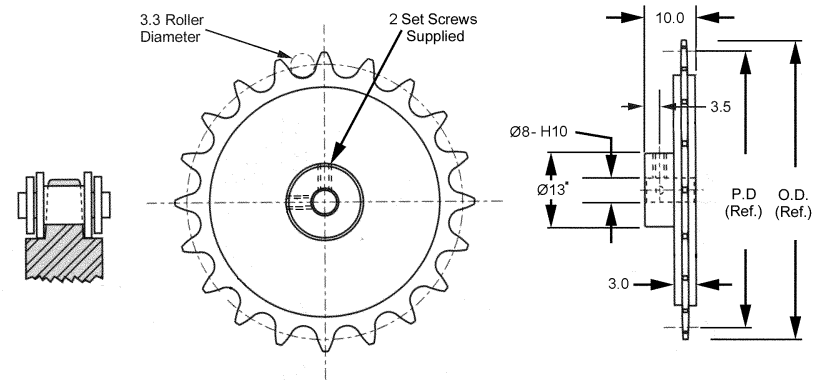
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
25EM161A-9	9•	18.57	21.23
25EM161A-10	10	20.55	23.34
25EM161A-11	11	22.54	25.43
25EM161A-12	12	24.53	27.51
25EM161A-13	13	26.53	29.57
25EM161A-14	14	28.54	31.62
25EM161A-15	15	30.54	33.68
25EM161A-16	16	32.55	35.71
25EM161A-18	18	36.57	39.80
25EM161A-20	20	40.59	43.89
25EM161A-21	21	42.61	45.92
25EM161A-22	22	44.62	47.96
25EM161A-24	24	48.65	52.02
25EM161A-25	25	50.66	54.05
25EM161A-26	26	52.68	56.08
25EM161A-28	28	56.71	60.15
25EM161A-30	30	60.75	64.21
25EM161A-32	32	64.78	68.28
25EM161A-36	36	72.86	76.38

• For 9 teeth, hub diameter equals 11.7.
Other Bore sizes and other numbers of teeth are available on request.

Teeth could be anodized.

SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	Ø8	PIN HUB	Aluminum per DIN 3.1355 Anodized	ROW-L-ER®	Operates with RC25 and RC25SS series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
25EM260A-9	9•	18.57	21.23
25EM260A-10	10	20.55	23.34
25EM260A-11	11	22.54	25.43
25EM260A-12	12	24.53	27.51
25EM260A-13	13	26.53	29.57
25EM260A-14	14	28.54	31.62
25EM260A-15	15	30.54	33.68
25EM260A-16	16	32.55	35.71
25EM260A-18	18	36.57	39.80
25EM260A-20	20	40.59	43.89
25EM260A-21	21	42.61	45.92
25EM260A-22	22	44.62	47.96
25EM260A-24	24	48.65	52.02
25EM260A-25	25	50.66	54.05
25EM260A-26	26	52.68	56.08
25EM260A-28	28	56.71	60.15
25EM260A-30	30	60.75	64.21
25EM260A-32	32	64.78	68.28
25EM260A-36	36	72.86	76.38

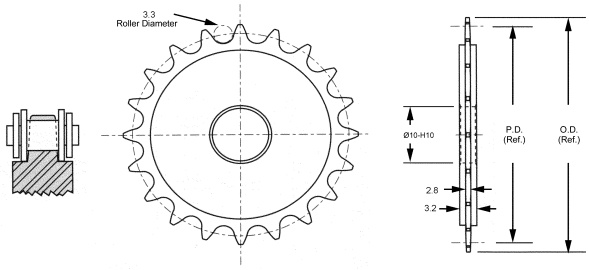
• For 9 teeth, hub diameter equals 11.7.
Other Bore sizes and other numbers of teeth are available on request.

Teeth could be anodized.

SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	**Ø10**	**HUBLESS**	Stainless Steel DIN 1.4305	**ROW-L-ER®**	Operates with RC25 and RC25SS series

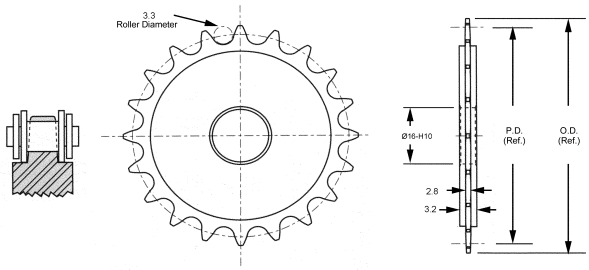
STOCK NO.	NO. OF TEETH	P. D.	O.D.
25SP110S-10	10	20.55	23.34
25SP110S-11	11	22.54	25.43
25SP110S-12	12	24.53	27.51
25SP110S-13	13	26.53	29.57
25SP110S-14	14	28.54	31.62
25SP110S-15	15	30.54	33.68
25SP110S-16	16	32.55	35.71
25SP110S-17	17	34.56	37.77
25SP110S-18	18	36.57	39.80
25SP110S-19	19	38.58	41.86
25SP110S-20	20	40.59	43.89
25SP110S-21	21	42.61	45.92
25SP110S-22	22	44.62	47.96
25SP110S-24	24	48.65	52.02
25SP110S-25	25	50.66	54.08
25SP110S-26	26	52.68	56.08
25SP110S-30	30	60.75	64.21
25SP110S-32	32	64.78	68.28
25SP110S-36	36	72.86	76.38



Other Bore sizes and other numbers of teeth are available on request.
Hubs assembled on request. Specify hub by stock number see index for page number.

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	**Ø16**	**HUBLESS**	Stainless Steel DIN 1.4305	**ROW-L-ER®**	Operates with RC25 and RC25SS series

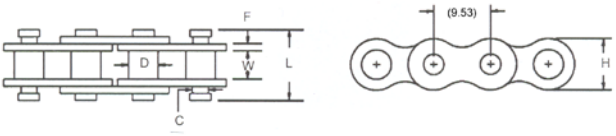
STOCK NO.	NO. OF TEETH	P. D.	O.D.
25SP116S-15	15	30.54	33.68
25SP116S-16	16	32.55	35.71
25SP116S-17	17	34.56	37.77
25SP116S-18	18	36.57	39.80
25SP116S-19	19	38.58	41.86
25SP116S-20	20	40.59	43.89
25SP116S-21	21	42.61	45.92
25SP116S-22	22	44.62	47.96
25SP116S-24	24	48.65	52.02
25SP116S-25	25	50.66	54.08
25SP116S-26	26	52.68	56.08
25SP116S-30	30	60.75	64.21
25SP116S-32	32	64.78	68.28
25SP116S-36	36	72.86	76.38



Other Bore sizes and other numbers of teeth are available on request.
Hubs assembled on request. Specify hub by stock number see index for page number.

LINK CHAINS

CIRCULAR PITCH	ROLLER DIAMETER	BERG NAME	MATERIAL	SPROCKET
6.35mm	**3.3mm**	**ROW-L-ER®**	Delrin and Nylatron	Operates with 25EM and 25SP series.



DELRIN® STOCK NO.	NYLATRON® STOCK NO.	NO. OF PITCHES	LENGTH (MM)	PITCH	W	D	C	F	L	H
RC25D-40	RC25N-40	40	254.0	6.35	3.2	3.30	2.68	1.02	9.12	6.35
RC25D-50	RC25N-50	50	317.5							
RC25D-60	RC25N-60	60	381.0							
RC25D-70	RC25N-70	70	444.5							
RC25D-80	RC25N-80	80	508.0							
RC25D-90	RC25N-90	90	571.5							
RC25D-100	R025N-100	100	635.0							
RC25D-120	RC25N-120	120	762.0							
RC25D-130	RC25N-130	130	825.5							
RC25D-140	RC25N-140	140	889.0							
RC25D-150	RC25N-150	150	925.5							
RC25D-160	RC25N-160	160	1016.0							
RC25D-170	RC25N-170	170	1079.5							
RC25D-180	RC25N-180	180	1143.0							
RC25D-190	RC25N-190	190	1206.5							
RC25D-200	RC25N-200	200	1270.0							
RC25D-210	RC25N-210	210	1333.5							
RC25D-220	RC25N-220	220	1397.0							
RC25D-230	RC25N-230	230	1460.5							
RC25D-240	RC25N-240	240	1524.0							
RC25D-250	RC25N-250	250	1587.5							
RC25D-260	RC25N-260	260	1651.0							
RC25D-270	RC25N-270	270	1714.5							
RC25D-280	RC25N-280	280	1778.0							

Chain Material Data:

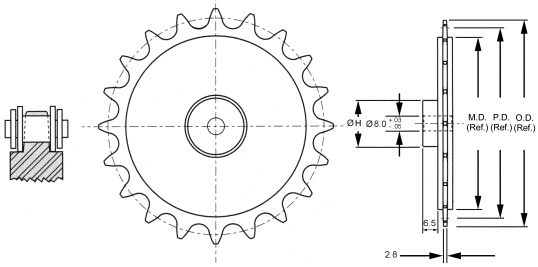
Chain Tensile Strength @ Break (N)	Delrin = 280	Nylatron GS = 289
Max. operating load (N)	Delrin = 93	Nylatron GS = 98
Tensile (KG/CM²)	Delrin = 682	Nylatron GS = 963
Compressive (KG/CM²)	Delrin = 1097	Nylatron GS = 879
Flexural (KG/CM²)	Delrin = 956	Nylatron GS = 1195
Water Absorption %	Delrin = 0.25	Nylatron GS = 0.8
Chain Elongation % (ultimate)	Delrin = 9	Nylatron GS = 34
@ 75% Ultimate	Delrin = 5	Nylatron GS = 14

Other materials available upon request. Other lengths available upon request.

For material data on Polypropylene (RC25PP) and/or Kynar (RC25K) contact our technical support department.

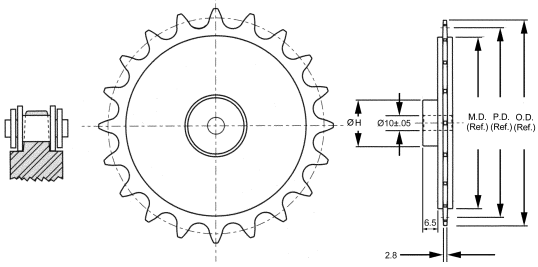
SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	**Ø8.0**	**PIN HUB**	Delrin®	**ROW-L-ER®**	Operates with RC25 and RC25SS series



STOCK NO.	NO. OF TEETH	OUTSIDE DIA. (O.D.)	PITCH DIA. (P.D.)	MINOR DIA. (M.D.)	HUB DIA. (H)
25EM4EM-10	10	23.34	20.55	17.25	13.5
25EM4EM-12	12	27.51	24.53	21.23	15.5
25EM4EM-15	15	33.68	30.54	27.25	
25EM4EM-16	16	35.74	32.55	29.26	
25EM4EM-17	17	37.77	34.56	33.55	
25EM4EM-18	18	39.83	36.57	33.27	
25EM4EM-19	19	41.86	38.58	35.28	
25EM4EM-20	20	43.92	40.59	37.29	
25EM4EM-21	21	45.95	42.61	39.29	
25EM5EM-24	24	52.04	48.65	45.34	17.0
25EM5EM-25	25	54.08	50.66	47.37	
25EM5EM-30	30	64.24	60.75	57.45	

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	**Ø10.0**	**PIN HUB**	Delrin®	**ROW-L-ER®**	Operates with RC25 and RC25SS series



STOCK NO.	NO. OF TEETH	OUTSIDE DIA. (O.D.)	PITCH DIA. (P.D.)	MINOR DIA. (M.D.)	+.DIA. (H)
25EM6EM-32	32	68.28	64.78	61.49	17.0
25EM6EM-36	36	76.40	72.86	69.57	
25EM6EM-40	40	84.51	81.93	77.65	

SPROCKETS

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	**Ø8.0**	**PIN HUB**	NYLATRON®	**ROW-L-ER®**	Operates with RC25 and RC25SS series

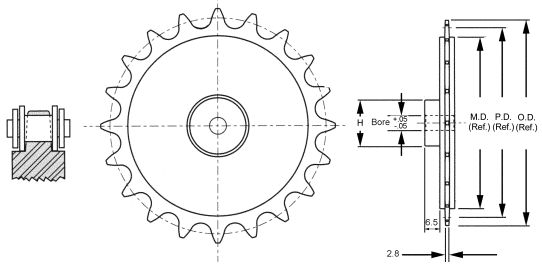
STOCK NO.	NO. OF TEETH	OUTSIDE DIA. (O.D.)	PITCH DIA. (P.D.)	MINOR DIA. (M.D.)	BORE +.05/-.05	HUB DIA. (H)	HUB PROJ. (P)
25EM4GSM-10	10	23.34	20.55	17.25	8.0	14.0	9.5
25EM4GSM-11	11	24.45	22.55	19.23		14.0	9.5
25EM5GSM-12	12	27.51	24.53	21.23		17.5	9.5
25EM5GSM-13	13	31.65	26.53	23.24		19.0	9.5
25EM5GSM-14	14	33.68	28.54	25.22		19.0	9.5
25EM5GSM-15	15	35.74	30.54	27.25		19.0	9.5
25EM5GSM-16	16	37.77	32.55	29.26		20.5	9.5
25EM5GSM-17	17	39.83	34.56	33.55		23.0	9.5

CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	**Ø10.0**	**PIN HUB**	NYLATRON®	**ROW-L-ER®**	Operates with RC25 and RC25SS series

STOCK NO.	NO. OF TEETH	OUTSIDE DIA. (O.D.)	PITCH DIA. (P.D.)	MINOR DIA. (M.D.)	BORE +.05/-.05	HUB DIA. (H)	HUB PROJ. (P)
25EM6GSM-18	18	39.83	36.57	33.27	10.0	25.5	9.5
25EM6GSM-19	19	41.86	38.58	35.28		27.0	9.5
25EM6GSM-20	20	43.92	40.59	37.29		29.5	9.5
25EM6GSM-21	21	45.95	42.61	39.29		29.5	9.5
25EM6GSM-22	22	47.98	44.62	41.33		29.5	9.5
25EM6GSM-24	24	52.04	48.65	45.34		32.5	9.5
25EM6GSM-26	26	56.11	52.68	49.38		32.5	9.5
25EM6GSM-27	27	60.17	56.70	53.42		32.5	9.5
25EM6GSM-30	30	64.40	60.75	57.45		31.0	9.5

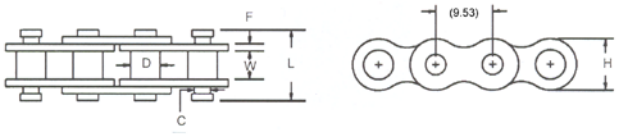
CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
6.35mm	**Ø16.0**	**PIN HUB**	NYLATRON®	**ROW-L-ER®**	Operates with RC25 and RC25SS series

STOCK NO.	NO. OF TEETH	OUTSIDE DIA. (O.D.)	PITCH DIA. (P.D.)	MINOR DIA. (M.D.)	BORE +.05/-.05	HUB DIA. (H)	HUB PROJ. (P)
25EM8GSM-36	36	76.40	72.86	69.57	16.0	35.0	12.7
25EM8GSM-40	40	84.51	81.93	77.65		35.0	12.7
25EM8GSM-48	48	100.69	97.09	93.80		35.0	12.7
25EM8GSM-54	54	112.83	109.21	106.68		35.0	12.7
25EM8GSM-60	60	124.97	121.33	118.03		35.0	12.7



LINK CHAINS

CIRCULAR PITCH	ROLLER DIAMETER	BERG NAME	MATERIAL	SPROCKET
9.53mm	**5.1mm**	**ROW-L-ER®**	Delrin and Nylatron	Operates with 35EM and 35SP series.



DELRIN® STOCK NO.	NYLATRON® STOCK NO.	NO. OF PITCHES	LENGTH (MM)	W	D	C	F	L	H
RC35D-40	RC35N-40	40	381.0						
RC35D-50	RC35N-50	50	476.3						
RC35D-60	RC35N-60	60	571.5						
RC35D-70	RC35N-70	70	666.8						
RC35D-80	RC35N-80	80	762.0						
RC35D-90	RC35N-90	90	857.3						
RC35D-100	RC35N-100	100	952.5						
RC35D-120	RC35N-120	120	1143.0						
RC35D-130	RC35N-130	130	1238.3						
RC35D-140	RC35N-140	140	1333.5	4.8	5.08	3.58	1.9	13.8	8.9
RC35D-150	RC35N-150	150	1428.8						
RC35D-160	RC35N-160	160	1524.0						
RC35D-170	RC35N-170	170	1619.3						
RC35D-180	RC35N-180	180	1714.5						
RC35D-190	RC35N-190	190	1809.8						
RC35D-200	RC35N-200	200	1905.0						
RC35D-210	RC35N-210	210	2000.3						
RC35D-220	RC35N-220	220	2095.5						
RC35D-230	RC35N-230	230	2190.3						

Chain Material Data:

Chain Tensile Strength @ Break (N)	Delrin = 605	Nylatron GS = 605
Max. operating load (N)	Delrin = 200	Nylatron GS = 200
Tensile (KG/CM²)	Delrin = 682	Nylatron GS = 963
Chain Elongation % (ultimate)	Delrin = 6	Nylatron GS = 11
@ 75% Ultimate	Delrin = 5	Nylatron GS = 9
Compressive (KG/CM²)	Delrin = 1097	Nylatron GS = 879
Flexural (KG/CM²)	Delrin = 956	Nylatron GS = 1195
Water Absorption %	Delrin = 0.25	Nylatron GS = 0.8

Other materials available upon request. Other lengths available upon request.

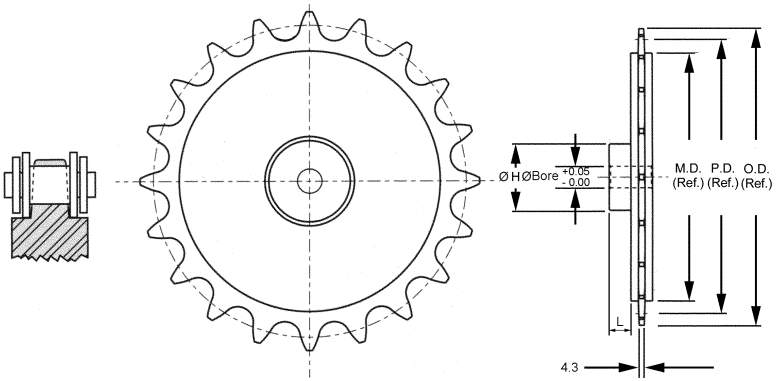
SPROCKETS

CIR. PITCH	STOCK BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
9.53mm	Ø10	PIN HUB	GLASS FILLED NYLATRON® GS-51	ROW-L-ER®	Operates with RC35 and RC35SS series

STOCK NO.	NO. OF TEETH	OUTSIDE DIA. (O.D.)	PITCH DIA. (P.D.)	MINOR DIA. (M.D.)	L	HUB DIA. (H)	MAX. BORE
35EM6GSM-9	9	31.90	27.84	22.76	19	16.0	10
35EM6GSM-10	10	35.05	30.84	25.76		20.6	12
35EM6GSM-11	11	38.15	33.81	28.73		22.2	12

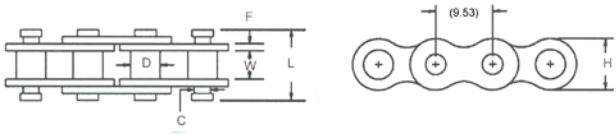
CIR. PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
9.53mm	Ø16	PIN HUB	GLASS FILLED NYLATRON® GS-51	ROW-L-ER®	Operates with RC35 and RC35SS series

STOCK NO.	NO. OF TEETH	OUTSIDE DIA. (O.D.)	PITCH DIA. (P.D.)	MINOR DIA. (M.D.)	L	HUB DIA. (H)	MAX. BORE
35EM8GSM-12	12	41.28	36.80	31.72	19.0	25.5	19
35EM8GSM-14	14	47.45	42.80	37.72	19.0	27.0	19
35EM8GSM-15	15	50.55	45.82	40.74	19.0	35.0	20
35EM8GSM-16	16	53.62	48.82	43.74	19.0	38.0	24
35EM8GSM-18	18	59.84	54.84	49.56	19.0	31.8	27
35EM8GSM-20	20	65.86	60.88	55.80	22.2	38.0	30
35EM8GSM-24	24	78.08	72.97	67.89	22.2	50.8	30
35EM8GSM-26	26	84.18	79.02	73.94	22.2	52.4	36.5
35EM8GSM-30	30	96.34	91.14	86.06	22.2	57.0	36.5
35EM8GSM-35	35	111.56	105.11	101.17	22.2	57.0	36.5
35EM10GSM-36	36	114.58	109.30	104.22	22.2	57.0	36.5
35EM10GSM-40	40	126.75	121.41	116.33	22.2	63.5	45
35EM10GSM-45	45	141.94	136.55	131.47	25.5	70.0	45



LINK CHAINS

CIRCULAR PITCH	ROLLER DIAMETER	BERG NAME	MATERIAL	SPROCKET
12.7mm	**7.9mm**	**ROW-L-ER®**	Delrin and Nylatron	Operates with 40EM series.



DELRIN® STOCK NO.	NYLATRON® STOCK NO.	NO. OF PITCHES	LENGTH (MM)	PITCH	W	D	C	F	L	H
RC40D-40	RC40N-40	40	508.0	12.7	7.9	7.9	3.96	2.2	18.4	11.7
RC40D-50	RC40N-50	50	635.0							
RC40D-60	RC40N-60	60	762.0							
RC40D-70	RC40N-70	70	889.0							
RC40D-80	RC40N-80	80	1016.0							
RC40D-90	RC40N-90	90	1143.0							
RC40D-100	RC40N-100	100	1270.0							
RC40D-120	RC40N-120	120	1524.0							
RC40D-130	RC40N-130	130	1651.0							
RC40D-140	RC40N-140	140	1778.0							
RC40D-150	RC40N-150	150	1905.0							
RC40D-160	RC40N-160	160	2032.0							
RC40D-170	RC40N-170	170	2159.0							
RC40D-180	RC40N-180	180	2286.0							
RC40D-190	RC40N-190	190	2413.0							
RC40D-200	RC40N-200	200	2540.0							

Chain Material Data:

Chain Tensile Strength @ Break (N)	Delrin = 778	Nylatron GS = 769
Max. operating load (N)	Delrin = 258	Nylatron GS = 254
Tensile (KG/CM^2)	Delrin = 682	Nylatron GS = 963
Chain Elongation % (ultimate)	Delrin = 4	Nylatron GS = 9
@ 75% Ultimate	Delrin = 3	Nylatron GS = 7
Compressive (KG/CM^2)	Delrin = 1097	Nylatron GS = 879
Flexural (KG/CM^2)	Delrin = 956	Nylatron GS = 1195
Water Absorption %	Delrin = 0.25	Nylatron GS = 0.8

Other materials available upon request. Other lengths available upon request.

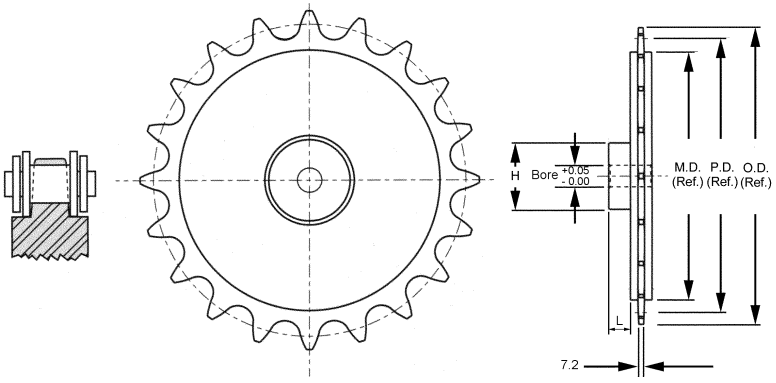
SPROCKETS

CIR. PITCH	STOCK BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
12.7mm	Ø16	PIN HUB	FILLED NYLATRON® GS-51	ROW-L-ER®	Operates with RC40D and RC40N series

STOCK NO.	NO. OF TEETH	OUTSIDE DIA. (O.D.)	PITCH DIA. (P.D.)	MINOR DIA. (M.D.)	L	HUB DIA. (H)	MAX. BORE
40EM8GSM-9	9	42.52	37.13	29.21	22.2	22.2	16
40EM8GSM-10	10	46.71	41.10	33.17	22.2	28.5	16
40EM8GSM.12	12	55.20	49.07	41.15	22.2	35.0	21.5
40EM8GSM-15	15	67.35	61.08	53.16	22.2	47.5	30
40EM10GSM-16	16	71.48	65.10	57.18	22.2	47.5	32
40EM10GSM-24	24	104.09	97.30	89.38	25.5	63.5	44.5

CIR. PITCH	STOCK BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
12.7MM	Ø19	PIN HUB	FILLED NYLATRON® GS-51	ROW-L-ER®	Operates with RC40D and RC40N series

STOCK NO.	NO. OF TEETH	OUTSIDE DIA. (O.D.)	PITCH DIA. (P.D.)	MINOR DIA. (M.D.)	L	HUB DIA. (H)	MAX. BORE
40EM10GSM-32	32	136.58	129.57	121.64	25.5	50.8	44.5



FLEX-E-GRIP® TIMING BELT TECHNICAL DATA

Features
- No Side Flanges Necessary
- Infinite Lengths
- Higher Load Capacities and Narrower Widths
- Positive Drives (Non-slip Engagement)
- No Lubrication
- Minimum Backlash
- High Mechanical Efficiency
- Extra Light Weight
- Silent Operation (No Side Flange Noise)
- Economical
- Wide Speed Range
- Broader Ratio Selection

Installation Notes
(A) All Shafts Must Be Parallel
(B) Use Adjustable Centers Wherever Possible
(C) If Adjustable Centers are not Possible Use Idler Pulley Inside The Belt
(D) Never Force Belt Over Pulleys
(E) Avoid Reverse Bending (See Page A 2 in inch catalog)

4 Compact Width Sizes
2.073 Pitch (XXL) Miniature 3.2 Wide

Equal to or stronger than conventional Timing Belts up to 19.0 wide

5.080 Pitch (XL) Extra Light 6.4 Wide
Equal to or stronger than conventional Timing Belts up to 25.4 wide

9.525 Pitch (L) Light 12.7 Wide
Equal to or stronger than conventional Timing Belts up to 50.8 wide

12.700 Pitch (H) Heavy 19.0 Wide
Equal to or stronger than conventional Timing Belts up to 50.8 wide

Construction
Belts - Molded in Polyurethane to meet Acid, Chemical and Environmental Conditions.

Cable - Steel Preformed Aircraft Standard Cable of both 7x7 and 7x19 Construction.

Pulleys - Aluminum 2024 (bar) MIL QQ-Q-225/6 Cond. T4 Anodized

Operating Parameters
Minimum Pulley Diameters

SIZE	MAX. SPEED R.P.M.	MIN. NO. OF GROOVES	PITCH DIAMETER
2.073 D.P. 8TB-SERIES	1750	18	11.89
5.080 PITCH 20TB-SERIES	1750	11	17.78
9.525 PITCH 37TB-SERIES	1750 1160	14 12	42.44 36.37
12.700 PITCH 50TB-SERIES	1750 1160	18 16	72.77 65.13

Will Not Slip, Slide, Jump, Creep or Walk Off Timing Pulley

FLEX-E-GRIP® TIMING BELT TECHNICAL DATA

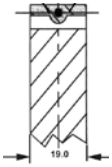
Technical Data and Comparison With Standard Timing Belts

Miniature (MXL) 2.073 C.P. 3.2mm timing belts - equal to standard 15.9mm wide xxl belts Ultimate tensile

Berg 8 TB Series

Flex-E-Grip® XXL Timing Belts 3.2mm wide 89N ultimate tensile strength.

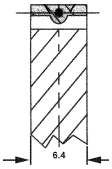
Conventional Belt	Tensile Strength
3.2mm WIDE	17N
4.8mm WIDE	26N
6.4mm WIDE	34N
15.9mm WIDE	89N



Berg 20TB Series

Flex-E-Grip® (XL) 5.080 C.P. 6.4mm timing belts - equal to standard 25.4mm wide XL belts.
XL Timing Belts 6.4mm wide 222N ultimate tensile strength.

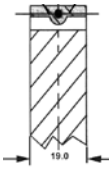
Conventional Belt	Tensile Strength
6.4mm WIDE	45N
12.7mm WIDE	55N
15.9mm WIDE	69N
19.0mm WIDE	99N
25.4mm WIDE	102N
63.5mm WIDE	182N



Berg 37TB Series

Flex-E-Grip® (L) 9.525 C.P. 12.7mm timing belts - equal to standard 50.8mm wide L belts.
L Timing Belts 12.7mm wide 556N ultimate tensile strength.

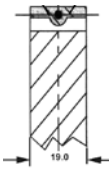
Conventional Belt	Tensile Strength
9.5mm WIDE	71N
12.7mm WIDE	107N
5.9mm WIDE	138N
19.0mm WIDE	173N
25.4mm WIDE	245N
63.5mm WIDE	667N



Berg 50TB Series

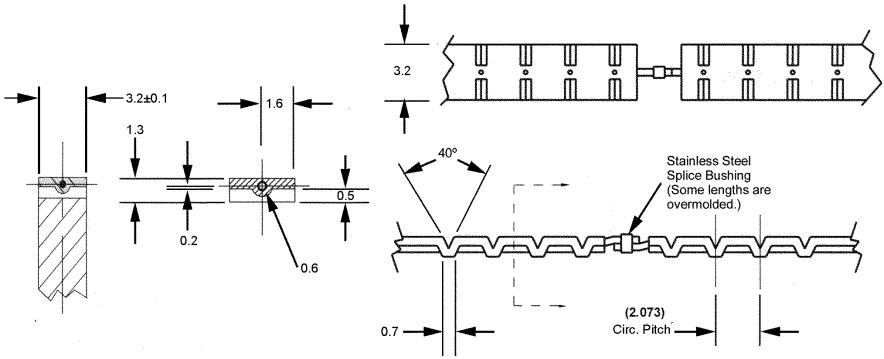
Flex-E-Grip® (H) 12.700 C.P. 19mm timing belts - equal to standard 50.8mm wide H belts.
H Timing Belts 19mm wide 1335N ultimate tensile strength.

Conventional Belt	Tensile Strength
12.7mm WIDE	262N
15.9mm WIDE	356N
19.0mm WIDE	440N
25.4mm WIDE	623N
50.8mm WIDE	1335N



TIMING BELTS

CIRCULAR PITCH	BELT WIDTH	MATERIALS	BERG'S® NAME	PULLEY
2mm (XXL)	**3.2mm**	Polyurethane (Black) 90A Duro 0.5mm Dia. Stainless Steel Cable*	**Flex-E-Grip®**	Operates with Flex-E-Grip 8TP series



STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
8TB-24*	24	49.7
8TB-44	44	91.2
8TB-45	45	93.3
8TB-48	48	99.5
8TB-51	51	105.7
8TB-52	52	107.8
8TB-53	53	109.9
8TB-60	60	124.4
8TB-64	64	132.7
8TB-66	66	136.8
8TB-67	67	138.9
8TB-72	72	149.2
8TB-77	77	159.6
8TB-88	88	182.4
8TB-96	96	199.0
8TB-98	98	203.1
8TB-102	102	211.4
8TB-109	109	225.9
8TB-110	110	228.0
8TB-114	114	236.3
8TB-120	120	248.7
8TB-123	123	254.9
8TB-126	126	261.2
8TB-132	132	273.6
8TB-139	139	288.1
8TB-140	140	290.2
8TB-150	150	310.9
8TB-162	162	335.8
8TB-175	175	362.7
8TB-184	184	381.4
8TB-193	193	400.0
8TB-214	214	443.5
8TB-228	228	472.6
8TB-245	245	507.8
8TB-249	249	516.1
8TB-251	251	520.2
8TB-264	264	541.2

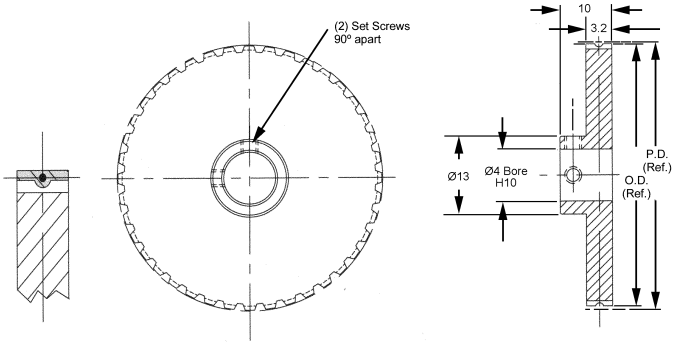
- No Flanges Required
- Infinite Lengths
- Silent Drive
- No-Walk Feature
- No Lubrication
- Mass 4.7 Grams/Meter
- Compact Design
- Positive Drive
- Light Weight
- Extra Strong
- Ultimate Tensile Strength 89N
- Temperature Range +82°C to -26°C
- Recommended Operating Load 22N.
- Recommended Max. Operating Speed 1.91 m/s
- For Field Splice Kit Order 8TB-7.

* Splices are factory overmolded

BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
8TB-1.5M	1.5 METERS
8TB-3.0M	3.0 METERS
8TB-7.5M	7.5 METERS
8TB-15.0M	15.0 METERS
8TB-30.0M	30.0 METERS

TIMING PULLEYS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
2mm (XXL)	**Ø4**	**PIN HUB**	Aluminum DIN 3.1355 Anodized	**Flex-E-Grip®**	Operates with Flex-E-Grip Belt 8TB Series



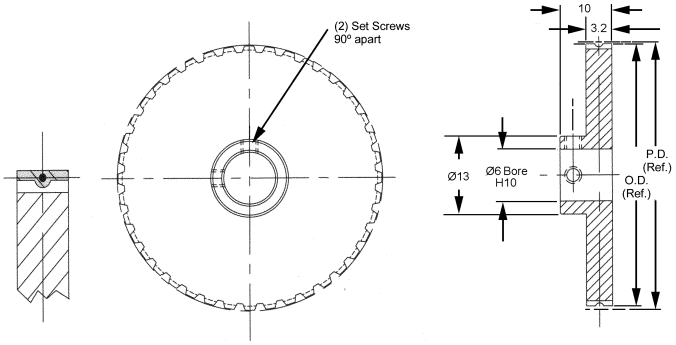
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
8TP104-14	14•*	9.24	8.86
8TP104-15	15•*	9.90	9.53
8TP104-18	18•*	11.88	11.51
8TP104-20	20	13.19	12.83
8TP104-24	24	15.83	15.47
8TP104-25	25	16.49	16.13
8TP104-28	28	18.47	18.11
8TP104-30	30	19.79	19.43
8TP104-32	32	21.11	20.75
8TP104-34	34	22.43	22.07
8TP104-36	36	23.75	23.39
8TP104-38	38	25.07	24.69
8TP104-40	40	26.39	26.01
8TP104-42	42	27.71	27.33
8TP104-44	44	29.03	28.65
8TP104-48	48	31.67	31.29
8TP104-50	50	32.99	32.61
8TP104-54	54	35.63	35.26
8TP104-60	60	39.58	39.22
8TP104-72	72	47.50	47.14
8TP104-75	75	49.48	49.12
8TP104-80	80	52.78	52.40
8TP104-84	84	55.42	55.04
8TP104-88	88	58.06	57.68
8TP104-90	90	59.38	59.00
8TP104-96	96	63.34	62.97
8TP104-98	98	64.65	64.29
8TP104-100	100	65.97	65.61
8TP104-120	120	79.17	78.79

• For 19 teeth or less, hub is equal to O.D.
* Pulleys Ø12.0mm and smaller for idler use only.

Teeth could be anodized.

TIMING PULLEYS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
2mm (XXL)	**Ø6**	**PIN HUB**	Aluminum DIN 3.1355 Anodized	**Flex-E-Grip®**	Operates with Flex-E-Grip Belt 8TB Series



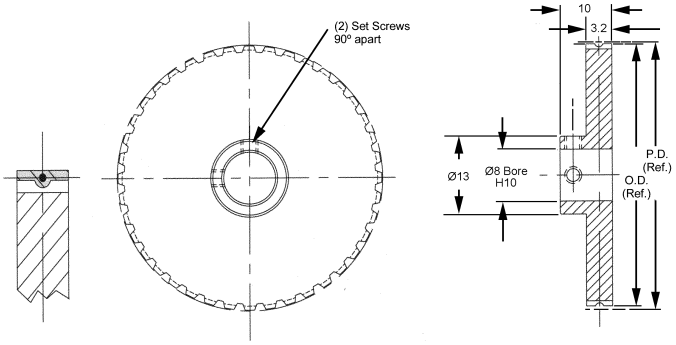
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
8TP106-14	14•*	9.24	8.86
8TP106-15	15•*	9.90	9.53
8TP106-18	18•*	11.88	11.51
8TP106-20	20	13.19	12.83
8TP106-24	24	15.83	15.47
8TP106-25	25	16.49	16.13
8TP106-28	28	18.47	18.11
8TP106-30	30	19.79	19.43
8TP106-32	32	21.11	20.75
8TP106-34	34	22.43	22.07
8TP106-36	36	23.75	23.39
8TP106-38	38	25.07	24.69
8TP106-40	40	26.39	26.01
8TP106-42	42	27.71	27.33
8TP106-44	44	29.03	28.65
8TP106-48	48	31.67	31.29
8TP106-50	50	32.99	32.61
8TP106-54	54	35.63	35.26
8TP106-60	60	39.58	39.22
8TP106-72	72	47.50	47.14
8TP106-75	75	49.48	49.12
8TP106-80	80	52.78	52.40
8TP106-84	84	55.42	55.04
8TP106-88	88	58.06	57.68
8TP106-90	90	59.38	59.00
8TP106-96	96	63.34	62.97
8TP106-98	98	64.65	64.29
8TP106-100	100	65.97	65.61
8TP106-120	120	79.17	78.79

• For 14-18 teeth, hub diameter equals 8.1.
* Pulleys Ø12.0mm and smaller for idler use only.

Teeth could be anodized.

TIMING PULLEYS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
2mm (XXL)	**Ø8**	**PIN HUB**	Aluminum DIN 3.1355 Anodized	**Flex-E-Grip®**	Operates with Flex-E-Grip Belt 8TB Series



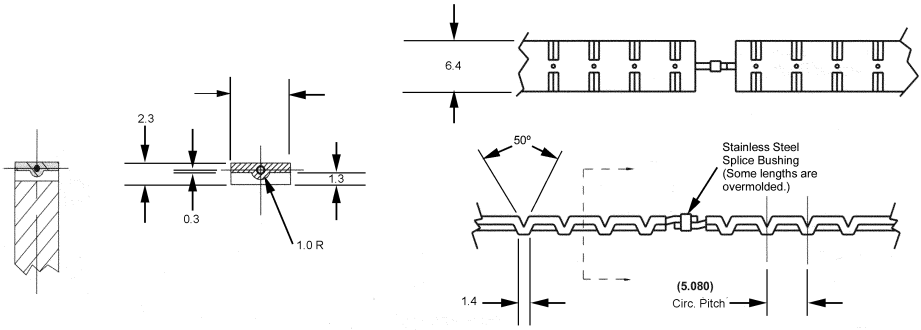
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
8TP108-20	20•	13.19	12.83
8TP108-24	24	15.83	15.47
8TP108-25	25	16.49	16.13
8TP108-28	28	18.47	18.11
8TP108-30	30	19.79	19.43
8TP108-32	32	21.11	20.75
8TP108-34	34	22.43	22.07
8TP108-36	36	23.75	23.39
8TP108-38	38	25.07	24.69
8TP108-40	40	26.39	26.01
8TP108-42	42	27.71	27.33
8TP108-44	44	29.03	28.65
8TP108-48	48	31.67	31.29
8TP108-50	50	32.99	32.61
8TP108-54	54	35.63	35.26
8TP108-60	60	39.58	39.22
8TP108-72	72	47.50	47.14
8TP108-75	75	49.48	49.12
8TP108-80	80	52.78	52.40
8TP108-84	84	55.42	55.04
8TP108-88	88	58.06	57.68
8TP108-90	90	59.38	59.00
8TP108-96	96	63.34	62.97
8TP108-98	98	64.65	64.29
8TP108-100	100	65.97	65.61
8TP108-120	120	79.17	78.79

• For 20 teeth, hub diameter equals 12.1.
* Pulleys Ø12.0mm and smaller for idler use only.

Teeth could be anodized.

TIMING BELTS

CIRCULAR PITCH	BELT WIDTH	MATERIALS	BERG'S® NAME	PULLEY
5mm (XL)	**6.4mm**	Polyurethane (Red) 90A Duro 0.8mm Dia. Stainless Steel Cable*	**Flex-E-Grip®**	Operates with Flex-E-Grip 20TP series



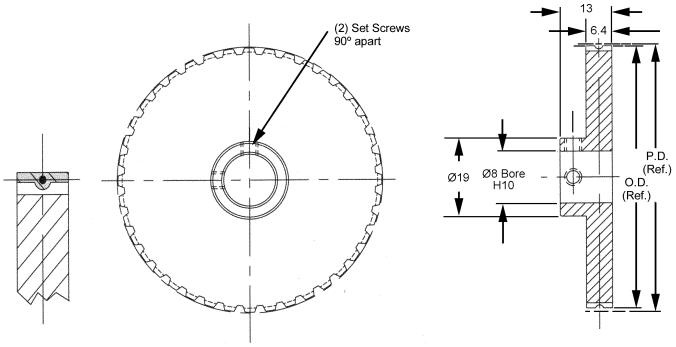
STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
20TB-10	10	50.8
20TB-15	15	76.2
20TB-20	20	101.6
20TB-25	25	127.0
20TB-30	30	152.4
20TB-35	35	177.8
20TB-40	40	203.2
20TB-45	45	228.6
20TB-50	50	254.0
20TB-55	55	279.4
20TB-60	60	304.8
20TB-65	65	330.2
20TB-70	70	355.6
20TB-80	80	406.4
20TB-85	85	431.8
20TB-90	90	457.2
20TB-95	95	482.6
20TB-100	100	508.0
20TB-105	105	533.4
20TB-110	110	558.8
20TB-115	115	584.2
20TB-120	120	609.6
20TB-125	125	635.0
20TB-130	130	660.4
20TB-135	135	685.8
20TB-140	140	711.2
20TB-145	145	736.6
20TB-150	150	762.0
20TB-155	155	787.4
20TB-160	160	812.8
20TB-175	175	889.0
20TB-180	180	914.4
20TB-185	185	939.8
20TB-190	190	965.2
20TB-200	200	1016.0
20TB-210	210	1066.8

- Aramid Core. Alternate construction available.
- No Flanges Required
- Infinite Lengths
- Silent Drive
- No-Walk Feature
- No Lubrication
- Mass 9 Grams/Meter
- Compact Design
- Positive Drive
- Light Weight
- Extra Strong
- Ultimate Tensile Strength 222N
- Temperature Range +82°C to -26°C
- Recommended Operating Load 53N
- Recommended Max. Operating Speed 1.91 m/s
- For Field Splice Kit Order 20TB-7
- Splices are factory overmolded

BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
20TB-1.5M	1.5 METERS
20TB-3.0M	3.0 METERS
20TB-7.5M	7.5 METERS
20TB-15.0M	15.0 METERS
20TB-30.0M	30.0 METERS

TIMING PULLEYS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
5mm (XL)	**Ø8**	**PIN HUB**	Aluminum DIN 3.1355 Anodized	**Flex-E-Grip®**	Operates with Flex-E-Grip Belt 20TB Series



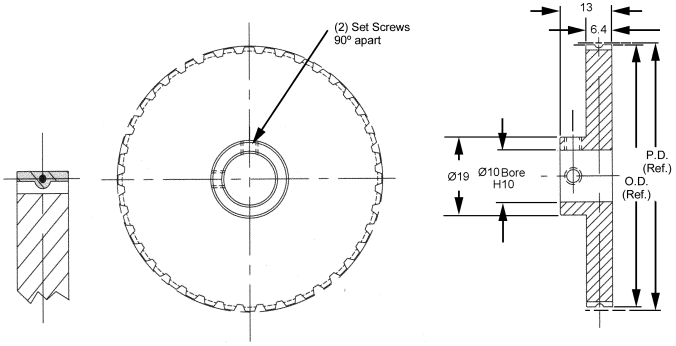
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
20TP108-10	10•*	16.17	15.65
20TP108-11	11•*	17.79	17.27
20TP108-12	12•	19.40	18.87
20TP108-14	14	22.64	22.12
20TP108-15	15	24.26	23.72
20TP108-16	16	25.87	25.35
20TP108-17	17	27.49	26.97
20TP108-18	18	29.11	28.58
20TP108-19	19	30.72	30.20
20TP108-20	20	32.34	31.83
20TP108-21	21	33.96	33.43
20TP108-22	22	35.57	35.05
20TP108-23	23	37.19	36.68
20TP108-24	24	38.81	38.28
20TP108-25	25	40.43	39.90
20TP108-27	27	43.66	43.13
20TP108-28	28	45.28	44.75
20TP108-29	29	46.89	46.38
20TP108-30	30	48.51	47.98
20TP108-32	32	51.74	51.23
20TP108-36	36	58.21	57.68
20TP108-40	40	64.68	64.16
20TP108-42	42	67.91	67.39
20TP108-44	44	71.15	70.64
20TP108-45	45	72.77	72.24
20TP108-48	48	77.62	77.09
20TP108-50	50	80.85	80.34
20TP108-60	60	97.02	96.49
20TP108-72	72	116.43	115.90

• For 10-12 teeth, hub diameter equals 14.1.
* Pulleys Ø19.0mm and smaller for idler use only.
Other numbers of teeth available upon request.

Teeth could be anodized.

TIMING PULLEYS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
5mm (XL)	**Ø10**	**PIN HUB**	Aluminum DIN 3.1355 Anodized	**Flex-E-Grip®**	Operates with Flex-E-Grip Belt 20TB Series

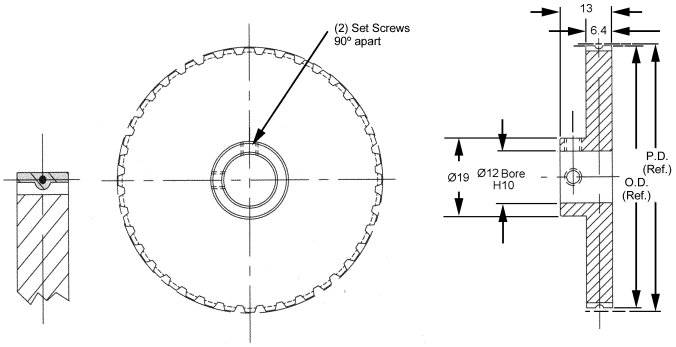


STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
20TP110-11	11•*	17.79	17.27
20TP110-12	12•	19.40	18.87
20TP110-14	14	22.64	22.12
20TP110-15	15	24.26	23.72
20TP110-16	16	25.87	25.35
20TP110-17	17	27.49	26.97
20TP110-18	18	29.11	28.58
20TP110-19	19	30.72	30.20
20TP110-20	20	32.34	31.83
20TP110-21	21	33.96	33.43
20TP110-22	22	35.57	35.05
20TP110-23	23	37.19	36.68
20TP110-24	24	38.81	38.28
20TP110-25	25	40.43	39.90
20TP110-27	27	43.66	43.13
20TP110-28	28	45.28	44.75
20TP110-29	29	46.89	46.38
20TP110-30	30	48.51	47.98
20TP110-32	32	51.74	51.23
20TP110-36	36	58.21	57.68
20TP110-40	40	64.68	64.16
20TP110-42	42	67.91	67.39
20TP110-44	44	71.15	70.64
20TP110-45	45	72.77	72.24
20TP110-48	48	77.62	77.09
20TP110-50	50	80.85	80.34
20TP110-60	60	97.02	96.49
20TP110-72	72	116.43	115.90

• For 11-12 teeth, hub diameter equals 15.7.
* Pulleys Ø19.0mm and smaller for idler use only.
Other numbers of teeth available upon request.
Teeth could be anodized.

TIMING PULLEYS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
5mm (XL)	**Ø12**	**PIN HUB**	Aluminum DIN 3.1355 Anodized	**Flex-E-Grip®**	Operates with Flex-E-Grip Belt 20TB Series



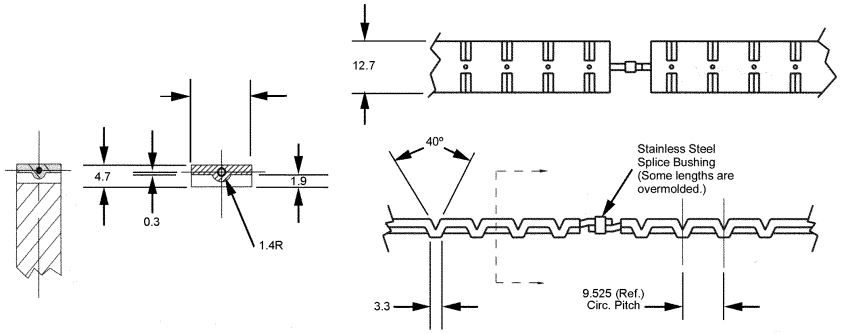
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
20TP112-12	12•	19.40	18.87
20TP112-14	14	22.64	22.12
20TP112-15	15	24.26	23.72
20TP112-16	16	25.87	25.35
20TP112-17	17	27.49	26.97
20TP112-18	18	29.11	28.58
20TP112-19	19	30.72	30.20
20TP112-20	20	32.34	31.83
20TP112-21	21	33.96	33.43
20TP112-22	22	35.57	35.05
20TP112-23	23	37.19	36.68
20TP112-24	24	38.81	38.28
20TP112-25	25	40.43	39.90
20TP112-27	27	43.66	43.13
20TP112-28	28	45.28	44.75
20TP112-29	29	46.89	46.38
20TP112-30	30	48.51	47.98
20TP112-32	32	51.74	51.23
20TP112-36	36	58.21	57.68
20TP112-40	40	64.68	64.16
20TP112-42	42	67.91	67.39
20TP112-44	44	71.15	70.64
20TP112-45	45	72.77	72.24
20TP112-48	48	77.62	77.09
20TP112-50	50	80.85	80.34
20TP112-60	60	97.02	96.49
20TP112-72	72	116.43	115.90

• For 12 teeth, hub diameter equals 17.4.
Other numbers of teeth available upon request.

Teeth could be anodized.

TIMING BELTS

CIRCULAR PITCH	BELT WIDTH	MATERIALS	BERG'S® NAME	PULLEY
9.525mm (L)	**12.7mm**	Polyurethane (Blue) 90A Duro 1.2mm Dia. Stainless Steel Cable*	**Flex-E-Grip®**	Operates with Flex-E-Grip 37TP series

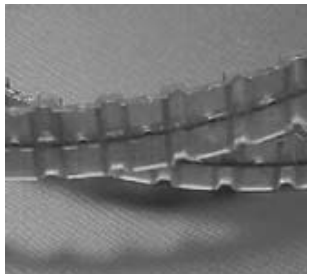


STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
37TB-20	20	190.5
37TB-22	22	209.5
37TB-24	24	228.6
37TB-26	26	247.6
37TB-28	28	266.7
37TB-30	30	285.7
37TB-33	33	314.3
37TB-36	36	342.9
37TB-40	40	381.0
37TB-45	45	428.6
37TB-50	50	476.2
37TB-56	56	533.4
37TB-60	60	571.5
37TB-64	64	609.6
37TB-68	68	647.7
37TB-72	72	685.8
37TB-80	80	765.0
37TB-86	86	819.1
37TB-92	92	876.3
37TB-98	98	933.4
37TB-100	100	952.5
37TB-104	104	990.6
37TB-108	108	1028.7
37TB-112	112	1066.8
37TB-116	116	1104.9
37TB-120	120	1143.0
37TB-124	124	1181.1
37TB-128	128	1219.2
37TB-132	132	1257.3
37TB-136	136	1295.4
37TB-140	140	1333.5
37TB-144	144	1371.6
37TB-148	148	1409.7
37TB-152	152	1447.8
37TB-156	156	1485.9
37TB-160	160	1524.0
37TB-176	176	1676.4

Aramid Core. Alternate construction available.

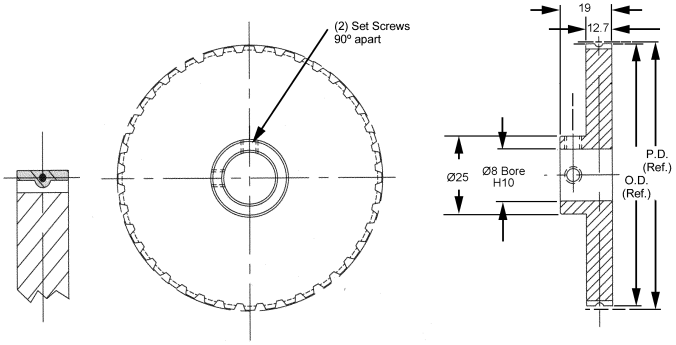
- No Flanges Required
- Infinite Lengths
- Silent Drive
- No-Walk Feature
- No Lubrication
- Mass 38 Grams/Meter
- Compact Design
- Positive Drive
- Light Weight
- Extra Strong
- Ultimate Tensile Strength 556N
- Temperature Range +82°C to -26°C
- Recommended Max. Operating Speed 1.91m/s
- For Field Splice Kit Order 37TB-7
- Splices are factory overmolded

BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
37TB-1.5M	1.5 METERS
37TB-3.0M	3.0 METERS
37TB-7.5M	7.5 METERS
37TB-15.0M	15.0 METERS
37TB-30.0M	30.0 METERS

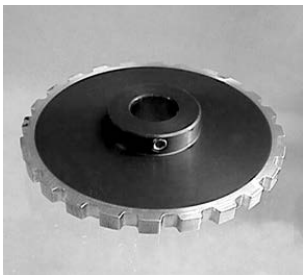


TIMING PULLEYS

CIR. PITCH	BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
9.525mm (L)	**Ø8**	**PIN HUB**	Aluminum DIN 3.1355 Anodized	**Flex-E-Grip®**	Operates with Flex-E-Grip Belt 37TB Series



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
37TP108-10	10*	30.32	29.57
37TP108-11	11*	33.35	32.59
37TP108-12	12	36.38	35.64
37TP108-13	13	39.42	38.66
37TP108-14	14	42.45	41.71
37TP108-15	15	45.48	44.73
37TP108-16	16	48.51	47.75
37TP108-17	17	51.54	50.80
37TP108-18	18	54.57	53.82
37TP108-19	19	57.61	56.87
37TP108-20	20	60.64	59.89
37TP108-21	21	63.67	62.92
37TP108-22	22	66.70	65.96
37TP108-24	24	72.77	72.01
37TP108-26	26	78.83	78.08
37TP108-28	28	84.89	84.15
37TP108-30	30	90.96	90.22
37TP108-32	32	97.02	96.27
37TP108-36	36	109.15	108.41

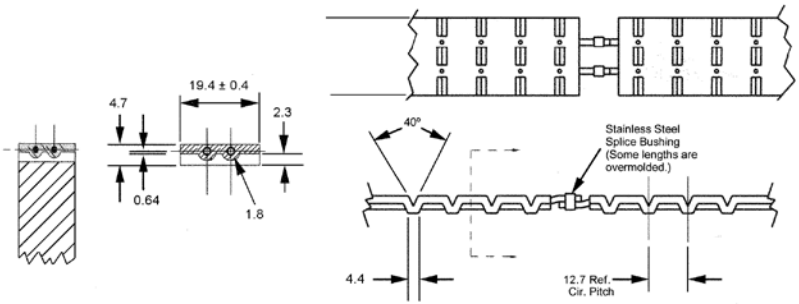


* Pulleys Ø35.0mm P.D. and smaller for idler use only.
Other numbers of teeth available upon request.

Teeth could be anodized.

TIMING BELTS

CIRCULAR PITCH	BELT WIDTH	MATERIALS	BERG'S® NAME	PULLEY
12.7mm (H)	**19.0mm**	Polyurethane (Green) 90A Duro 1.6mm Stainless Steel Cable	**Flex-E-Grip®**	Operates with Flex-E-Grip 50TP Series

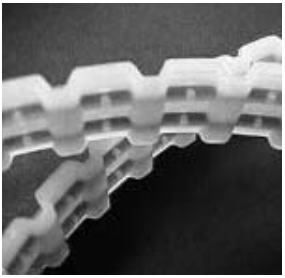


STOCK NO.	NO. OF PITCHES	LENGTH (Ref.)
50TB-32	32	406.4
50TB-36	36	457.2
50TB-40	40	508.0
50TB-44	44	558.8
50TB-48	48	609.6
50TB-50	50	635.0
50TB-54	54	685.8
50TB-56	56	711.2
50TB-60	60	762.0
50TB-64	64	812.8
50TB-66	66	838.2
50TB-70	70	889.0
50TB-72	72	914.4
50TB-75	75	952.5
50TB-78	78	990.6
50TB-80	80	1016.0
50TB-84	84	1066.8
50TB-88	88	1117.6
50TB-90	90	1143.0
50TB-96	96	1219.2
50TB-102	102	1295.4
50TB-108	108	1371.6
50TB-114	114	1447.8
50TB-120	120	1524.0
50TB-126	126	1600.2
50TB-132	132	1676.4
50TB-140	140	1778.0
50TB-150	150	1905.0
50TB-160	160	2032.0
50TB-170	170	2159.0
50TB-180	180	2286.0
50TB-190	190	2413.0
50TB-200	200	2540.0
50TB-225	225	2857.5
50TB-250	250	3175.0
50TB-275	275	3492.5
50TB-400	400	5080.0

- No Flanges Required
- Infinite Number of Lengths
- Silent Drive
- No-Walk Feature
- No Lubrication
- Compact Design
- Positive Drive
- Light Weight
- Extra Strong
- Mass 84 grams/meter
- 1.6mm Diameter Stainless Steel Cable
- Polyurethane (green)
- Hardness 90A Duro
- Tensile Strength 1335N
- Temperature Range +82°C to -54°C
- Recommended Max. Operating Speed 1.91 m/s
- For Field Splice Kit Order 50TB-7
- For reverse bend applications use chain with Aramid Cable Core

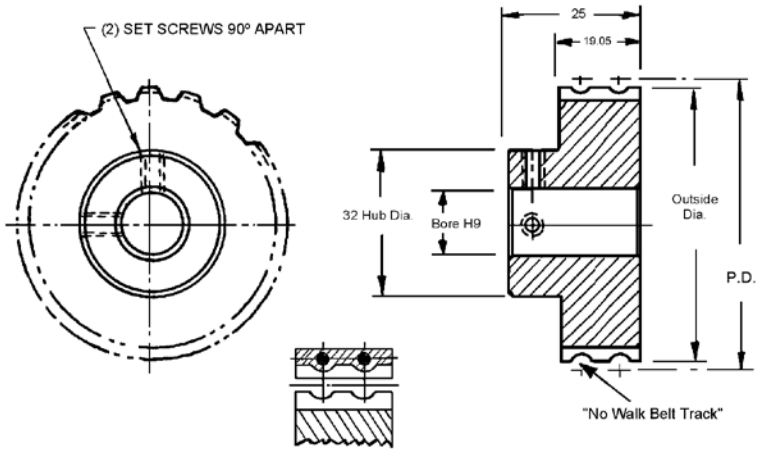
Special lengths available upon request.
Splices are factory overmolded.

BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
50TB-1.5M	1.5 Meters
50TB-3.0M	3.0 Meters
50TB-7.5M	7.5 Meters
50TB-15.0M	15.0 Meters
50TB-30.0M	30.0 Meters



TIMING PULLEYS

CIRCULAR PITCH	BORE	STYLE	MATERIALS	BERG'S® NAME	CHAIN
12.7mm (H)	**Ø10-16**	**PIN HUB**	Anodized Aluminum DIN 3.1355	**Flex-E-Grip®**	Operates with Flex-E-Grip 50TB Series



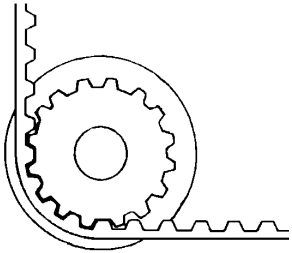
Ø10 BORE STOCK NO.	Ø12 BORE STOCK NO.	Ø16 BORE STOCK NO.	NO. OF GROOVES	PITCH DIA.	OUTSIDE DIA.
50TP110-10	50TP112-10	50TP116-10	10	40.43	39.09
50TP110-11	50TP112-11	50TP116-11	11	44.47	43.13
50TP110-12	50TP112-12	50TP116-12	12	48.51	47.17
50TP110-13	50TP112-13	50TP116-13	13	52.55	51.21
50TP110-14	50TP112-14	50TP116-14	14	56.60	55.27
50TP110-15	50TP112-15	50TP116-15	15	60.64	59.31
50TP110-16	50TP112-16	50TP116-16	16	64.68	63.35
50TP110-17	50TP112-17	50TP116-17	17	68.72	67.39
50TP110-18	50TP112-18	50TP116-18	18	72.77	71.42
50TP110-19	50TP112-19	50TP116-19	19	76.81	75.46
50TP110-20	50TP112-20	50TP116-20	20	80.85	79.53
50TP110-21	50TP112-21	50TP116-21	21	84.89	83.57
50TP110-22	50TP112-22	50TP116-22	22	88.94	87.60
50TP110-24	50TP112-24	50TP116-24	24	97.02	95.68
50TP110-26	50TP112-26	50TP116-26	26	105.11	103.78
50TP110-28	50TP112-28	50TP116-28	28	113.19	111.86
50TP110-30	50TP112-30	50TP116-30	30	121.28	119.94
50TP110-32	50TP112-32	50TP116-32	32	129.36	128.04

Other numbers of grooves available on request.

MAX-M-DRIVE® CABLE DRIVE CHAIN TECHNICAL DATA

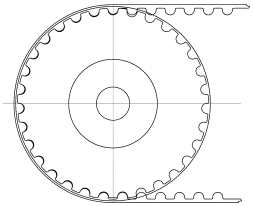
Operating Notes

Timing Belts also known as Synchronous Belts are basically flat belts with evenly spaced or pitched grooves. These grooves when matched with the grooves in the pulleys provide a positive no-slip engagement. These belts will not stretch and require no lubrication.



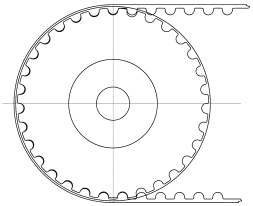
TB7 Series

- Trapezoidal Profile
- 2.03 Pitch
- Maximum Operating Speed 20,000 RPM
- Minimum Pulley Diameter 6.48 (10 grooves)
- Maximum Operating Tension 7N



TB3 Series

- HTD Profile
- 3mm Pitch
- Maximum Operating Tension 33N
- Maximum Operating Speed 20,000RPM
- Minimum Pulley Diameter 9.5mm (10 grooves)

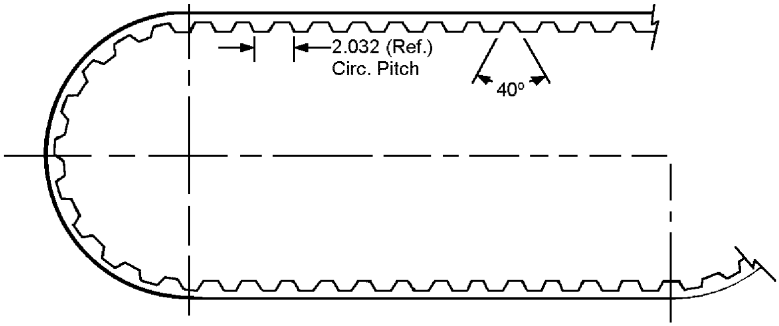


TB5 Series

- HTD Profile
- 5mm Pitch
- Maximum Operating Tension 145N
- Maximum Operating Speed 10,000RPM
- Minimum Pulley Diameter 17.5mm (11 grooves)

TIMING BELTS

CIRCULAR PITCH	BELT WIDTH	MATERIALS	BERG'S® NAME	PULLEY
2mm	**3mm**	Neoprene (Black) Fiberglass reinforced	**Max-M-Drive®**	Operates with TP7 Series

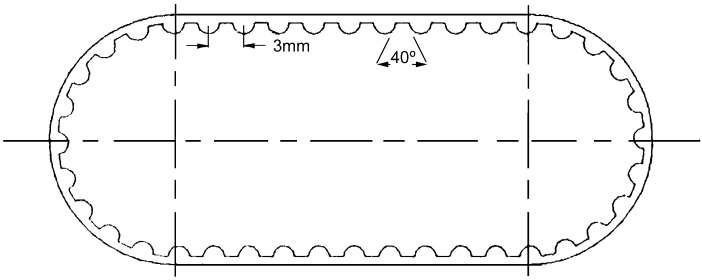


STOCK NO.	NO. OF GROOVES	LENGTH (Ref.)
TB7EF2-40	40	81.3
TB7EF2-42	42	85.3
TB7EF2-45	45	91.4
TB7EF2-50	50	101.6
TB7EF2-54	54	109.7
TB7EF2-55	55	111.8
TB7EF2-57	57	115.8
TB7EF2-60	60	121.9
TB7EF2-64	64	130.0
TB7EF2-67	67	136.1
TB7EF2-70	70	142.2
TB7EF2-73	73	148.3
TB7EF2-80	80	162.6
TB7EF2-90	90	182.9
TB7EF2-100	100	203.2
TB7EF2-105	105	213.4
TB7EF2-110	110	223.5
TB7EF2-120	120	243.8
TB7EF2-130	130	264.2
TB7EF2-150	150	304.8
TB7EF2-160	160	325.1
TB7EF2-170	170	345.4
TB7EF2-175	175	355.6
TB7EF2-190	190	386.1
TB7EF2-200	200	406.4
TB7EF2-225	225	457.2
TB7EF2-250	250	508.0
TB7EF2-300	300	609.6
TB7EF2-400	400	812.8

- High Ratios
- Allows use of small diameter pulleys
- High Speeds
- High Power Transmission
- Long Life
- Wear Resistant Nylon Facing
- Low Profile
- Quiet Operation
- Maximum speed up to 20,000 RPM
- Minimum pulley diameter 6.4 (10 grooves)
- Temperature Range +85°C to -34°C

TIMING BELTS

CIRCULAR PITCH	BELT WIDTH	MATERIALS	BERG'S® NAME	PULLEY
3mm (HTD)	**6mm**	Neoprene (Black) Fiberglass reinforced	**Max-M-Drive®**	Operates with TP3 Series

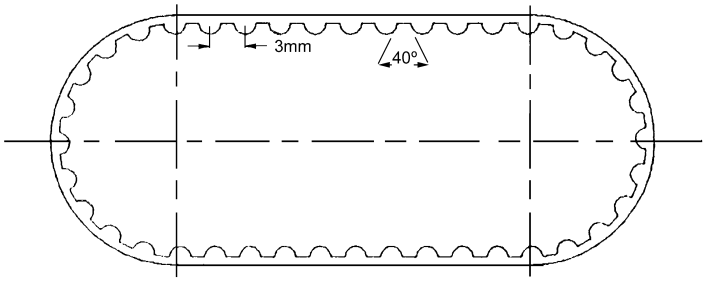


STOCK NO.	NO. OF GROOVES	LENGTH (Ref.)
TB3EF6M-48	48	144
TB3EF6M-49	49	147
TB3EF6M-50	50	150
TB3EF6M-53	53	159
TB3EF6M-59	59	177
TB3EF6M-67	67	201
TB3EF6M-70	70	210
TB3EF6M-71	71	213
TB3EF6M-75	75	225
TB3EF6M-84	84	252
TB3EF6M-85	85	255
TB3EF6M-88	88	264
TB3EF6M-89	89	267
TB3EF6M-92	92	276
TB3EF6M-95	95	285
TB3EF6M-96	96	288
TB3EF6M-99	99	297
TB3EF6M-100	100	300
TB3EF6M-104	104	312
TB3EF6M-106	106	318
TB3EF6M-111	111	333
TB3EF6M-113	113	339
TB3EF6M-119	119	357
TB3EF6M-121	121	363
TB3EF6M-128	128	384
TB3EF6M-130	130	390
TB3EF6M-140	140	420
TB3EF6M-149	149	447
TB3EF6M-153	153	459
TB3EF6M-158	158	474
TB3EF6M-162	162	486
TB3EF6M-163	163	489
TB3EF6M-171	171	513
TB3EF6M-179	179	537
TB3EF6M-188	188	564
TB3EF6M-211	211	633
TB3EF6M-237	237	711
TB3EF6M-294	294	882
TB3EF6M-315	315	945
TB3EF6M-369	369	1107
TB3EF6M-375	375	1125
TB3EF6M-415	415	1245
TB3EF6M-421	421	1263
TB3EF6M-500	500	1500

- High Ratios
- Allows use of small diameter pulleys
- High Speeds
- High Power Transmission
- Long Life
- Wear Resistant Nylon Facing
- Low Profile
- Quiet Operation
- Maximum speed up to 20,000 RPM
- Maximum Operating Tension 60N
- Minimum pulley diameter 9.5 (10 grooves)
- Temperature Range +85°C to -18°C

TIMING BELTS

CIRCULAR PITCH	BELT WIDTH	MATERIALS	BERG'S® NAME	PULLEY
3mm (HTD)	**9mm**	Neoprene (Black) Fiberglass reinforced	**Max-M-Drive®**	Operates with TP3 Series

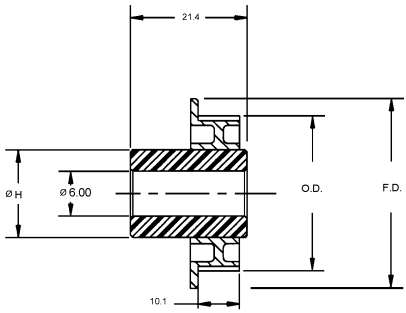


STOCK NO.	NO. OF GROOVES	LENGTH (Ref.)
TB3EF9M-48	48	144
TB3EF9M-49	49	147
TB3EF9M-50	50	150
TB3EF9M-53	53	159
TB3EF9M-56	56	168
TB3EF9M-59	59	177
TB3EF9M-67	67	201
TB3EF9M-70	70	210
TB3EF9M-71	71	213
TB3EF9M-75	75	225
TB3EF9M-80	80	240
TB3EF9M-84	84	252
TB3EF9M-85	85	255
TB3EF9M-88	88	264
TB3EF9M-89	89	267
TB3EF9M-90	90	270
TB3EF9M-92	92	276
TB3EF9M-95	95	285
TB3EF9M-96	96	288
TB3EF9M-99	99	297
TB3EF9M-100	100	300
TB3EF9M-104	104	312
TB3EF9M-106	106	318
TB3EF9M-111	111	333
TB3EF9M-113	113	339
TB3EF9M-119	119	357
TB3EF9M-121	121	363
TB3EF9M-128	128	384
TB3EF9M-130	130	390
TB3EF9M-140	140	420
TB3EF9M-145	145	435
TB3EF9M-149	149	447
TB3EF9M-153	153	459
TB3EF9M-155	155	465
TB3EF9M-158	158	474
TB3EF9M-162	162	486
TB3EF9M-163	163	489
TB3EF9M-171	171	513
TB3EF9M-179	179	537
TB3EF9M-188	188	564
TB3EF9M-199	199	597
TB3EF9M-211	211	633
TB3EF9M-223	223	669
TB3EF9M-237	237	711
TB3EF9M-251	251	753
TB3EF9M-294	294	882
TB3EF9M-315	315	945
TB3EF9M-369	369	1107
TB3EF9M-375	375	1125
TB3EF9M-415	415	1245
TB3EF9M-421	421	1263
TB3EF9M-500	500	1500

- High Ratios
- Allows use of small diameter pulleys
- High Speeds
- High Power Transmission
- Long Life
- Wear Resistant Nylon Facing
- Low Profile
- Quiet Operation
- Maximum speed up to 20,000 RPM
- Maximum Operating Tension 90N
- Minimum pulley diameter 9.5 (10 grooves)
- Temperature Range +85°C to -18°C

TIMING PULLEYS

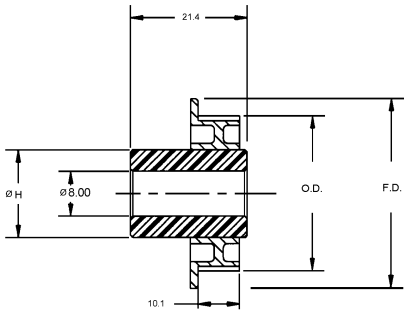
CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	**Single Flange Pin Hub**	**6mm to 9mm**	**6mm**	10% Glass Filled Polycarbonate (Black) Hub = Aluminum	**Max-M-Drive®**	Operates with TB3 Series



STOCK NO.	BORE +.04 -.00	NO. OF GROOVES	P.D.	O.D.	F.D.	ØH HUB DIA.
TP3P6U9M-24	6.00	24	22.92	22.16	25.9	19
TP3P6U9M-28		28	26.74	25.98	29.7	
TP3P6U9M-30		30	28.65	27.89	31.8	
TP3P6U9M-32		32	30.56	29.80	33.5	
TP3P6U9M-36		36	34.38	33.62	37.3	22
TP3P6U9M-40		40	38.20	37.44	41.1	
TP3P6U9M-48		48	45.84	45.07	48.8	
TP3P6U9M-50		50	47.7	46.98	50.8	

Other materials, bores and hub styles available on request.
Made solid without lightening grooves.

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	**Single Flange Pin Hub**	**6mm to 9mm**	**8mm**	10% Glass Filled Polycarbonate (Black) Hub = Aluminum	**Max-M-Drive®**	Operates with TB3 Series

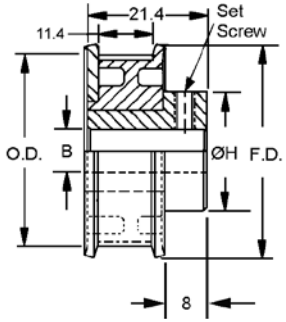


STOCK NO.	BORE +.04 -.00	NO. OF GROOVES	P.D.	O.D.	F.D.	ØH HUB DIA.
TP3P8U9M-60	8.00	60	57.30	56.53	60.2	22
TP3P8U9M-72		72	68.75	67.99	71.9	

Other materials, bores and hub styles available on request.
Made solid without lightening grooves available on request.

TIMING PULLEYS

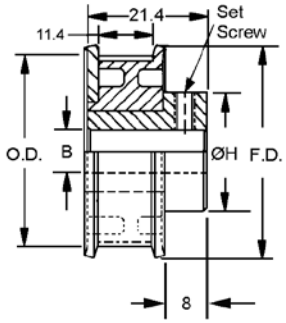
CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	**Double Flange Pin Hub**	**6mm to 9mm**	**4mm**	10% Glass Filled Polycarbonate (Black)	**Max-M-Drive®**	Operates with TB3 Series



STOCK NO.	BORE +.04 -.00	NO. OF GROOVES	P.D.	O.D.	F.D.	HUB DIA.
TP3P4W9M-14	4.00	14	13.37	12.61	16.0	17.5
TP3P4W9M-15		15	14.32	13.56	20.0	
TP3P4W9M-16		16	15.28	14.52	18.0	

Other materials, bores and hub styles available on request.
Made solid without lightening grooves available on request.

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	**Double Flange Pin Hub**	**6mm to 9mm**	**6.35mm**	10% Glass Filled Polycarbonate (Black) Aluminum Insert	**Max-M-Drive®**	Operates with TB3 Series

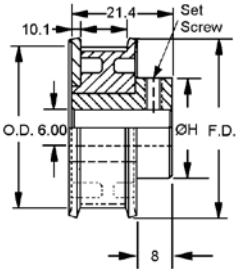


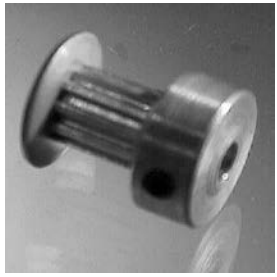
STOCK NO.	BORE +.04 -.00	NO. OF GROOVES	P.D.	O.D.	F.D.	HUB DIA.
TP3P4W9M-18	6.35	18	17.19	16.43	20.1	17.5
TP3P4W9M-20		20	19.10	18.34	22.6	
TP3P4W9M-22		22	21.01	20.25	23.9	

Other materials, bores and hub styles available on request.
Made solid without lightening grooves available on request.

TIMING PULLEYS

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	**Double Flange Pin Hub**	**6mm to 9mm**	**6mm**	10% Glass Filled Polycarbonate (Black) Aluminum Insert	**Max-M-Drive®**	Operates with TB3 Series

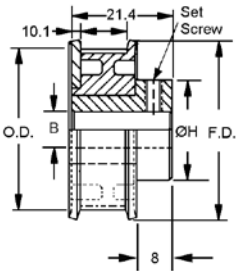


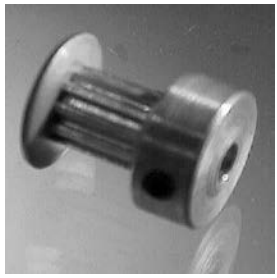


STOCK NO.	BORE +.04 -.00	NO. OF GROOVES	P.D.	O.D.	F.D.	HUB DIA.
TP3P6W9M-28	6.00	28	26.74	25.98	29.7	19
TP3P6W9M-30		30	28.65	27.89	31.8	
TP3P6W9M-32		32	30.56	29.80	33.5	
TP3P6W9M-36		36	34.38	33.62	37.3	22
TP3P6W9M-40		40	38.20	37.44	41.1	
TP3P6W9M-42		42	40.11	39.35	43.2	
TP3P6W9M-48		48	45.84	45.07	48.8	
TP3P6W9M-50		50	47.75	46.98	50.8	

Other materials, bores and hub styles available on request.
Made solid without lightening grooves.

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	**Double Flange Pin Hub**	**6mm to 9mm**	**8mm**	10% Glass Filled Polycarbonate (Black) Aluminum Insert	**Max-M-Drive®**	Operates with TB3 Series





STOCK NO.	BORE +.04 -.00	NO. OF GROOVES	P.D.	O.D.	F.D.	HUB DIA.
TP3P8W9M-60	8.00	60	57.30	56.53	60.2	22
TP3P8W9M-72		72	68.75	67.99	71.9	

Other materials, bores and hub styles available on request.
Made solid without lightening grooves.

TIMING PULLEYS

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	**Double Flange Pin Hub**	**6mm to 9mm**	**3.00**	Aluminum Alloy Din 3.1355 Anodized	**Max-M-Drive®**	Operates with Max-M-Drive® TB3 series.

STOCK NO.	NO. OF GROOVES	ØP.D	ØF.D. ±0.4	A ±0.4	Ø H ±0.3	Ø B +.03/-.00	ØO.D.
TP3A3W9M-10	10	9.5	12.8	17.3	12.8	3.0	8.8
TP3A3W9M-11	11	10.5	13.4	17.3	13.4	3.0	9.7

Other numbers of grooves, bores or hub styles available on request.

Supplied with 1 set screw.

Teeth could be anodized.

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	**Double Flange Pin Hub**	**6mm to 9mm**	**4.00**	Aluminum Alloy Din 3.1355 Anodized	**Max-M-Drive®**	Operates with Max-M-Drive® TB3 series.

STOCK NO.	NO. OF GROOVES	ØP.D	ØF.D. ±0.4	A ±0.4	Ø H ±0.3	Ø B +.03/-.00	ØO.D.
TP3A4W9M-12	12	11.5	14.7	17.3	14.7	4.0	10.7

Other numbers of grooves, bores or hub styles available on request.

Supplied with 1 set screw.

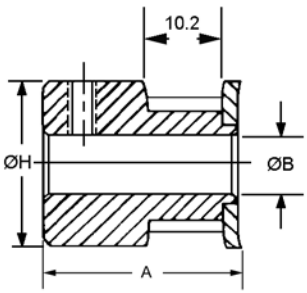
CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	**Double Flange Pin Hub**	**6mm to 9mm**	**6.00**	Aluminum Alloy Din 3.1355 Anodized	**Max-M-Drive®**	Operates with Max-M-Drive® TB3 series.

STOCK NO.	NO. OF GROOVES	ØP.D	ØF.D. ±0.4	A ±0.4	Ø H ±0.3	Ø B +.03/-.00	ØO.D.
TP3A6W9M-14	14	13.4	16.1	17.6	16.1	6.0	12.6
TP3A6W9M-15	15	14.3	17.4	17.6	17.4	6.0	13.6
TP3A6W9M-16	16	15.3	18.0	17.6	18.0	6.0	14.5

Other numbers of grooves, bores or hub styles available on request.

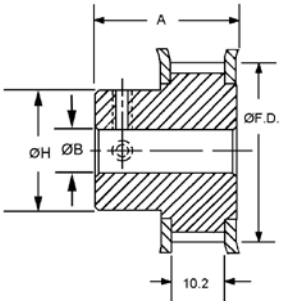
Supplied with 1 set screw.

Teeth could be anodized.



TIMING PULLEYS

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	**Double Flange Pin Hub**	**6mm to 9mm**	**6.00**	Aluminum Alloy Din 3.1355 Anodized	**Max-M-Drive®**	Operates with Max-M-Drive® TB3 series.



STOCK NO.	NO. OF GROOVES	ØP.D.	ØF.D. ±0.4	A ±0.4	Ø H ±0.3	Ø B +.03/-.00	ØO.D.
TP3A6W9M-18	18	17.2	20.1	20.8	11.2	6.0	16.4
TP3A6W9M-20	20	19.1	22.7	20.8	12.7	6.0	18.3
TP3A6W9M-22	22	21.0	24.0	20.8	14.3	6.0	20.2
TP3A6W9M-24	24	22.9	26.0	20.8	15.9	6.0	22.2
TP3A6W9M-28	28	26.7	29.8	20.8	17.8	6.0	26.0
TP3A6W9M-30	30	28.6	31.8	20.8	19.7	6.0	27.9
TP3A6W9M-32	32	30.6	33.6	20.8	21.6	6.0	29.8
TP3A6W9M-36	36	34.4	37.4	21.2	25.4	6.0	33.6
TP3A6W9M-40	40	38.2	41.3	21.2	29.2	6.0	37.4
TP3A6W9M-44	44	42.0	45.1	21.2	33.0	6.0	41.3

Other numbers of grooves, bores or hub styles available on request.

Supplied with 2 set screws.

Teeth could be anodized.

TIMING PULLEYS

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	Single Flange Pin Hub	6mm to 9mm	4.00	Polycarbonate Lexan® with Fiberglass Reinforcement 94 V-O UL Rated	Max-M-Drive®	Operates with Max-M-Drive® TB3 series.

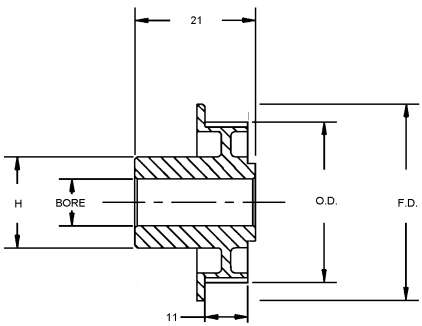
STOCK NO.	NO. OF GROOVES	O.D.	P.D.	F.D.	B +.036/-.000	H
TP3L4U9M-17	17	15.4	16.2	22	4	17
TP3L4U9M-18	18	16.4	17.2	24		
TP3L4U9M-19	19	17.4	18.2	24		
TP3L4U9M-20	20	18.3	19.1	24		
TP3L4U9M-22	22	20.2	21.0	27		

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	Single Flange Pin Hub	6mm to 9mm	6.00	Polycarbonate Lexan® with Fiberglass Reinforcement 94 V-O UL Rated	Max-M-Drive®	Operates with Max-M-Drive® TB3 series.

STOCK NO.	NO. OF GROOVES	O.D.	P.D.	F.D.	B +.036/-.000	H
TP3L4U9M-25	25	23.1	23.9	30	6	19
TP3L6U9M-28	28	26.0	26.8	32		
TP3L6U9M-32	32	29.8	30.6	32		
TP3L6U9M-36	36	33.6	34.4	40	6	22
TP3L6U9M-40	40	37.4	38.2	45		
TP3L6U9M-48	48	45.0	45.8	51		

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	Single Flange Pin Hub	6mm to 9mm	8.00	Polycarbonate Lexan® with Fiberglass Reinforcement 94 V-O UL Rated	Max-M-Drive®	Operates with Max-M-Drive® TB3 series.

STOCK NO.	NO. OF GROOVES	O.D.	P.D.	F.D.	B +.036/-.000	H
TP3L8U9M-60	60	56.5	57.3	63	8	22
TP3L8U9M-72	72	68.0	68.8	74		
TP3L8U9M-80	80	75.6	76.4	84		



All flanges 1/16" thick.

One or two set screws are optional.

Lexan® Material Specs:
Tensile Strength (PSI) 16,000
Compressive Strength (PSI) 16,000
Flexural Strength (PSI) 19,000
Impact (ft.-lbs./in. notch) 2.0
Water Absorption (24 hrs.) Equilibrium 73% 0.29%

Examples of specials:
a. Bores: D shaped, key slots, square or spline.
b. Face widths other than standard.
c. Hubless or hub diameters other than standard.
d. Aluminum, brass or stainless steel inserts thru bore with pulley overmolded.
e. Non-standard bores including metric bores are available upon request.

TIMING PULLEYS

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	Double Flange Pin Hub	6mm to 9mm	4.00	Polycarbonate Lexan® with Fiberglass Reinforcement 94 V-O UL Rated	Max-M-Drive®	Operates with Max-M-Drive® TB3 series.

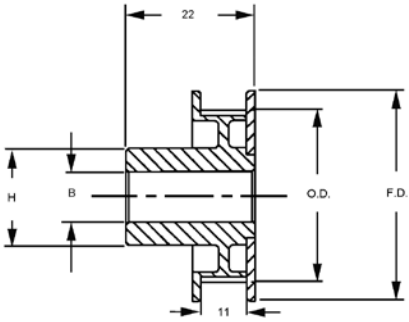
STOCK NO.	NO. OF GROOVES	O.D.	P.D.	F.D.	B +.036/-.000	H
TP3L4W9M-17	17	15.4	16.2	22	4	17
TP3L4W9M-18	18	16.4	17.2	24	4	17
TP3L4W9M-19	19	17.4	18.2	24	4	17
TP3L4W9M-20	20	18.3	19.1	24	4	17
TP3L4W9M-22	22	20.2	21.0	27	4	17

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	Double Flange Pin Hub	6mm to 9mm	6.00	Polycarbonate Lexan® with Fiberglass Reinforcement 94 V-O UL Rated	Max-M-Drive®	Operates with Max-M-Drive® TB3 series.

STOCK NO.	NO. OF GROOVES	O.D.	P.D.	F.D.	B +.036/-.000	H
TP3L4W9M-25	25	23.1	23.9	30	6	19
TP3L6W9M-28	28	26.0	26.8	32	6	19
TP3L6W9M-32	32	29.8	30.6	32	6	19
TP3L6W9M-36	36	33.6	34.4	40	6	22
TP3L6W9M-48	48	45.0	45.8	51	6	22

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
3mm (HTD)	Double Flange Pin Hub	6mm to 9mm	8.00	Polycarbonate Lexan® with Fiberglass Reinforcement 94 V-O UL Rated	Max-M-Drive®	Operates with Max-M-Drive® TB3 series.

STOCK NO.	NO. OF GROOVES	O.D.	P.D.	F.D.	B +.036/-.000	H
TP3L8W9M-60	60	56.5	57.3	63	8	22
TP3L8W9M-72	72	68.0	68.8	74	8	22
TP3L8W9M-80	80	75.6	76.4	84	8	22



All flanges 1/16" thick.

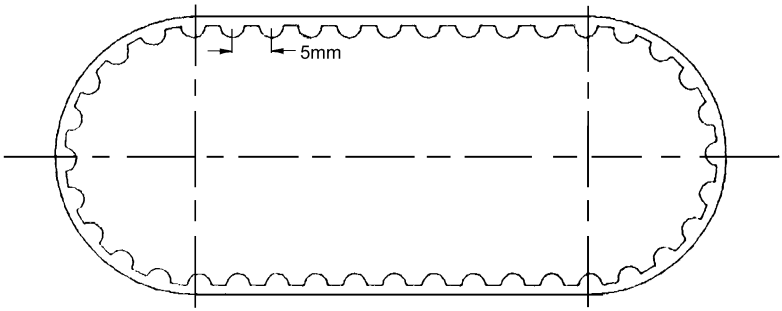
One or two set screws are optional.

Lexan® Material Specs:
Tensile Strength (PSI) 16,000
Compressive Strength (PSI) 16,000
Flexural Strength (PSI) 19,000
Impact (ft.-lbs./in. notch) 2.0
Water Absorption (24 hrs.) Equilibrium 73% 0.29%

Examples of specials:
a. Bores: D shaped, key slots, square or spline.
b. Face widths other than standard.
c. Hubless or hub diameters other than standard.
d. Aluminum, brass or stainless steel inserts thru bore with pulley overmolded.
e. Non-standard bores including metric bores are available upon request.

TIMING BELTS

CIRCULAR PITCH	BELT WIDTH	MATERIALS	BERG'S® NAME	PULLEY
5mm (HTD)	**6mm**	Neoprene (Black) Fiberglass reinforced	**Max-M-Drive®**	Operates with TP5 Series

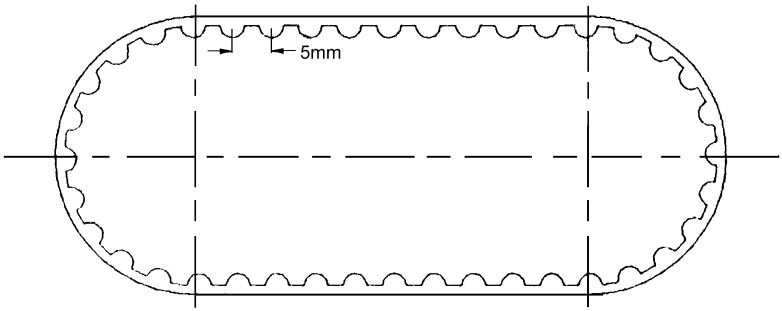


STOCK NO.	NO. OF GROOVES	PITCH LENGTH
TB5EF6M-64	64	320
TB5EF6M-70	70	350
TB5EF6M-75	75	375
TB5EF6M-80	80	400
TB5EF6M-85	85	425
TB5EF6M-90	90	450
TB5EF6M-100	100	500
TB5EF6M-104	104	520
TB5EF6M-107	107	535
TB5EF6M-113	113	565
TB5EF6M-120	120	600
TB5EF6M-127	127	635
TB5EF6M-133	133	665
TB5EF6M-142	142	710
TB5EF6M-148	148	740
TB5EF6M-160	160	800
TB5EF6M-166	166	830
TB5EF6M-178	178	890
TB5EF6M-185	185	925
TB5EF6M-190	190	950
TB5EF6M-200	200	1000
TB5EF6M-210	210	1050
TB5EF6M-225	225	1125
TB5EF6M-254	254	1270
TB5EF6M-284	284	1420
TB5EF6M-319	319	1595
TB5EF6M-358	358	1790
TB5EF6M-360	360	1800
TB5EF6M-379	379	1895
TB5EF6M-400	400	2000
TB5EF6M-505	505	2525

- Large Ratios
- Allows use of small diameter pulleys
- High Speeds
- High Power Transmission
- Long Life
- Wear resistant Nylon facing
- Low Profile
- Quiet operation
- Maximum speed up to 10,000 RPM
- Maximum operating tension 105N
- Minimum pulley diameter 17.5mm (11 grooves)
- Temperature Range +85°C to -34°C

TIMING BELTS

CIRCULAR PITCH	BELT WIDTH	MATERIALS	BERG'S® NAME	PULLEY
5mm (HTD)	**9mm**	Neoprene (Black) Fiberglass reinforced	**Max-M-Drive®**	Operates with TP5 Series



STOCK NO.	NO. OF GROOVES	PITCH LENGTH
TB5EF9M-33	33	165
TB5EF9M-37	37	185
TB5EF9M-40	40	200
TB5EF9M-45	45	225
TB5EF9M-52	52	260
TB5EF9M-54	54	270
TB5EF9M-55	55	275
TB5EF9M-56	56	280
TB5EF9M-60	60	300
TB5EF9M-64	64	320
TB5EF9M-65	65	325
TB5EF9M-66	66	330
TB5EF9M-68	68	340
TB5EF9M-70	70	350
TB5EF9M-72	72	360
TB5EF9M-75	75	375
TB5EF9M-80	80	400
TB5EF9M-85	85	425
TB5EF9M-90	90	450
TB5EF9M-100	100	500
TB5EF9M-104	104	520
TB5EF9M-107	107	535
TB5EF9M-113	113	565
TB5EF9M-120	120	600
TB5EF9M-127	127	635
TB5EF9M-133	133	665
TB5EF9M-142	142	710
TB5EF9M-148	148	740
TB5EF9M-160	160	800
TB5EF9M-166	166	830
TB5EF9M-178	178	890
TB5EF9M-185	185	925
TB5EF9M-190	190	950
TB5EF9M-200	200	1000
TB5EF9M-210	210	1050
TB5EF9M-225	225	1125
TB5EF9M-254	254	1270
TB5EF9M-284	284	1420
TB5EF9M-319	319	1595
TB5EF9M-358	358	1790
TB5EF9M-360	360	1800
TB5EF9M-379	379	1895
TB5EF9M-400	400	2000
TB5EF9M-505	505	2525

- Large Ratios
- Allows use of small diameter pulleys
- High Speeds
- High Power Transmission
- Long Life
- Wear resistant Nylon facing
- Low Profile
- Quiet operation
- Maximum speed up to 10,000 RPM
- Maximum operating tension 155N
- Minimum pulley diameter 17.5mm (11 grooves)
- Temperature Range +85°C to -34°C

TIMING PULLEYS

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
5mm (HTD)	**Double Flange Pin Hub**	**6mm to 9mm**	**4.00**	10% Glass filled Polycarbonate (Black) Hub = Aluminum	**Max-M-Drive®**	Operates with Max-M-Drive® TB5 series.

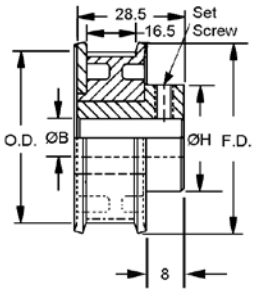
STOCK NO.	B +0.04	NO. OF GROOVES	P.D.	O.D.	F.D.	øH
TP5P4W9M-14	4.00	14	22.28	21.14	25.40	15

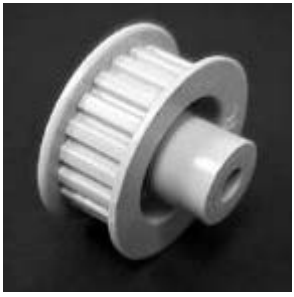
Other numbers of grooves, bores or hub styles available on request.

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
5mm (HTD)	**Double Flange Pin Hub**	**6mm to 9mm**	**6.00**	10% Glass filled Polycarbonate (Black) Hub = Aluminum	**Max-M-Drive®**	Operates with Max-M-Drive® TB5 series.

STOCK NO.	B +0.04	NO. OF GROOVES	P.D.	O.D.	F.D.	øH
TP5P6W9M-15	6.00	15	23.87	22.73	26.90	22
TP5P6W9M-16		16	25.46	24.32	27.70	
TP5P6W9M-18		18	28.65	27.50	31.80	32
TP5P6W9M-19		19	30.24	29.10	33.30	
TP5P6W9M-20		20	31.83	30.69	34.80	
TP5P6W9M-22		22	35.01	33.87	38.10	
TP5P6W9M-28		28	44.55	43.42	47.50	
TP5P6W9M-30		30	47.75	46.60	50.80	

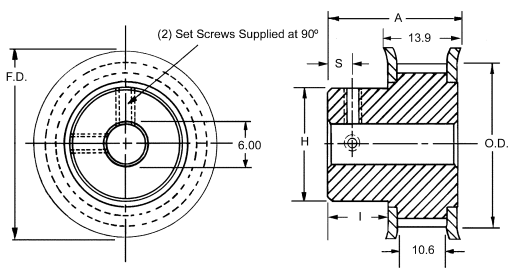
Other numbers of grooves, bores or hub styles available on request.





TIMING PULLEYS

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
5mm (HTD)	**Double Flange Pin Hub**	**6mm to 9mm**	**6.00**	Aluminum DIN 3.1355 Anodized	**Max-M-Drive®**	Operates with Max-M-Drive® TB5 series.

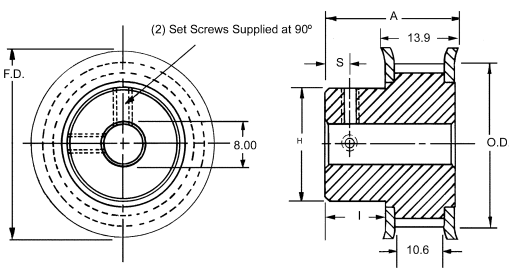


STOCK NO.	NO. OF GROOVES	P.D.	F.D.	A	H	BORE +0.04/-0.00	O.D.	I	S
TP5A6W9M-12	12*	19.1	22.2	20.1	11.1	6.0	18.0	6.3	3.2
TP5A6W9M-13	13*	20.7	23.8		12.7		19.5		
TP5A6W9M-14	14	22.3	25.0		12.7		21.1		
TP5A6W9M-15	15	23.9	27.0		14.3		22.7		
TP5A6W9M-16	16	25.5	27.8		15.9		24.3		

* One set screw supplied.
Other numbers of grooves, bores or hub styles available on request.

Teeth could be anodized.

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
5mm (HTD)	**Double Flange Pin Hub**	**6mm to 9mm**	**8.00**	Aluminum DIN 3.1355 Anodized	**Max-M-Drive®**	Operates with Max-M-Drive® TB5 series.



STOCK NO.	NO. OF GROOVES	P.D.	F.D.	A	H	BORE +0.04/-0.00	O.D.	I	S
TP5A8W9M-18	18	28.6	31.8	21.6	17.5	8.0	27.5	6.3	3.2
TP5A8W9M-20	20	31.8	34.9		20.6		30.7		
TP5A8W9M-22	22	35.0	38.1		23.8		33.9		
TP5A8W9M-24	24	38.2	41.3		25.0		37.1	7.9	4.0
TP5A8W9M-26	26	41.4	44.5		27.0		40.2		
TP5A8W9M-28	28	44.6	47.6		30.2		43.4		
TP5A8W9M-30	30	47.7	50.8		30.2		46.6		

Other numbers of grooves, bores or hub styles available on request.

Teeth could be anodized.

TIMING PULLEYS

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
5mm (HTD)	**Single Flange Pin Hub**	**6mm to 9mm**	**4.00**	Polycarbonate Lexan® with a fiberglass reinforced	**Max-M-Drive®**	Operates with Max-M-Drive® TB5 series.

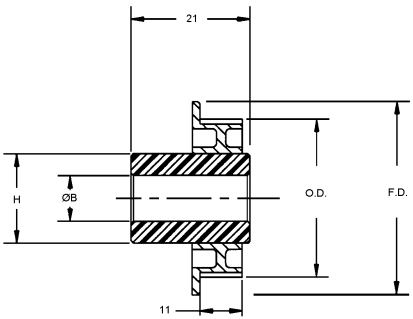
STOCK NO.	NO. OF GROOVES	O.D.	P.D.	F.D	B +.036/-.000	H
TP5L4U9M-11	11	16.4	17.5	22	4	17
TP5L4U9M-12	12	18.0	19.1	24		
TP5L4U9M-13	13	19.6	20.7	25		
TP5L4U9M-14	14	21.1	22.2	27		

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
5mm (HTD)	**Single Flange Pin Hub**	**6mm to 9mm**	**6.00**	Polycarbonate Lexan® with a fiberglass reinforced	**Max-M-Drive®**	Operates with Max-M-Drive® TB5 series.

STOCK NO.	NO. OF GROOVES	O.D.	P.D.	F.D	B +.036/-.000	H
TP5L6U9M-15	15	22.7	23.8	30	6	19
TP5L6U9M-16	16	24.3	25.4	30		
TP5L6U9M-17	17	25.9	27.0	32		
TP5L6U9M-18	18	27.5	28.6	33		
TP5L6U9M-19	19	29.1	30.2	35		
TP5L6U9M-20	20	30.7	31.8	37		
TP5L6U9M-22	22	33.9	35.0	40		22
TP5L6U9M-25	27	38.7	39.8	45		
TP5L6U9M-28	28	43.4	44.5	50		
TP5L6U9M-29	29	45.0	46.1	51		
TP5L6U9M-30	30	46.6	47.7	53		

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
5mm (HTD)	**Single Flange Pin Hub**	**6mm to 9mm**	**8.00**	Polycarbonate Lexan® with a fiberglass reinforced	**Max-M-Drive®**	Operates with Max-M-Drive® TB5 series.

STOCK NO.	NO. OF GROOVES	O.D.	P.D.	F.D	B +.036/-.000	H
TP5L8U9M-40	40	62.5	63.6	69	8	22
TP5L8U9M-50	50	78.4	79.5	84		



TIMING PULLEYS

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
5mm (HTD)	**Double Flange Pin Hub**	**6mm to 9mm**	**4.00**	Polycarbonate Lexan® with a fiberglass reinforced	**Max-M-Drive®**	Operates with Max-M-Drive® TB5 series.

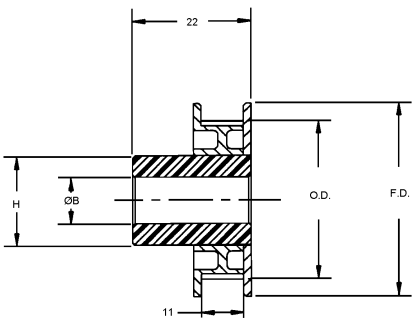
STOCK NO.	NO. OF GROOVES	O.D.	P.D.	F.D	B +.036/-.000	H
TP5L4W9M-11	11	16.4	17.5	22	4	17
TP5L4W9M-12	12	18.0	19.1	24		
TP5L4W9M-13	13	19.6	20.7	25		
TP5L4W9M-14	14	21.1	22.2	27		

CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
5mm (HTD)	**Double Flange Pin Hub**	**6mm to 9mm**	**6.00**	Polycarbonate Lexan® with a fiberglass reinforced	**Max-M-Drive®**	Operates with Max-M-Drive® TB5 series.

STOCK NO.	NO. OF GROOVES	O.D.	P.D.	F.D	B +.036/-.000	H
TP5L6W9M-15	15	22.7	23.8	30	6	19
TP5L6W9M-16	16	24.3	25.4	30		
TP5L6W9M-17	17	25.9	27.0	32		
TP5L6W9M-18	18	27.5	28.6	33		
TP5L6W9M-19	19	29.1	30.2	35		
TP5L6W9M-20	20	30.7	31.8	37		
TP5L6W9M-22	22	33.9	35.0	40		22
TP5L6W9M-25	27	38.7	39.8	45		
TP5L6W9M-28	28	43.4	44.5	50		
TP5L6W9M-29	29	45.0	46.1	51		
TP5L6W9M-30	30	46.6	47.7	53		

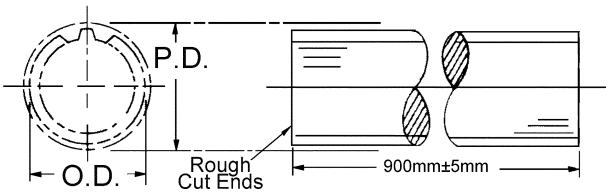
CIRCULAR PITCH	STYLE	BELT WIDTH	BORE	MATERIALS	BERG'S® NAME	BELT
5mm (HTD)	**Double Flange Pin Hub**	**6mm to 9mm**	**8.00**	Polycarbonate Lexan® with a fiberglass reinforced	**Max-M-Drive®**	Operates with Max-M-Drive® TB5 series.

STOCK NO.	NO. OF GROOVES	O.D.	P.D.	F.D	B +.036/-.000	H
TP5L8W9M-40	40	62.5	63.6	69	8	22
TP5L8W9M-50	50	78.4	79.5	84		



TIMING PULLEY BAR STOCKS

CIRCULAR PITCH	STYLE	MATERIAL	BERG'S® NAME	BELT
2.032mm (MXL)	**Barstock**	**6063-T6 Aluminum**	**Max-M-Drive®**	Operates with TB7 series.



Material: 6063-T6 Aluminum
Fabricate your own pulleys.
W.M. Berg will fabricate custom orders, send us your print.
Available in custom lengths.
Teeth could be anodized.

2.032 CIRCULAR PITCH (MXL)

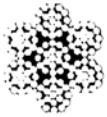
STOCK NO.	NO. OF GROOVES	P.D.	O.D.
PW7TA-10	10	6.48	5.97
PW7TA-12	12	7.77	7.26
PW7TA-14	14	9.07	8.56
PW7TA-20	20	12.93	12.42
PW7TA-28	28	18.11	17.60
PW7TA-30	30	19.41	18.90
PW7TA-34	34	22.00	21.49
PW7TA-36	36	23.29	22.78
PW7TA-38	38	25.04	24.08
PW7TA-40	40	25.88	25.37
PW7TA-42	42	27.18	26.67
PW7TA-44	44	28.45	27.94
PW7TA-45	45	29.11	28.60
PW7TA-50	50	32.33	31.83

POW-R-VEE® BELTS

A New Concept in V-Belt Drives

Advantages

Cable Design

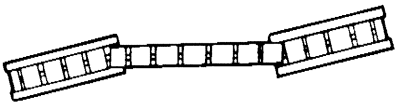


- Completely Non Corrosive
- Stainless Steel Cable Core Allows Maximum Strength.
- Lighter Weight
- Single Strand Cable Core Permits Complete Flexibility
- Power is Transferred Along The Pitch Line For Minimum Transmission Loss
- Can Be Spliced On Machine For Minimum Down Time
- Damaged Sections Can Be Replaced
- InfinIte Lengths Are Available

Flexible Sidewall

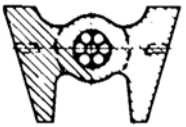
- Can Be Used With Pulleys Of Any Angle
- Inherent Locking Action Offers A More Positive, Non Slip Drive & Allows For Tension On The Belt & Pulleys

Flexible Design



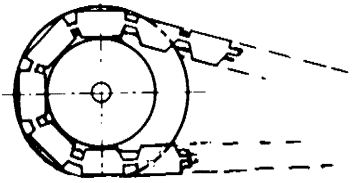
- Permits Odd Angle & Three Dimensional Drives
- Compensates For Misalignment
- Prevents “Turn Over” & “Lift Off”

Materials



- The Combination Of Engineered Plastics & Stainless Steel Cable Offers High Heat Resistance, Smoother Operation, Light Weight, Less Inertia & Vibration.
- Pow-R-Vee Can Be Molded In Any Color For Sales Appeal

Cog Design



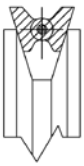
- No Stretch Or Compression Of Belt- Results In Less Fatigue, Longer Life, More Flexibility
- Segmented, Cog Design Permits Smaller Pulley Diameters, Larger Ratios, More Compact Design and Most Importantly Provides Positive Gripping at All Times.

POW-R-VEE® BELT TECHNICAL DATA

Operating Notes:
Due to the unique design of polyurethane molded over a stainless steel cable, this series offers high heat resistance, smooth operation, light weight, and less inertia. Because the design is cogged it allows for smaller pulley diameters and compensates for misalignment of pulleys by permitting an angle (7Þ maximum misalignment). The design also allows for the belt to be spliced to any length, (either in the field or at Berg) thus allowing belts to be replaced quickly.

2V Series

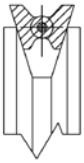
- Mass 20 Grams/Meter
- 0.8mm Diameter Stainless Steel Cable



- 90A Durometer Polyurethane (Brown)
- Ultimate Tensile Strength 222N
- Recommended Operating Load 53N
- Recommended Maximum Operating Speed 1.91 m/s
- Temperature Range +82ÞC to -26ÞC

3V Series

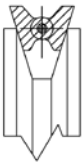
- Mass 55 Grams/Meter
- 1.2mm Diameter Stainless Steel Cable



- 90A Durometer Polyurethane (Brown)
- Ultimate Tensile Strength 555N
- Recommended Operating Load 133N
- Recommended Maximum Operating Speed 1.91m/s
- Temperature Range +82ÞC to -26ÞC

4V Series

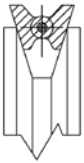
- Mass 102 Grams/Meter
- 1.6mm Diameter Stainless Steel Cable



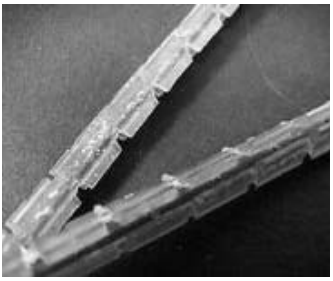
- 90A Durometer Polyurethane (Brown)
- Ultimate Tensile Strength 880N
- Recommended Operating Load 133N
- Recommended Maximum Operating Speed 1.91m/s
- Temperature Range +82ÞC to -26ÞC

5V Series

- Mass 130 Grams/Meter
- 2.0mm Diameter Stainless Steel Cable

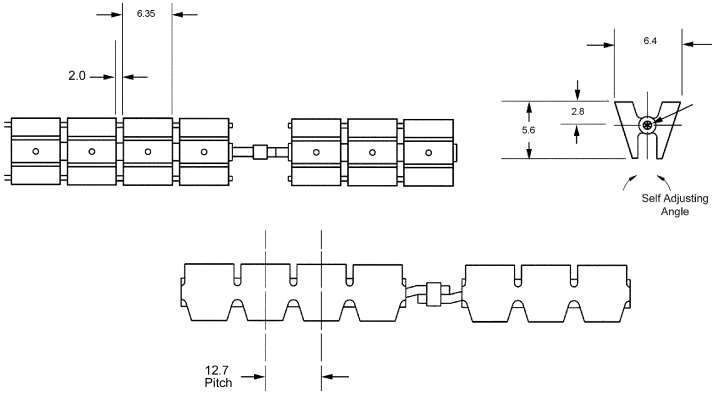


- 90A Durometer Polyurethane (Brown)
- Ultimate Tensile Strength 1550N
- Recommended Operating Load 378N
- Recommended Maximum Operating Speed 1.91m/s
- Temperature Range +82ÞC to -26ÞC

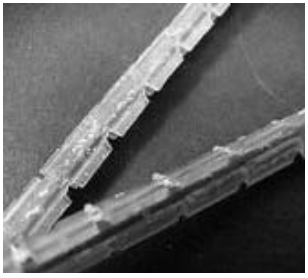


V-BELTS

SERIES	WIDTH	HEIGHT	MATERIAL	BERG'S® NAME	PULLEY
2V	6.4	5.6	Polyurethane (Brown) with 0.8mm Dia. Stainless Steel Cable	POW-R-VEE®	Operates with Pow-R-Vee 2V Series



- More sidewall contact
- Less slippage
- Greater power transmission
- Infinite length variations
- Extra strong
- Light weight
- Silent drive
- 90A Durometer
- Mass 20 Grams/Meter
- Ultimate Tensile Strength 222N
- Temperature Range +82°C to -26°C
- Recommended Operating Load 53N
- Recommended Max. Operating Speed 1.91 m/s
- For Field Splice Order 2V-7.

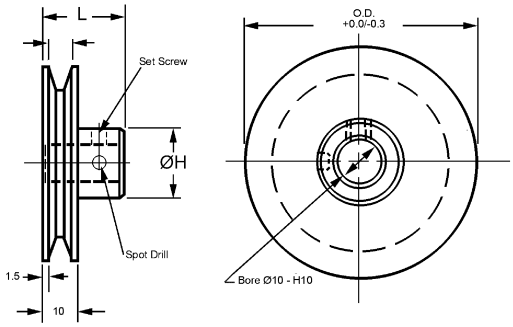


BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
2V-1.5M	1.5 Meters
2V-3.0M	3.0 Meters
2V-7.5m	7.5 Meters
2V-15.0M	15.0 Meters
2V-30.0M	30.0 Meters

STOCK NO.	LENGTH (Ref.)
2V-16	152.4
2V-18	171.5
2V-20	190.5
2V-22	209.6
2V-24	228.6
2V-26	247.7
2V-28	266.7
2V-30	285.6
2V-32	304.8
2V-34	323.9
2V-36	342.9
2V-38	362.0
2V-40	381.0
2V-42	400.1
2V-44	419.1
2V-46	438.2
2V-48	457.2
2V-50	476.3
2V-52	495.3
2V-54	514.4
2V-56	533.4
2V-58	552.5
2V-60	571.5
2V-62	590.6
2V-64	609.6
2V-66	628.7
2V-68	647.7
2V-70	666.8
2V-72	685.8
2V-74	704.9
2V-76	723.9
2V-78	743.0
2V-80	762.0
2V-82	781.1
2V-84	800.1
2V-86	819.2
2V-88	838.2
2V-90	857.3
2V-92	876.3
2V-94	895.4
2V-96	914.4
2V-98	933.5
2V-100	952.5
2V-102	971.6
2V-104	990.6
2V-106	1009.7
2V-108	1028.7
2V-110	1047.8
2V-112	1066.8
2V-114	1085.9
2V-116	1104.9
2V-118	1124.0
2V-120	1143.0
2V-122	1162.1
2V-124	1181.1
2V-126	1200.2
2V-128	1219.2
2V-130	1238.3
2V-132	1257.3
2V-134	1276.4
2V-136	1295.4
2V-140	1333.5

V-BELT PULLEYS

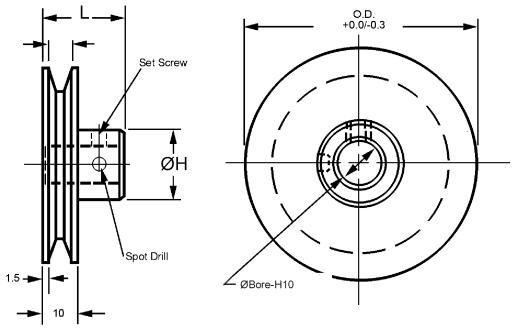
SERIES	BORE	MATERIAL	BERG'S® NAME	BELT
2V	**Ø10**	DIN 1.4303 Stainless Steel	**Pow-R-Vee®**	Operates with Pow-R-Vee 2V Series (6.4W X 5.6D)



STOCK NO.	BORE	O.D.	H	L
V2M86S-1	10	42.5	20	20
V2M86S-2		45.0		
V2M86S-3		47.5		
V2M86S-4		50.0		
V2M86S-5		52.5		
V2M86S-6		56.0		
V2M86S-7		60.0		
V2M86S-8		63.0		
V2M86S-9		67.0		
V2M86S-10		71.0		
V2M86S-11		75.0		
V2M86S-12		80.0		
V2M86S-13		85.0		
V2M86S-14		92.5		
V2M86S-15		100.0		

Special sizes are available upon request.

SERIES	BORE	MATERIAL	BERG'S® NAME	BELT
2V	**Ø12**	DIN 1.4303 Stainless Steel	**Pow-R-Vee®**	Operates with Pow-R-Vee 2V Series (6.4W X 5.6D)

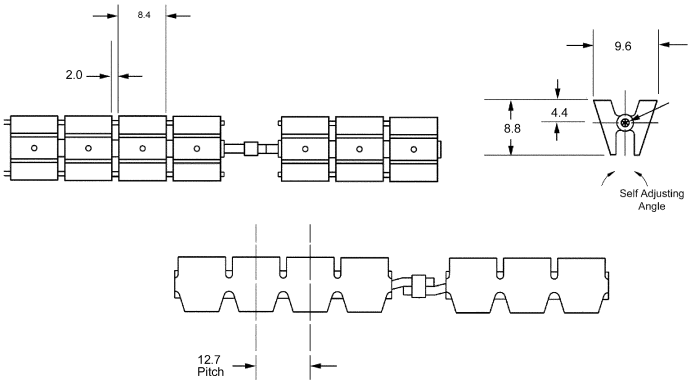


STOCK NO.	BORE	O.D.	H	L
V2M88S-1	12	42.5	20	20
V2M88S-2		45.0		
V2M88S-3		47.5		
V2M88S-4		50.0		
V2M88S-5		52.5		
V2M88S-6		56.0		
V2M88S-7		60.0		
V2M88S-8		63.0		
V2M88S-9		67.0		
V2M88S-10		71.0		
V2M88S-11		75.0		
V2M88S-12		80.0		
V2M88S-13		85.0		
V2M88S-14		92.5		
V2M88S-15		100.0		

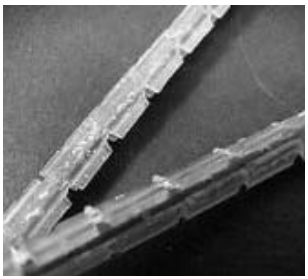
Special sizes are available upon request.

V-BELTS

SERIES	WIDTH	HEIGHT	MATERIAL	BERG'S® NAME	PULLEY
3V	9.4	8.8	Polyurethane (Red) with 1.2 Dia. Stainless Steel Cable	POW-R-VEE®	Operates with Pow-R-Vee 3V Series



- More sidewall contact
- Less slippage
- Greater power transmission
- Infinite length variations
- Extra strong
- Silent drive
- 90A Durometer
- Mass 55 Gram/Meter
- Ultimate Tensile Strength 555N
- Temperature Range +82°C to -26°C
- Recommended Operating Load 133N
- Recommended Max. Operating Speed 1.91 m/s
- For Field Splice Kit Order 3V-7.

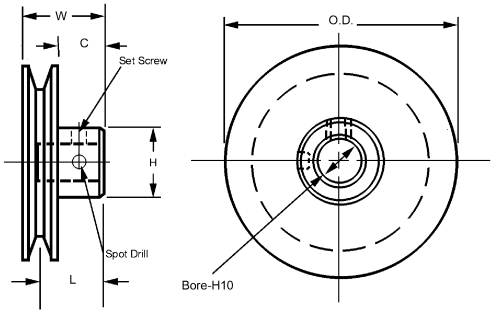


BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
3V-1.5M	1.5 Meters
3V-3.0M	3.0 Meters
3V-7.5M	7.5 Meters
3V-15.0M	15.0 Meters
3V-30.0M	30.0 Meters

STOCK NO.	LENGTH (Ref.)
3V-12	304.8
3V-13	330.2
3V-14	355.6
3V-15	381.0
3V-16	406.4
3V-17	431.8
3V-18	457.2
3V-19	482.6
3V-20	508.0
3V-21	533.4
3V-22	558.8
3V-23	584.2
3V-24	609.6
3V-25	635.0
3V-26	660.4
3V-27	685.8
3V-28	711.2
3V-29	736.6
3V-30	762.0
3V-31	787.4
3V-32	812.8
3V-33	838.2
3V-34	863.6
3V-35	889.0
3V-36	914.4
3V-37	939.8
3V-38	965.2
3V-39	990.6
3V-40	1016.0
3V-41	1041.4
3V-42	1366.8
3V-43	1092.2
3V-44	1117.6
3V-45	1143.0
3V-46	1168.4
3V-47	1193.8
3V-48	1219.2
3V-49	1244.6
3V-50	1270.0
3V-51	1295.4
3V-52	1320.8
3V-53	1346.2
3V-54	1371.6
3V-55	1397.0
3V-56	1422.4
3V-57	1447.8
3V-58	1473.2
3V-59	1498.6
3V-60	1542.0
3V-61	1549.4
3V-62	1574.8
3V-63	1600.2
3V-64	1625.5
3V-65	1651.0
3V-66	1676.4
3V-67	1701.8
3V-68	1727.2
3V-69	1752.6
3V-70	1778.0
3V-71	1803.4
3V-72	1828.8
3V-74	1879.6

V-BELT PULLEYS

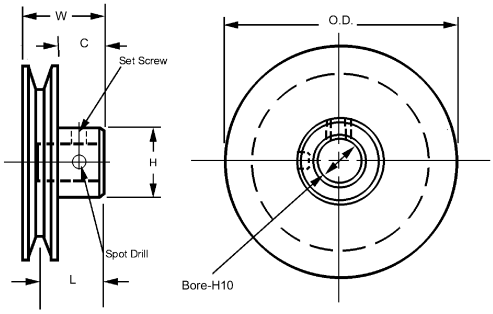
SERIES	BORE	MATERIAL	BERG'S® NAME	BELT
3V	**Ø8**	Zinc Alloy	**Pow-R-Vee®**	Operates with Pow-R-Vee 3V Series (10mmW X 9mmD)



STOCK NO.	O.D.	W	C	L	H
V3-150-8M	38	25	13	22	24
V3-200-8M	51				25

All pulleys have set screws supplied.
Other bore sizes and keyways are available upon request.

SERIES	BORE	MATERIAL	BERG'S® NAME	BELT
3V	**Ø10**	Zinc Alloy	**Pow-R-Vee®**	Operates with Pow-R-Vee 3V Series (10mmW X 9mmD)

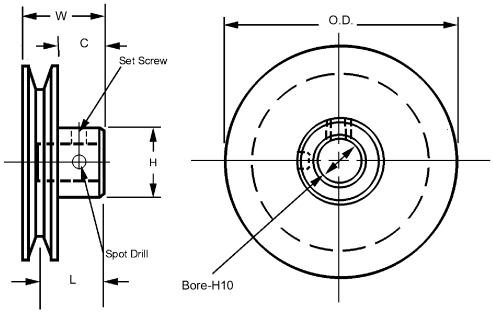


STOCK NO.	O.D.	W	C	L	H
V3-150-10M	38	25	13	22	24
V3-200-10M	51				25
V3-250-10M	64				29
V3-300-10M	76				29
V3-350-10M	89				29
V3-400-10M	102				29

All pulleys have set screws supplied.
Other bore sizes and keyways are available upon request.

V-BELT PULLEYS

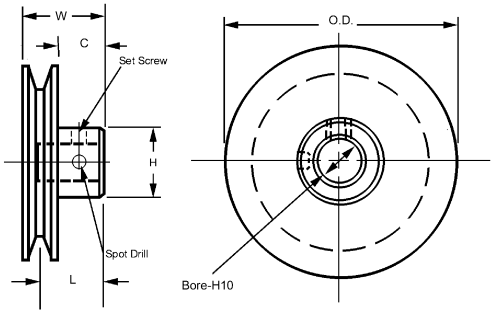
SERIES	BORE	MATERIAL	BERG'S® NAME	BELT
3V	**Ø13**	Zinc Alloy	**Pow-R-Vee®**	Operates with Pow-R-Vee 3V Series (10mmW X 9mmD)



STOCK NO.	O.D.	W	C	L	H
V3-150-13M	38	25	13	22	24
V3-200-13M	51				25
V3-250-13M	64				29
V3-300-13M	76				29
V3-350-13M	89				29
V3-400-13M	102				29

All pulleys have set screws supplied.
Other bore sizes and keyways are available upon request.

SERIES	BORE	MATERIAL	BERG'S® NAME	BELT
3V	**Ø16**	Zinc Alloy	**Pow-R-Vee®**	Operates with Pow-R-Vee 3V Series (10mmW X 9mmD)

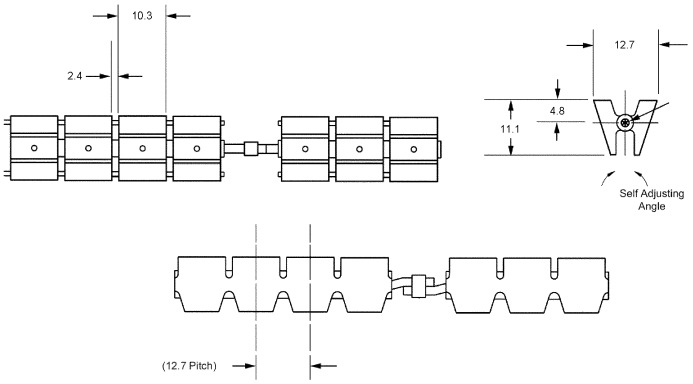


STOCK NO.	O.D.	W	C	L	H
V3-200-16M	51	25	13	22	24
V3-250-16M	64				25
V3-300-16M	76				29
V3-350-16M	89				29
V3-400-16M	102				29

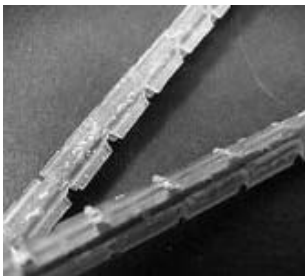
All pulleys have set screws supplied.
Other bore sizes and keyways are available upon request.

V-BELTS

SERIES	WIDTH	HEIGHT	MATERIAL	BERG'S® NAME	PULLEY
4V	12.7	11.1	Polyurethane (Blue) with 1.6mm Dia. Stainless Steel Cable	POW-R-VEE®	Operates with Pow-R-Vee 4V Series



- More sidewall contact
- Less slippage
- Greater power transmission
- Infinite length variations
- Extra strong
- Silent drive
- 90A Durometer
- Mass 102 Grams/Meter
- Ultimate Tensile Strength 880N
- Temperature Range +82°C to -26°C
- Recommended Operating Load 133N
- Recommended Max. Operating Speed 1.91 m/s
- For Field Splice Order 4V-7.

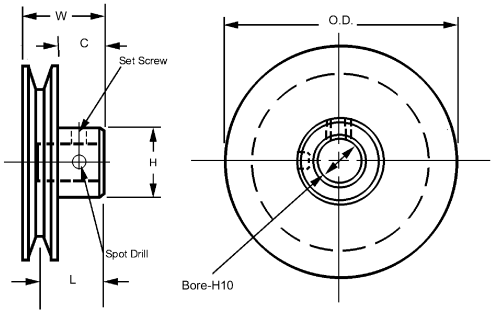


BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
4V-1.5M	1.5 Meters
4V-3.0M	3.0 Meters
4V-7.5M	7.5 Meters
4V-15.0M	15.0 Meters
4V-30.0M	30.0 Meters

STOCK NO.	LENGTH (Ref.)
4V-15	381.0
4V-16	406.4
4V-17	431.8
4V-18	457.2
4V-19	482.6
4V-20	508.0
4V-21	533.4
4V-22	558.8
4V-23	584.2
4V-24	609.6
4V-25	635.0
4V-26	660.4
4V-27	685.8
4V-28	711.2
4V-29	736.6
4V-30	762.0
4V-31	787.4
4V-32	812.8
4V-33	838.2
4V-34	863.6
4V-35	889.0
4V-36	914.4
4V-37	939.8
4V-38	965.2
4V-39	990.6
4V-40	1016.0
4V-41	1041.4
4V-42	1066.8
4V-43	1092.2
4V-44	1117.6
4V-45	1143.0
4V-46	1168.4
4V-47	1193.8
4V-48	1219.2
4V-49	1244.6
4V-50	1270.0
4V-51	1295.4
4V-52	1320.8
4V-53	1346.2
4V-54	1371.6
4V-55	1397.0
4V-56	1422.4
4V-57	1447.8
4V-58	1473.2
4V-59	1498.6
4V-60	1524.0
4V-61	1549.4
4V-62	1574.8
4V-63	1600.2
4V-64	1625.6
4V-65	1651.0
4V-66	1676.4
4V-67	1701.8
4V-68	1727.2
4V-69	1752.6
4V-70	1778.0
4V-72	1828.8
4V-74	1879.6
4V-76	1930.4
4V-78	1981.2
4V-80	2032.0
4V-82	2082.8
4V-84	2133.6
4V-86	2184.4
4V-88	2235.2
4V-90	2286.0
4V-92	2336.8
4V-96	2438.4

V-BELT PULLEYS

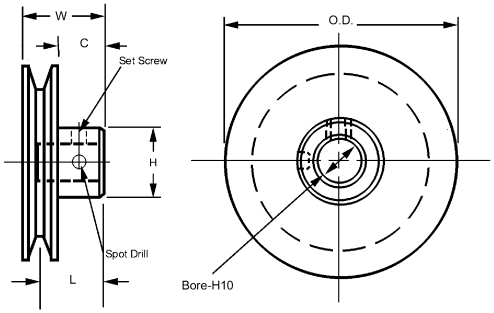
SERIES	BORE	MATERIAL	BERG'S® NAME	BELT
4V	Ø10	Zinc Alloy	Pow-R-Vee®	Operates with Pow-R-Vee 4V Series (13mmW X 10mmD)



STOCK NO.	O.D.	W	C	L	H
V4-150-10M	38	29	13	25	22
V4-175-10M	44				27
V4-200-10M	51				29
V4-225-10M	57				29
V4-250-10M	64				29

All pulleys have set screws supplied.
Other bore sizes and keyways are available upon request.

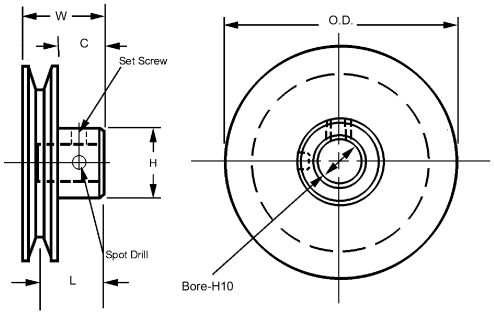
SERIES	BORE	MATERIAL	BERG'S® NAME	BELT
4V	Ø13	Zinc Alloy	Pow-R-Vee®	Operates with Pow-R-Vee 4V Series (13mmW X 10mmD)



STOCK NO.	O.D.	W	C	L	H
V4-150-13M	38	29	13	25	22
V4-175-13M	44	29	13	25	27
V4-200-13M	51	29	13	25	29
V4-225-13M	57	29	13	25	29
V4-250-13M	64	29	13	25	29
V4-300-13M	76	29	13	29	32
V4-325-13M	83	30	13	29	32
V4-350-13M	89	32	16	29	32
V4-400-13M	102	32	16	29	32
V4-500-13M	127	35	22	30	40
V4-600-13M	152	38	22	33	40
V4-700-13M	178	38	22	33	40
V4-800-13M	203	38	22	34	35
V4-900-13M	229	38	21	34	52
V4-1000-13M	254	38	21	34	52

All pulleys have set screws supplied.
Other bore sizes and keyways are available upon request.

SERIES	BORE	MATERIAL	BERG'S® NAME	BELT
4V	Ø16	Zinc Alloy	Pow-R-Vee®	Operates with Pow-R-Vee 4V Series (13mmW X 10mmD)

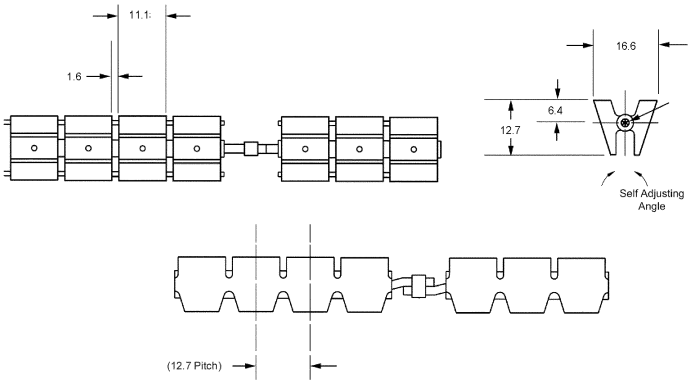


STOCK NO.	O.D.	W	C	L	H
V4-175-16M	44	29	13	25	22
V4-200-16M	51	29	13	25	27
V4-225-16M	57	29	13	25	29
V4-250-16M	64	29	13	25	29
V4-300-16M	76	29	13	29	32
V4-325-16M	83	30	13	29	32
V4-350-16M	89	32	16	29	32
V4-400-16M	102	32	16	29	32
V4-500-16M	127	35	22	30	40
V4-600-16M	152	38	22	33	40
V4-700-16M	178	38	22	33	40
V4-800-16M	203	38	22	34	35
V4-900-16M	229	38	21	34	52
V4-1000-16M	254	38	21	34	52

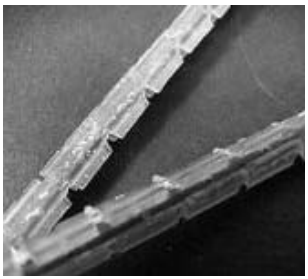
All pulleys have set screws supplied.
Other bore sizes and keyways are available upon request.

V-BELTS

SERIES	WIDTH	HEIGHT	MATERIAL	BERG'S® NAME	PULLEY
5V	16.6	12.7	Polyurethane (Yellow) with 2.0mm Dia. Stainless Steel Cable	POW-R-VEE®	Operates with Pow-R-Vee 5V Series



- More sidewall contact
- Less slippage
- Greater power transmission
- Infinite length variations
- Extra strong
- Silent drive
- 90A Durometer
- Mass 130 Grams/Meter
- Ultimate Tensile Strength 1550N
- Temperature Range +82°C to -26°C
- Recommended Operating Load 378N
- Recommended Max. Operating Speed 1.91 m/s
- For Field Splice Order 5V-7.

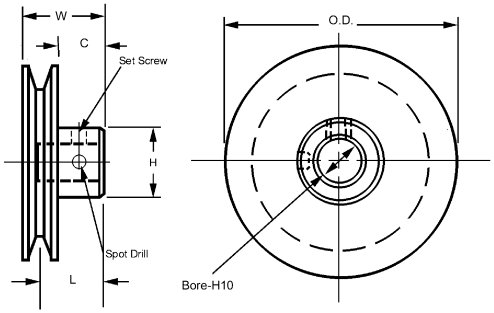


BULK FOOTAGE - NOT SPLICED	
STOCK NO.	LENGTH
5V-1.5M	1.5 Meters
5V-3.0M	3.0 Meters
5V-7.5M	7.5 Meters
5V-15.0M	15.0 Meters
5V-30.0M	30.0 Meters

STOCK NO.	LENGTH (Ref.)
5V-15	381.0
5V-16	406.4
5V-17	431.8
5V-18	457.2
5V-19	482.6
5V-20	508.0
5V-21	533.4
5V-22	558.8
5V-23	584.2
5V-24	609.6
5V-25	635.0
5V-26	660.4
5V-27	685.8
5V-28	711.2
5V-29	736.6
5V-30	762.0
5V-31	787.4
5V-32	812.8
5V-33	838.2
5V-34	863.6
5V-35	889.0
5V-36	914.4
5V-37	939.8
5V-38	965.2
5V-39	990.6
5V-40	1016.0
5V-41	1041.4
5V-42	1066.8
5V-43	1092.2
5V-44	1117.6
5V-45	1143.0
5V-46	1168.4
5V-47	1193.8
5V-48	1219.2
5V-49	1244.6
5V-50	1270.0
5V-51	1295.4
5V-52	1320.8
5V-53	1346.2
5V-54	1371.6
5V-55	1397.0
5V-56	1422.4
5V-57	1447.8
5V-58	1473.2
5V-59	1498.6
5V-60	1524.0
5V-61	1549.4
5V-62	1574.8
5V-63	1600.2
5V-64	1625.6
5V-65	1651.0
5V-66	1676.4
5V-67	1701.8
5V-68	1727.2
5V-69	1752.6
5V-70	1778.0
5V-72	1828.8
5V-74	1879.6
5V-76	1930.4
5V-78	1981.2
5V-80	2032.0
5V-82	2082.8
5V-84	2133.6
5V-86	2184.4
5V-88	2235.2
5V-90	2286.0
5V-92	2336.8
5V-96	2438.4

V-BELT PULLEYS

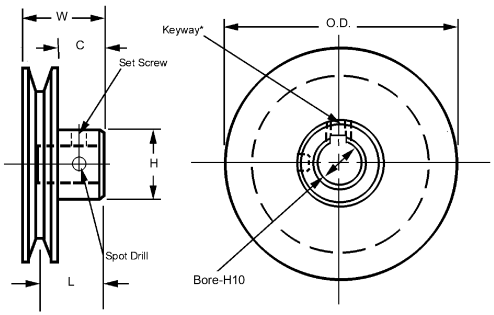
SERIES	BORE	MATERIAL	BERG'S® NAME	BELT
5V	**Ø13**	Die Cast Zinc Alloy	**Pow-R-Vee®**	Operates with Pow-R-Vee 5V Series (17mmW X 13mmD)



STOCK NO.	O.D.	W	C	L	H
V5-200-13M	51	32	13	29	29
V5-225-13M	57	32	10	25	29
V5-250-13M	64	32	10	25	32
V5-275-13M	70	32	13	25	32
V5-300-13M	76	37	16	29	32
V5-325-13M	83	32	13	29	32
V5-350-13M	89	35	16	29	32
V5-400-13M	102	35	16	29	33
V5-450-13M	114	35	16	29	33
V5-500-13M	127	40	19	33	35
V5-600-13M	152	41	19	35	52

All pulleys have set screws supplied.
Other bore sizes and keyways are available upon request.

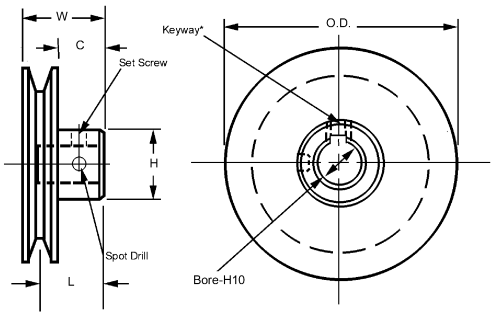
SERIES	BORE	MATERIAL	BERG'S® NAME	BELT
5V	**Ø16**	Die Cast Zinc Alloy	**Pow-R-Vee®**	Operates with Pow-R-Vee 5V Series (17mmW X 13mmD)



STOCK NO.	O.D.	W	C	L	H
V5-200-16M	51	32	13	29	29
V5-225-16M	57	32	10	25	29
V5-250-16M	64	32	10	25	32
V5-275-16M	70	32	13	25	32
V5-300-16M	76	37	16	29	32
V5-325-16M	83	32	13	29	32
V5-350-16M	89	35	16	29	32
V5-400-16M	102	35	16	29	33
V5-450-16M	114	35	16	29	33
V5-500-16M	127	40	19	33	35
V5-600-16M	152	41	19	35	52

* Ø16 Bore Pulleys have a 5mm x 2mm keyway.
All pulleys have set screws supplied.
Other bore sizes and keyways are available upon request.

SERIES	BORE	MATERIAL	BERG'S® NAME	BELT
5V	**Ø19**	Die Cast Zinc Alloy	**Pow-R-Vee®**	Operates with Pow-R-Vee 5V Series (17mmW X 13mmD)



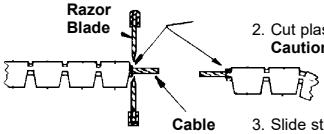
STOCK NO.	O.D.	W	C	L	H
V5-225-19M	57	32	10	25	29
V5-250-19M	64	32	10	25	32
V5-275-19M	70	32	13	25	32
V5-300-19M	76	37	16	29	32
V5-325-19M	83	32	13	29	32
V5-350-19M	89	35	16	29	32
V5-400-19M	102	35	16	29	33
V5-450-19M	114	35	16	29	33
V5-500-19M	127	40	19	33	35
V5-600-19M	152	41	19	35	52

* Ø16 Bore Pulleys have a 5mm x 2mm keyway.
All pulleys have set screws supplied.
Other bore sizes and keyways are available upon request.

FIELD SPLICE KITS

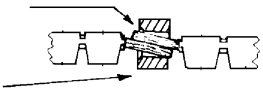
Splicing Procedures

1. Cut BERG "Pow-R-Vee" sharp and square as shown, using cutter, to desired number of blocks, plus one block.



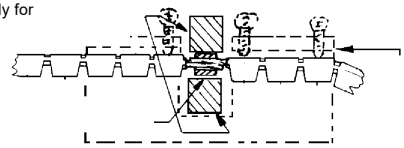
2. Cut plastic jacket lightly with sharp razor blade close to block as shown all around. **Caution:** Do not cut or nick cable. Strip or twist off block carefully.

3. Slide stripped cable into oval splice bushing carefully. **Caution:** Do not fray cable. Feed cable into chamfered end of bushing last.



4. Center bushing and be certain belt is straight before crimping.

5. Position crimp tool over splice bushing and squeeze tightly for maximum splice strength.



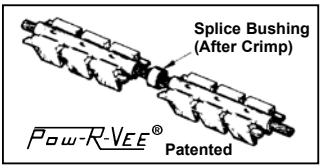
Splice Bushing

Clamp ends of V-Belt into fixture before Crimping

BELT SERIES	STOCK NUMBER	FIELD SPLICE KIT AND ACCESSORIES
2V 3V 4V 5V	2V-7 3V-7 4V-7 5V-7	Complete Kit Consists of: Crimp Tool, Crimp Fixture, Sample Belt, Cable Cutter, Bushings, Razor Blades & Instructions
	TL-3 TL-3 TL-6	Crimp Tool for 2V Crimp Tool for 3V Crimp Tool for 4V AND 5V
	BU-032-S BU-046-S BU-062-C BU-078-S	Extra Splice Bushings for: 2V (Ø 0.8 Dia. Cable) 3V (Ø 1.2 Dia. Cable) 4V (Ø 1.6 Dia. Cable) 5V (Ø 2.0 Dia. Cable)
	TL-1 TL-2	Cable Cutter for up to 1.2 Cable Cable Cutter for up to 2.0 Cable

Cable Cutter

Crimp Tool

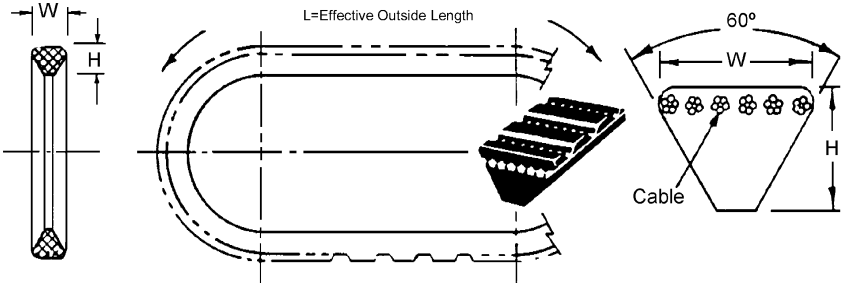


Field Splices Offer Only 50% of Catalog Rated Loads

W. M. Berg, Inc. will factory splice to order any length belt at a nominal charge.

60° V-BELTS

SERIES	WIDTH	HEIGHT	MATERIAL	BERG'S® NAME	PULLEY
V3M	**3mm**	**2.5mm**	Polyurethane (Black)	**V-Flex**	Operates with V3M Series



STOCK NO.	L (CIR.)
V3M180	180
V3M185	185
V3M190	190
V3M195	195
V3M200	200
V3M206	206
V3M212	212
V3M218	218
V3M224	224
V3M230	230
V3M243	248
V3M250	250
V3M265	265
V3M280	280
V3M300	300
V3M315	315
V3M325	325
V3M345	345
V3M365	365
V3M400	400
V3M425	425
V3M450	450
V3M475	475
V3M500	500
V3M530	530
V3M560	560
V3M600	600
V3M650	650
V3M710	710
V3M750	750

RPM Of Faster Shaft	Horsepower Ratings for 5000-10,000 Hours Service Life Range V3M Small Sheave Diameter											
	.67	.71	.75	.79	.83	.88	.93	.98	1.04	1.10	1.17	1.24
200	.016	.019	.022	.024	.027	.031	.035	.039	.043	.048	.056	.059
400	.028	.033	.038	.044	.049	.056	.063	.070	.079	.088	.098	.11
600	.039	.046	.053	.061	.068	.078	.088	.099	.11	.12	.14	.15
800	.048	.057	.067	.076	.086	.099	.11	.13	.14	.16	.18	.20
1000	.057	.068	.079	.091	.10	.12	.13	.15	.17	.19	.21	.23
2000	-	.11	.13	.15	.17	.20	.23	.26	.29	.33	.37	.41
3000	-	-	.17	.20	.23	.27	.31	.35	.39	.44	.50	.55
4000	-	-	-	.23	.27	.32	.37	.42	.48	.54	.61	.68
5000	-	-	-	-	.31	.37	.42	.48	.55	.62	.70	.79

SERVICE FACTORS

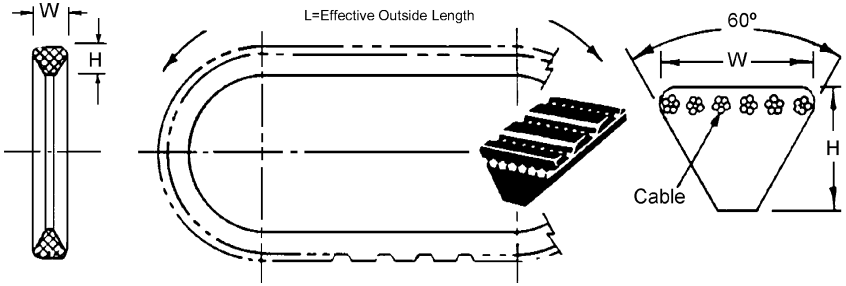
Typical Units	Service Factor
Office Machines	1.2
Machine Tools	1.4
Woodworking Machines	1.5
Washing Machine Tumblers & Agitators	1.3
Dry Cleaning Tumblers	1.3
Clothes Dryer Tumblers	1.3
Ironers	1.0
Fans	1.0
Pumps:	
Centrifugal	1.1
Gear	1.3
Reciprocating	1.5
Compressors:	
Reciprocating	1.5
Rotary	1.3
Generators:	
Smooth Load	1.3
Welders	1.5
Lawn Mowers	1.5
Snow Blowers	1.5

Design Horsepower = (Service Factor) x (Horsepower Requirement)

- Superior Horsepower Life on smaller Diameter Sheaves
- More Compact Drives
- Smoother Running
- Last three digits in the Stock No. represent length in Millimeter

60° V-BELTS

SERIES	WIDTH	HEIGHT	MATERIAL	BERG'S® NAME	PULLEY
V5M	**5mm**	**3mm**	Polyurethane (Black)	**V-Flex**	Operates with V5M Series



STOCK NO.	L (CIR.)
V5M280	280
V5M290	290
V5M300	300
V5M307	307
V5M315	315
V5M325	325
V5M335	335
V5M345	345
V5M375	375
V5M400	400
V5M425	425
V5M450	450
V5M475	475
V5M500	500
V5M530	530
V5M560	560
V5M580	580
V5M600	600
V5M650	650
V5M690	690
V5M750	750
V5M800	800
V5M850	850
V5M900	900
V5M950	950
V5M1000	1000
V5M1060	1060
V5M1250	1250
V5M1400	1400
V5M1500	1500

RPM Of Faster Shaft	Horsepower Ratings for 5000-10,000 Hours Service Life Range											
	V5M Small Sheave Diameter											
	1.04	1.10	1.17	1.24	1.32	1.40	1.48	1.57	1.67	1.77	1.87	1.97
200	.053	.061	.071	.081	.092	.10	.12	.13	.15	.16	.18	.20
400	.007	.11	.13	.14	.17	.19	.22	.24	.27	.30	.33	.36
600	.15	.16	.18	.21	.24	.27	.31	.34	.39	.43	.47	.52
800	.17	.20	.23	.27	.31	.35	.39	.44	.50	.55	.61	.66
1000	.20	.24	.28	.32	.37	.42	.47	.53	.60	.67	.74	.80
2000	.35	.41	.48	.56	.65	.74	.83	.94	1.06	1.18	1.30	1.42
3000	.46	.55	.65	.76	.88	1.01	1.14	1.28	1.45	1.61	1.78	1.95
4000	-	.66	.80	.93	1.08	1.24	1.40	1.59	1.79	2.00	2.22	2.43
5000	-	-	.92	1.08	1.26	1.45	1.64	1.86	2.11	2.36	2.61	2.87

SERVICE FACTORS

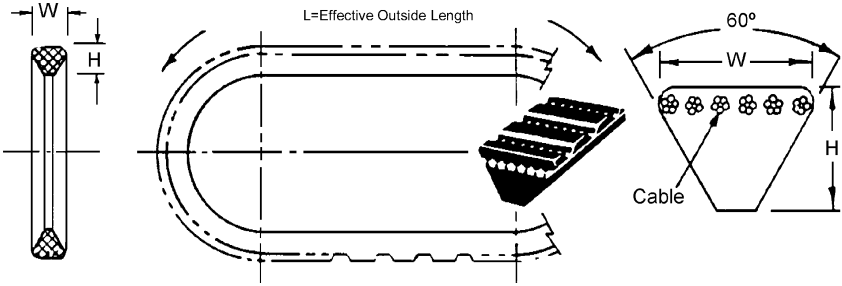
Typical Units	Service Factor
Office Machines	1.2
Machine Tools	1.4
Woodworking Machines	1.5
Washing Machine Tumblers & Agitators	1.3
Dry Cleaning Tumblers	1.3
Clothes Dryer Tumblers	1.3
Ironers	1.0
Fans	1.0
Pumps:	
Centrifugal	1.1
Gear	1.3
Reciprocating	1.5
Compressors:	
Reciprocating	1.5
Rotary	1.3
Generators:	
Smooth Load	1.3
Welders	1.5
Lawn Mowers	1.5
Snow Blowers	1.5

Design Horsepower = (Service Factor) x (Horsepower Requirement)

- Superior Horsepower Life on smaller Diameter Sheaves
- More Compact Drives
- Smoother Running
- Last three digits in the Stock No. represent length in Millimeter

60° V-BELTS

SERIES	WIDTH	HEIGHT	MATERIAL	BERG'S® NAME	PULLEY
V7M	**8mm**	**5.5mm**	Polyurethane (Black)	**V-Flex**	Operates with V7M Series



STOCK NO.	L (CIR.)
V7M500	500
V7M515	515
V7M530	530
V7M545	545
V7M560	560
V7M580	580
V7M600	600
V7M615	615
V7M650	650
V7M690	690
V7M710	710
V7M750	750
V7M800	800
V7M850	850
V7M900	900
V7M950	950
V7M1000	1000
V7M1060	1060
V7M1120	1120
V7M1180	1180
V7M1250	1250
V7M1320	1320
V7M1400	1400
V7M1500	1500
V7M1600	1600
V7M1700	1700
V7M1800	1800
V7M1900	1900
V7M2000	2000
V7M2120	2120
V7M2300	2300

RPM Of Faster Shaft	Horsepower Ratings for 5000-10,000 Hours Service Life Range											
	V7M Small Sheave Diameter											
	1.67	1.77	1.87	1.97	2.08	2.20	2.34	2.48	2.64	2.80	2.95	3.15
200	.16	.19	.21	.24	.27	.30	.34	.38	.42	.47	.51	.57
400	.30	.34	.39	.44	.49	.55	.63	.70	.78	.87	.95	1.05
600	.42	.49	.56	.62	.70	.79	.89	1.00	1.12	1.24	1.35	1.50
800	.54	.62	.71	.80	.90	1.01	1.14	1.27	1.43	1.59	1.73	1.93
1000	.64	.75	.85	.96	1.08	1.22	1.38	1.54	1.73	1.91	2.09	2.33
2000	1.10	1.29	1.48	1.68	1.89	22.13	2.42	2.71	3.04	3.37	3.69	4.11
3000	1.47	1.73	2.00	2.27	2.57	2.91	3.30	3.71	4.17	4.64	5.08	5.67
4000	1.78	2.11	2.44	2.79	3.17	3.59	4.10	4.61	5.20	5.79	6.36	7.11
5000	2.03	2.43	2.83	3.24	3.70	4.21	4.82	5.43	6.14	6.86	7.53	8.43

SERVICE FACTORS

Typical Units	Service Factor
Office Machines	1.2
Machine Tools	1.4
Woodworking Machines	1.5
Washing Machine Tumblers & Agitators	1.3
Dry Cleaning Tumblers	1.3
Clothes Dryer Tumblers	1.3
Ironers	1.0
Fans	1.0
Pumps:	
Centrifugal	1.1
Gear	1.3
Reciprocating	1.5
Compressors:	
Reciprocating	1.5
Rotary	1.3
Generators:	
Smooth Load	1.3
Welders	1.5
Lawn Mowers	1.5
Snow Blowers	1.5

Design Horsepower = (Service Factor) x (Horsepower Requirement)

- Superior Horsepower Life on smaller Diameter Sheaves
- More Compact Drives
- Smoother Running
- Last three digits in the Stock No. represent length in Millimeter

60° V-BELT PULLEYS

BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
Ø3	**PIN HUB SINGLE GROOVE**	DIN 1.4305 Stainless Steel	**V-Flex**	Operates with V3M Series

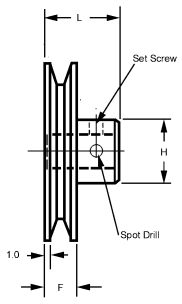
STOCK NO.	B	O.D.	F	H	L
V3M81S-1	3	17.0	5	10	12
V3M81S-2		19.0			
V3M81S-3		21.0			
V3M81S-4		23.0			
V3M81S-5		26.0			
V3M81S-6		29.0			
V3M81S-7		31.0			

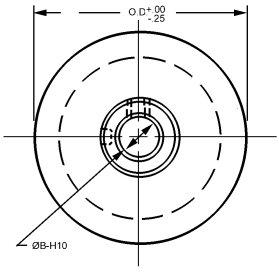
BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
Ø5	**PIN HUB SINGLE GROOVE**	DIN 1.4305 Stainless Steel	**V-Flex**	Operates with V3M Series

STOCK NO.	B	O.D.	F	H	L
V3M83S-1	5	17.0	5	10	12
V3M83S-2		19.0			
V3M83S-3		21.0			
V3M83S-4		23.0			
V3M83S-5		26.0			
V3M83S-6		29.0			
V3M83S-7		31.0			

BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
Ø8	**PIN HUB SINGLE GROOVE**	DIN 1.4305 Stainless Steel	**V-Flex**	Operates with V3M Series

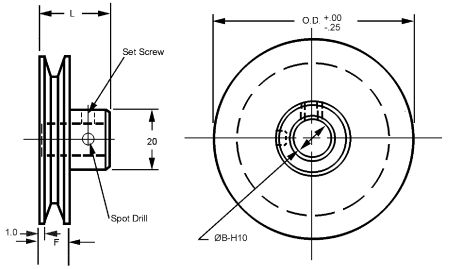
STOCK NO.	B	O.D.	F	H	L
V3M95S-1	8	17.0	5	12	12
V3M95S-2		19.0			
V3M95S-3		20.0			
V3M95S-4		22.0			
V3M95S-5		23.0			
V3M95S-6		24.0			
V3M95S-7		26.0			
V3M95S-8		27.0			
V3M95S-9		29.0			
V3M95S-10		31.0			
V3M95S-11		39.0			
V3M95S-12		50.0			
V3M95S-13		62.0			
V3M95S-14		80.0			
V3M95S-15		100.0			





60° V-BELT PULLEYS

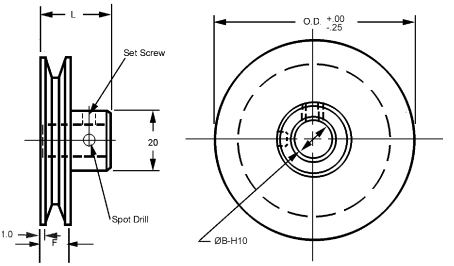
BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
Ø8	**PIN HUB SINGLE GROOVE**	DIN 1.4305 Stainless Steel	**V-Flex**	Operates with V5M Series



STOCK NO.	B	H	O.D.	F	L
V5M90S-1	8	20	26.42	7	16
V5M90S-2			27.94		
V5M90S-3			29.72		
V5M90S-4			31.50		
V5M90S-5			33.53		
V5M90S-6			35.56		
V5M90S-7			37.59		
V5M90S-8			39.88		
V5M90S-9			42.42		
V5M90S-10			44.96		
V5M90S-11			47.49		
V5M90S-12			50.03		
V5M90S-13			62.99		
V5M90S-14			80.01		
V5M90S-15			100.08		

Special sizes are available upon request.

BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
Ø10	**PIN HUB SINGLE GROOVE**	DIN 1.4305 Stainless Steel	**V-Flex**	Operates with V5M Series

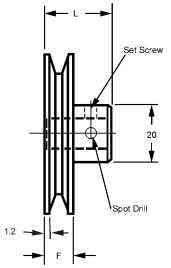


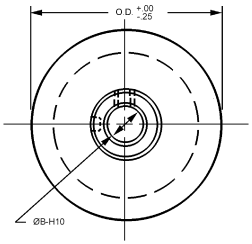
STOCK NO.	B	H	O.D.	F	L
V5M91S-1	10	20	26.42	7	16
V5M91S-2			27.94		
V5M91S-3			29.72		
V5M91S-4			31.50		
V5M91S-5			33.53		
V5M91S-6			35.56		
V5M91S-7			37.59		
V5M91S-8			39.88		
V5M91S-9			42.42		
V5M91S-10			44.96		
V5M91S-11			47.49		
V5M91S-12			50.03		
V5M91S-13			62.99		
V5M91S-14			80.01		
V5M91S-15			100.08		

Special sizes are available upon request.

60° V-BELT PULLEYS

BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
Ø10	**PIN HUB SINGLE GROOVE**	DIN 1.4305 Stainless Steel	**V-Flex**	Operates with V7M Series

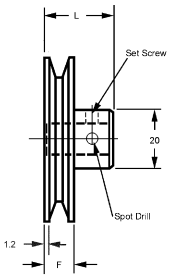


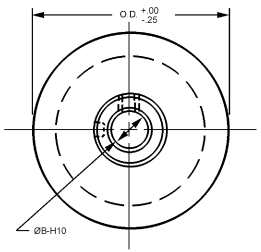


STOCK NO.	B	H	O.D.	F	L
V7M86S-1			42.42		
V7M86S-2			44.96		
V7M86S-3			47.50		
V7M86S-4			50.04		
V7M86S-5			52.83		
V7M86S-6			55.88		
V7M86S-7			59.44		
V7M86S-8	10	20	62.99	10	20
V7M86S-9			67.06		
V7M86S-10			71.12		
V7M86S-11			74.93		
V7M86S-12			80.01		
V7M86S-13			85.09		
V7M86S-14			92.46		
V7M86S-15			100.08		

Special sizes are available upon request.

BORE	STYLE	MATERIAL	BERG'S® NAME	BELT
Ø12	**PIN HUB SINGLE GROOVE**	DIN 1.4305 Stainless Steel	**V-Flex**	Operates with V7M Series





STOCK NO.	B	H	O.D.	F	L
V7M88S-1			42.42		
V7M88S-2			44.96		
V7M88S-3			47.50		
V7M88S-4			50.04		
V7M88S-5			52.83		
V7M88S-6			55.88		
V7M88S-7			59.44		
V7M88S-8	12	20	62.99	10	20
V7M88S-9			67.06		
V7M88S-10			71.12		
V7M88S-11			74.93		
V7M88S-12			80.01		
V7M88S-13			85.09		
V7M88S-14			92.46		
V7M88S-15			100.08		

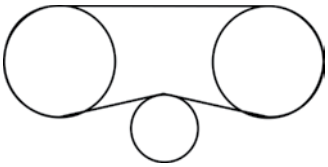
Special sizes are available upon request.

BELT & CHAIN TECHNICAL DATA

ALTERNATE BELT CONSTRUCTION

Fiber Cable Construction

Some Berg belts are available with a fiber cable spine. This flexible aramid cable allows greater flexibility and longer life in applications requiring reverse bending of the belt. It should be noted that the tensile strength of the belt must be derated to 50% of the value given for the stainless steel construction. There would be no change to the load per pin ratings. To specify a fiber cable spine belt, add “K” to the part number. Example: 32GCF-49-EK



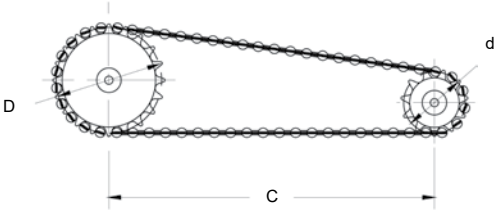
Reverse bending

Anti-Static Construction

Some Berg belts are available in anti-static material. This allows the belts to be used in environments where electrostatic discharge could be hazardous. It should be noted that this type of polyurethane is only available in black, but is approximately the same hardness as our standard material (90A Duro). To specify an anti-static belt, add “AS” to the part number. Example: 37TB-100AS

Contact our engineering department for more information on anti-static belts or availability of other belts in this material.

BELT & CHAIN FORMULAS



Length Calculation

$$L = 2C + 1.57 (D + d) + \frac{(D-d)^2}{4C}$$

Where:

- L = Length of belt at pitch line (in inches)
- C = Center distance (in inches)
- D = Pitch diameter (in inches) of large sprocket (for V- or O-ring belts, use the pulley O.D.)
- d = Pitch diameter (in inches) of small sprocket (for V- or O-ring belts, use the pulley O.D.)

Pitch Calculation

$$N = \frac{L}{C.P.}$$

Where:

- N = Number of pitches
- L = Length of belt (calculated above)
- C.P. = Circular pitch

Horsepower Calculation

$$H.P. = \frac{TN}{63024}$$

Where:

- T = Torque (in. lbs.)
- N = RPM

Torque Calculation

$$T = FR$$

Where:

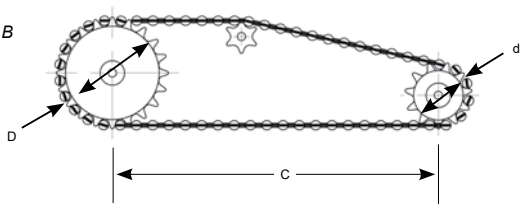
- F = Force (load) on belts (lbs.)
- R = Pitch radius of pulley/sprocket (in.)
- T = Torque (in lbs.)

PLASTIC BELT & CHAIN TENSION

For proper tensioning of Berg’s steel reinforced polyurethane belts, the tensioner should be designed inside the system as shown in Figure B). Design of an external tensioner, shown in Figure A), should be avoided when using steel reinforced belts. This will cause reverse bending of the belt which leads to shortened belt life. If an external tensioner is required, Berg recommends the use of a Kevlar® reinforced belt. For Kevlar® reinforced belts, see above *Alternate Belt Construction* section.

Figure A

Figure B



O-Ring Belt Length Calculation

$$LF = \frac{L}{1+(E/200)}$$

Where:

- LF = Free length (before stretch)
- L = Installed length
- E = Elongation (percent)

Belt Tension Calculation

$$X = (1/64)C$$

Where:

- C = Center distance (in inches)
- F = Force (5% of ultimate load for belt)
- X = Deflection should be 1/64" per inch of center distance

BELT & CHAIN TECHNICAL DATA

Due to the variety of applications in which our belts are used, it is impossible to offer life curves that will apply to every situation. We therefore offer this list of how operating parameters might affect the life of our belts. Contact our engineering department for assistance in designing your system to receive optimal belt life.

Torque: Torque will directly effect the life of the belt. The torque at the pulley times .5 the PD of that pulley will give you the belt load. This value should not exceed 20% to 25% of the ultimate load listed in the catalog.

Start-Up Torque: For optimal life, it is important to ensure that your power source is not inducing a start-up torque larger than your operating torque. This is a common problem in belting systems.

Belt Speed: Belt speed should always be below 376 ft/min. Our tests have shown that higher end speeds shorten the life, while lower end speeds increase the life.

Reverse Bending: Steel reinforced belts should not be used in a reverse bending application as this degrades the life significantly. For these applications we manufacture Kevlar® reinforced belts. For information on Kevlar® reinforced belts see *Alternate Belt Construction* section.

Pulley Ratio: A ratio other than 1:1 will cause less than a full 180° wrap around the smaller pulley. This could shorten the life by causing each belt pin to carry too much of the load. It should be ensured that 5 or 6 teeth minimum be in contact with all load carrying pulleys in the system for optimal life.

Belt Tension: Proper tension is essential for optimal life. Too much tension will cause excessive pin abrasion resulting in premature wear of the belt. Too little tension will result in a whipping motion that will cause cable fatigue and mistracking of belt entrance into pulley. Tension should be set by pressing on the belt half way between the pulleys with 5% of the ultimate load. The belt should deflect 1/64" per inch of center distance.

Direction Reversing: Changing the rotational direction of the pulleys will shorten the life of the belt by causing abrasive wear on the pins. It can also cause major damage if the transition is abrupt and the torque effectively doubles through inertia of the system. This effect can be limited by ensuring that the transition in direction is controlled by not permitting such an increase in torque.

Pulley Alignment: Some of our belts are designed to handle pulley misalignment. As a general guideline, our belts that contain a single load carrying member down the center can handle up to 7° of pulley misalignment (this does not apply to our TB line of timing belts). Our ladder style belts-belts containing 2 load carrying members-are not designed to handle any pulley misalignment. Pulley alignments should be held within 1/2° or life can be adversely affected. Excessive misalignment will cause abrasive wear on the belt, resulting in shortened life.

Alternate Construction: The belt's composition also directly affects lifespan. Certain materials are better suited for specific applications due to higher loads or harsh operating conditions.

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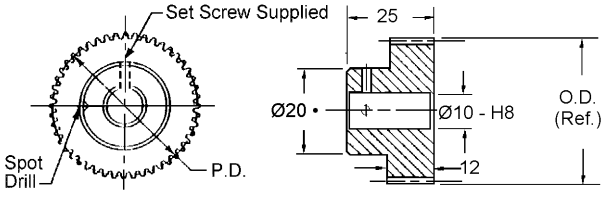
SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.5	PIN HUB	10	12	STAINLESS STEEL DIN 1.4305	DIN 8/AGMA 9	20°

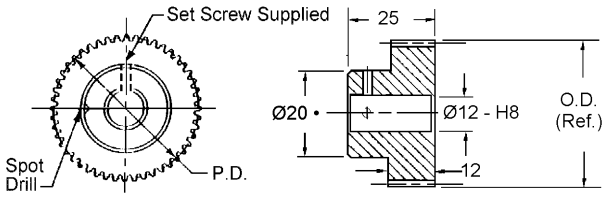


STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PAS87-18	18	27.00	30.00
PAS87-20	20	30.00	33.00
PAS87-24	24	36.00	39.00
PAS87-28	28	42.00	45.00
PAS87-30	30	45.00	48.00
PAS87-32	32	48.00	51.00
PAS87-36	36	54.00	57.00
PAS87-40	40	60.00	63.00
PAS87-48	48	72.00	75.00
PAS87-56	56	84.00	87.00
PAS87-64	64	96.00	99.00

- For 13-15 teeth hub diameter is 15.7

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.5	PIN HUB	12	12	STAINLESS STEEL DIN 1.4305	DIN 8/AGMA 9	20°



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PAS89-18	18	27.00	30.00
PAS89-20	20	30.00	33.00
PAS89-24	24	36.00	39.00
PAS89-28	28	42.00	45.00
PAS89-30	30	45.00	48.00
PAS89-32	32	48.00	51.00
PAS89-36	36	54.00	57.00
PAS89-40	40	60.00	63.00
PAS89-48	48	72.00	75.00
PAS89-56	56	84.00	87.00
PAS89-64	64	96.00	99.00

- For 15 teeth hub diameter equals 18.0

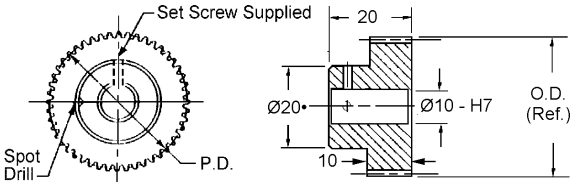
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

Other bore sizes, styles and materials available.
Check our website or call us.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.25	PIN HUB	10	10	STAINLESS STEEL DIN 1.4305	DIN 7/AGMA 10	20°



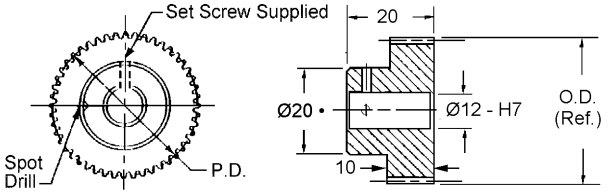
- For 15-18 teeth hub diameter equals 15.6

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PBS86-15	15•	18.75	21.25
PBS86-16	16•	20.00	22.50
PBS86-18	18•	22.50	25.00
PBS86-20	20	25.00	27.50
PBS86-24	24	30.00	32.50
PBS86-25	25	31.25	33.75
PBS86-28	28	35.00	37.50
PBS86-30	30	37.50	40.00
PBS86-35	35	43.75	46.25
PBS86-36	36	45.00	47.50
PBS86-40	40	50.00	52.50
PBS86-45	45	56.25	58.75
PBS86-48	48	60.00	62.50
PBS86-50	50	62.50	65.00
PBS86-56	56	70.00	72.50
PBS86-60	60	75.00	77.50
PBS86-70	70	87.50	90.00
PBS86-72	72	90.00	92.50
PBS86-80	80	100.00	102.50
PBS86-84	84	105.00	107.50

B

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.25	PIN HUB	12	10	STAINLESS STEEL DIN 1.4305	DIN 7/AGMA 10	20°



STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PBS88-24	24	30.00	32.50
PBS88-25	25	31.25	33.75
PBS88-30	30	37.50	40.00
PBS88-35	35	43.75	46.25
PBS88-40	40	50.00	52.50
PBS88-45	45	56.25	58.75
PBS88-50	50	62.50	65.00
PBS88-60	60	75.00	77.50
PBS88-70	70	87.50	90.00
PBS88-80	80	100.00	102.50

- For 12-13 teeth hub diameter is 16.3

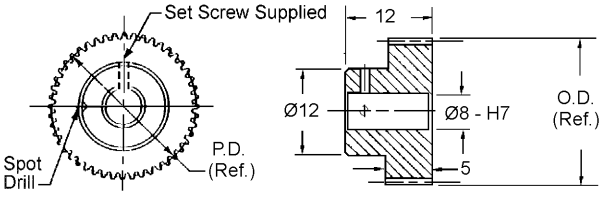
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

Other bore sizes, styles and materials available.
Check our website or call us.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	PIN HUB	8	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PCS95-15	PCA95-15	15	15.00	17.00
PCS95-16	PCA95-16	16	16.00	18.00
PCS95-18	PCA95-18	18	18.00	20.00
PCS95-20	PCA95-20	20	20.00	22.00
PCS95-21	PCA95-21	21	21.00	23.00
PCS95-22	PCA95-22	22	22.00	24.00
PCS95-24	PCA95-24	24	24.00	26.00
PCS95-27	PCA95-27	27	27.00	29.00
PCS95-30	PCA95-30	30	30.00	32.00
PCS95-33	PCA95-33	33	33.00	35.00
PCS95-36	PCA95-36	36	36.00	38.00
PCS95-39	PCA95-39	39	39.00	41.00
PCS95-42	PCA95-42	42	42.00	44.00
PCS95-45	PCA95-45	45	45.00	47.00
PCS95-48	PCA95-48	48	48.00	50.00
PCS95-51	PCA95-51	51	51.00	53.00
PCS95-54	PCA95-54	54	54.00	56.00
PCS95-57	PCA95-57	57	57.00	59.00
PCS95-60	PCA95-60	60	60.00	62.00
PCS95-63	PCA95-63	63	63.00	65.00
PCS95-66	PCA95-66	66	66.00	68.00
PCS95-69	PCA95-69	69	69.00	71.00
PCS95-72	PCA95-72	72	72.00	74.00
PCS95-75	PCA95-75	75	75.00	77.00
PCS95-78	PCA95-78	78	78.00	80.00
PCS95-81	PCA95-81	81	81.00	83.00
PCS95-84	PCA95-84	84	84.00	86.00
PCS95-87	PCA95-87	87	87.00	89.00
PCS95-90	PCA95-90	90	90.00	92.00
PCS95-93	PCA95-93	93	93.00	95.00
PCS95-96	PCA95-96	96	96.00	98.00

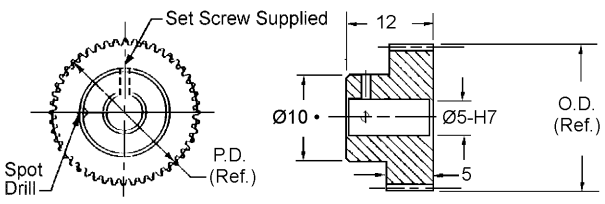
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

Other bore sizes, styles and materials available.
Check our website or call us.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	PIN HUB	5	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



B

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PDS83-15	PDA83-15	15•	12.00	13.60
PDS83-16	PDA83-16	16	12.80	14.40
PDS83-17	PDA83-17	17	13.60	15.20
PDS83-18	PDA83-18	18	14.40	16.00
PDS83-20	PDA83-20	20	16.00	17.60
PDS83-22	PDA83-22	22	17.60	19.20
PDS83-24	PDA83-24	24	19.20	20.80
PDS83-26	PDA83-26	26	20.80	22.40
PDS83-28	PDA83-28	28	22.40	24.00
PDS83-30	PDA83-30	30	24.00	25.60
PDS83-32	PDA83-32	32	25.60	27.20
PDS83-36	PDA83-36	36	28.80	30.40
PDS83-40	PDA83-40	40	32.00	33.60
PDS83-48	PDA83-48	48	38.40	40.00
PDS83-52	PDA83-52	52	41.60	43.20
PDS83-56	PDA83-56	56	44.80	46.40
PDS83-60	PDA83-60	60	48.00	49.60
PDS83-64	PDA83-64	64	51.20	52.80
PDS83-68	PDA83-68	68	54.40	56.00
PDS83-72	PDA83-72	72	57.60	59.20
PDS83-80	PDA83-80	80	64.00	65.60
PDS83-84	PDA83-84	84	67.20	68.80
PDS83-88	PDA83-88	88	70.40	72.00
PDS83-92	PDA83-92	92	73.60	75.20
PDS83-96	PDA83-96	96	76.80	78.40
PDS83-100	PDA83-100	100	80.00	81.60
PDS83-104	PDA83-104	104	83.20	84.80
PDS83-108	PDA83-108	108	86.40	88.00
PDS83-112	PDA83-112	112	89.60	91.20
PDS83-116	PDA83-116	116	92.80	94.40
PDS83-120	PDA83-120	120	96.00	97.60
PDS83-128	PDA83-128	128	102.40	104.00

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

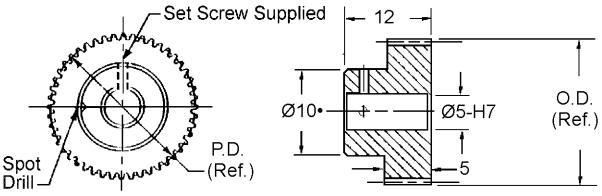
- For 13-15 teeth hub diameter equals 8.3

Other bore sizes, styles and materials available.
Check our website or call us.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.6	PIN HUB	5	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PES83-18	PEA83-18	18•	10.80	12.00
PES83-20	PEA83-20	20	12.00	13.20
PES83-22	PEA83-22	22	13.20	14.40
PES83-24	PEA83-24	24	14.40	15.60
PES83-25	PEA83-25	25	15.00	16.20
PES83-26	PEA83-26	26	15.60	16.80
PES83-28	PEA83-28	28	16.80	18.00
PES83-30	PEA83-30	30	18.00	19.20
PES83-32	PEA83-32	32	19.20	20.40
PES83-36	PEA83-36	36	21.60	22.80
PES83-40	PEA83-40	40	24.00	25.20
PES83-42	PEA83-42	42	25.20	26.40
PES83-45	PEA83-45	45	27.00	28.20
PES83-48	PEA83-48	48	28.80	30.00
PES83-50	PEA83-50	50	30.00	31.20
PES83-54	PEA83-54	54	32.40	33.60
PES83-56	PEA83-56	56	33.60	34.80
PES83-60	PEA83-60	60	36.00	37.20
PES83-64	PEA83-64	64	38.40	39.60
PES83-70	PEA83-70	70	42.00	43.20
PES83-72	PEA83-72	72	43.20	44.40
PES83-75	PEA83-75	75	45.00	46.20
PES83-76	PEA83-76	76	45.60	46.80
PES83-80	PEA83-80	80	48.00	49.20
PES83-88	PEA83-88	88	52.80	54.00
PES83-90	PEA83-90	90	54.00	55.20
PES83-96	PEA83-96	96	57.60	58.80
PES83-100	PEA83-100	100	60.00	61.20
PES83-110	PEA83-110	110	66.00	67.20
PES83-120	PEA83-120	120	72.00	73.20
PES83-124	PEA83-124	124	74.40	75.60
PES83-128	PEA83-128	128	76.80	78.00

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

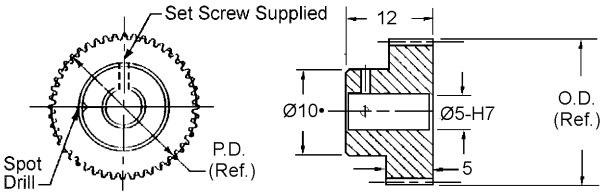
• For 16-18 teeth hub diameter equals 8.0

Other bore sizes, styles and materials available.
Check our website or call us.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	PIN HUB	5	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



B

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PFS83-20	PFA83-20	20•	10.00	11.00
PFS83-21	PFA83-21	21•	10.50	11.50
PFS83-22	PFA83-22	22•	11.00	12.00
PFS83-23	PFA83-23	23	11.50	12.50
PFS83-24	PFA83-24	24	12.00	13.00
PFS83-25	PFA83-25	25	12.50	13.50
PFS83-28	PFA83-28	28	14.00	15.00
PFS83-30	PFA83-30	30	15.00	16.00
PFS83-32	PFA83-32	32	16.00	17.00
PFS83-34	PFA83-34	34	17.00	18.00
PFS83-36	PFA83-36	36	18.00	19.00
PFS83-40	PFA83-40	40	20.00	21.00
PFS83-42	PFA83-42	42	21.00	22.00
PFS83-46	PFA83-46	46	23.00	24.00
PFS83-48	PFA83-48	48	24.00	25.00
PFS83-50	PFA83-50	50	25.00	26.00
PFS83-60	PFA83-60	60	30.00	31.00
PFS83-64	PFA83-64	64	32.00	33.00
PFS83-70	PFA83-70	70	35.00	36.00
PFS83-72	PFA83-72	72	36.00	37.00
PFS83-80	PFA83-80	80	40.00	41.00
PFS83-84	PFA83-84	84	42.00	43.00
PFS83-90	PFA83-90	90	45.00	46.00
PFS83-96	PFA83-96	96	48.00	49.00
PFS83-105	PFA83-105	105	52.50	53.50
PFS83-120	PFA83-120	120	60.00	61.00
PFS83-132	PFA83-132	132	66.00	67.00
PFS83-144	PFA83-144	144	72.00	73.00
PFS83-156	PFA83-156	156	78.00	79.00
PFS83-190	PFA83-190	190	95.00	96.00
PFS83-192	PFA83-192	192	96.00	97.00

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

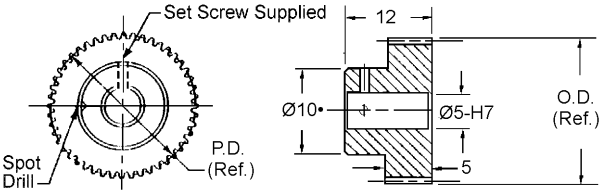
• For 20-22 teeth hub diameter equals 8.1

Other bore sizes, styles and materials available.
Check our website or call us.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	PIN HUB	5	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PGS83-24	PGA83-24	24•	9.60	10.40
PGS83-25	PGA83-25	25•	10.00	10.80
PGS83-26	PGA83-26	26•	10.40	11.20
PGS83-28	PGA83-28	28	11.20	12.00
PGS83-30	PGA83-30	30	12.00	12.80
PGS83-32	PGA83-32	32	12.80	13.60
PGS83-36	PGA83-36	36	14.40	15.20
PGS83-40	PGA83-40	40	16.00	16.80
PGS83-44	PGA83-44	44	17.60	18.40
PGS83-46	PGA83-46	46	18.40	19.20
PGS83-48	PGA83-48	48	19.20	20.00
PGS83-50	PGA83-50	50	20.00	20.80
PGS83-56	PGA83-56	56	22.40	23.20
PGS83-60	PGA83-60	60	24.00	24.80
PGS83-64	PGA83-64	64	25.60	26.40
PGS83-70	PGA83-70	70	28.00	28.80
PGS83-75	PGA83-75	75	30.00	30.80
PGS83-80	PGA83-80	80	32.00	32.80
PGS83-88	PGA83-88	88	35.20	36.00
PGS83-90	PGA83-90	90	36.00	36.80
PGS83-96	PGA83-96	96	38.40	39.20
PGS83-100	PGA83-100	100	40.00	40.80
PGS83-110	PGA83-110	110	44.00	44.80
PGS83-112	PGA83-112	112	44.80	45.60
PGS83-120	PGA83-120	120	48.00	48.80
PGS83-128	PGA83-128	128	51.20	52.00
PGS83-136	PGA83-136	136	54.40	55.20
PGS83-144	PGA83-144	144	57.60	58.40
PGS83-152	PGA83-152	152	60.80	61.60
PGS83-160	PGA83-160	160	64.00	64.80
PGS83-176	PGA83-176	176	70.40	71.20
PGS83-192	PGA83-192	192	76.80	77.60
PGS83-200	PGA83-200	200	80.00	80.80
PGS83-208	PGA83-208	208	83.20	84.00
PGS83-224	PGA83-224	224	89.60	90.40
PGS83-240	PGA83-240	240	96.00	96.80
PGS83-256	PGA83-256	256	102.40	103.20

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

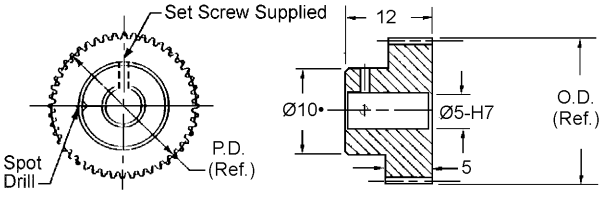
• For 24-27 teeth hub diameter equals 8.1

Other bore sizes, styles and materials available.
Check our website or call us.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	PIN HUB	5	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



B

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PHS83-30	PHA83-30	30•	9.00	9.60
PHS83-32	PHA83-32	32•	9.60	10.20
PHS83-34	PHA83-34	34•	10.20	10.80
PHS83-36	PHA83-36	36•	10.80	11.40
PHS83-38	PHA83-38	38	11.40	12.00
PHS83-40	PHA83-40	40	12.00	12.60
PHS83-42	PHA83-42	42	12.60	13.20
PHS83-44	PHA83-44	44	13.20	13.80
PHS83-46	PHA83-46	46	13.80	14.40
PHS83-48	PHA83-48	48	14.40	15.00
PHS83-50	PHA83-50	50	15.00	15.60
PHS83-54	PHA83-54	54	16.20	16.80
PHS83-56	PHA83-56	56	16.80	17.40
PHS83-60	PHA83-60	60	18.00	18.60
PHS83-63	PHA83-63	63	18.90	19.50
PHS83-64	PHA83-64	64	19.20	19.80
PHS83-70	PHA83-70	70	21.00	21.60
PHS83-72	PHA83-72	72	21.60	22.20
PHS83-80	PHA83-80	80	24.00	24.60
PHS83-90	PHA83-90	90	27.00	27.60
PHS83-96	PHA83-96	96	28.80	29.40
PHS83-100	PHA83-100	100	30.00	30.60
PHS83-105	PHA83-105	105	31.50	32.10
PHS83-108	PHA83-108	108	32.40	33.00
PHS83-144	PHA83-144	144	43.20	43.80

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

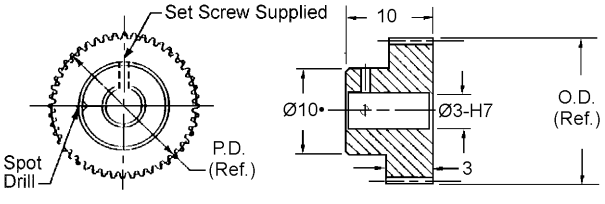
• For 30-36 teeth hub diameter equals 8.1

Other bore sizes, styles and materials available.
Check our website or call us.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.25	PIN HUB	3	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PJS80-32	PJA80-32	32•	8.00	8.50
PJS80-34	PJA80-34	34•	8.50	9.00
PJS80-35	PJA80-35	35•	8.75	9.25
PJS80-36	PJA80-36	36•	9.00	9.50
PJS80-38	PJA80-38	38•	9.50	10.00
PJS80-39	PJA80-39	39•	9.75	10.25
PJS80-40	PJA80-40	40•	10.00	10.50
PJS80-42	PJA80-42	42•	10.50	11.00
PJS80-44	PJA80-44	44	11.00	11.50
PJS80-46	PJA80-46	46	11.50	12.00
PJS80-47	PJA80-47	47	11.75	12.25
PJS80-48	PJA80-48	48	12.00	12.50
PJS80-50	PJA80-50	50	12.50	13.00
PJS80-52	PJA80-52	52	13.00	13.50
PJS80-54	PJA80-54	54	13.50	14.00
PJS80-56	PJA80-56	56	14.00	14.50
PJS80-58	PJA80-58	58	14.50	15.00
PJS80-60	PJA80-60	60	15.00	15.50
PJS80-62	PJA80-62	62	15.50	16.00
PJS80-64	PJA80-64	64	16.00	16.50
PJS80-65	PJA80-65	65	16.25	16.75
PJS80-67	PJA80-67	67	16.75	17.25
PJS80-70	PJA80-70	70	17.50	18.00
PJS80-72	PJA80-72	72	18.00	18.50
PJS80-74	PJA80-74	74	18.50	19.00
PJS80-75	PJA80-75	75	18.75	19.25
PJS80-80	PJA80-80	80	20.00	20.50
PJS80-84	PJA80-84	84	21.00	21.50
PJS80-88	PJA80-88	88	22.00	22.50
PJS80-90	PJA80-90	90	22.50	23.00
PJS80-96	PJA80-96	96	24.00	24.50
PJS80-100	PJA80-100	100	25.00	25.50
PJS80-105	PJA80-105	105	26.25	26.75
PJS80-127	PJA80-127	127	31.75	32.25
PJS80-144	PJA80-144	144	36.00	36.50
PJS80-156	PJA80-156	156	39.00	39.50
PJS80-168	PJA80-168	168	42.00	42.50

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

• For 25-42 teeth hub diameter equals 5.5

Other bore sizes, styles and materials available.
Check our website or call us.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

PRECISION WORMS

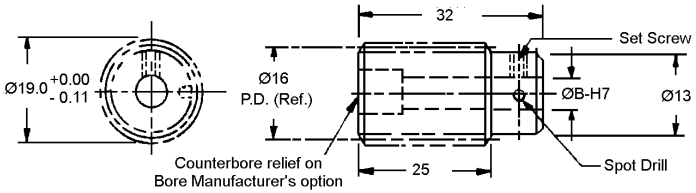
MODULE	STYLE	BORE	MATERIAL	QUALITY	TYPE
1.5	SINGLE, DOUBLE OR FOUR THREAD	7	STAINLESS STEEL DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	B	THREAD	LEAD	LEAD ANGLE	PRESSURE ANGLE
WAS-7S	7	SINGLE	4.712	5° 21'	14-1/2°
WAS-7D		DOUBLE	9.425	10° 37'	14-1/2°
WAS-7F		FOUR	18.850	20° 33'	20°

B

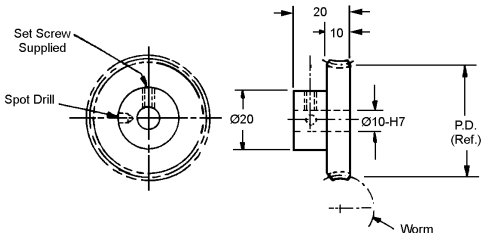
MODULE	STYLE	BORE	MATERIAL	QUALITY	TYPE
1.5	SINGLE, DOUBLE OR FOUR THREAD	8	STAINLESS STEEL DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	B	THREAD	LEAD	LEAD ANGLE	PRESSURE ANGLE
WAS-8S	8	SINGLE	4.712	5° 21'	14-1/2°
WAS-8D		DOUBLE	9.425	10° 37'	14-1/2°
WAS-8F		FOUR	18.850	20° 33'	20°



PRECISION WORM GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
1.5	SINGLE, DOUBLE OR FOUR THREAD PIN HUB	10	10	464 BRASS ALLOY	DIN 7/AGMA 10	RIGHT HAND

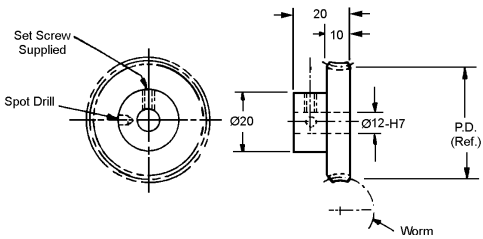


SINGLE THREAD WORM	DOUBLE THREAD WORM	FOUR THREAD WORM	NO. OF TEETH	PITCH DIA.
Circular Pitch 4.712 Helix Angle 5° 21' Pressure Angle 14-1/2°	Circular Pitch 9.425 Helix Angle 10° 37' Pressure Angle 14-1/2°	Circular Pitch 18.850 Helix Angle 20° 33' Pressure Angle 20°		
STOCK NO.	STOCK NO.	STOCK NO.		
WAB86-S20	WAB86-D20	WAB86-F20	20	30.00
WAB86-S30	WAB86-D30	WAB86-F30	30	45.00
WAB86-S40	WAB86-D40	WAB86-F40	40	80.00
WAB86-S50	WAB86-D50	WAB86-F50	50	75.00
WAB86-S60	WAB86-D60	WAB86-F60	60	90.00
WAB86-S80	WAB86-D80	WAB86-F80	80	120.00
WAB86-S100	WAB86-D100	WAB86-F100	100	150.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

May be two piece construction. Hub diameter never exceeds O.D.
Other number of teeth AGMA 12 ir 14 / DIN 5 or 3 available on request.

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
1.5	SINGLE, DOUBLE OR FOUR THREAD PIN HUB	12	10	464 BRASS ALLOY	DIN 7/AGMA 10	RIGHT HAND



SINGLE THREAD WORM	DOUBLE THREAD WORM	FOUR THREAD WORM	NO. OF TEETH	PITCH DIA.
Circular Pitch 4.712 Helix Angle 5° 21' Pressure Angle 14-1/2°	Circular Pitch 9.425 Helix Angle 10° 37' Pressure Angle 14-1/2°	Circular Pitch 18.850 Helix Angle 20° 33' Pressure Angle 20°		
STOCK NO.	STOCK NO.	STOCK NO.		
WAB88-S20	WAB88-D20	WAB88-F20	20	30.00
WAB88-S30	WAB88-D30	WAB88-F30	30	45.00
WAB88-S40	WAB88-D40	WAB88-F40	40	80.00
WAB88-S50	WAB88-D50	WAB88-F50	50	75.00
WAB88-S60	WAB88-D60	WAB88-F60	60	90.00
WAB88-S80	WAB88-D80	WAB88-F80	80	120.00
WAB88-S100	WAB88-D100	WAB88-F100	100	150.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

May be two piece construction. Hub diameter never exceeds O.D.
Other number of teeth AGMA 12 ir 14 / DIN 5 or 3 available on request.

PRECISION WORMS

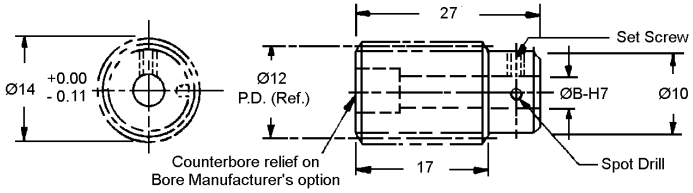
MODULE	STYLE	BORE	MATERIAL	QUALITY	TYPE
1.0	SINGLE, DOUBLE OR FOUR THREAD	7	STAINLESS STEEL DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	B	THREAD	LEAD	LEAD ANGLE	PRESSURE ANGLE
WCS-7S	7	SINGLE	3.142	4° 45'	14-1/2°
WCS-7D		DOUBLE	6.283	9° 27'	20°
WCS-7F		FOUR	12.566	18° 26'	25°

B

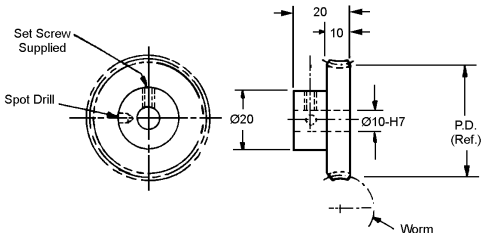
MODULE	STYLE	BORE	MATERIAL	QUALITY	TYPE
1.0	SINGLE, DOUBLE OR FOUR THREAD	6	STAINLESS STEEL DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	B	THREAD	LEAD	LEAD ANGLE	PRESSURE ANGLE
WCS-8S	6	SINGLE	3.142	4° 45'	14-1/2°
WCS-8D		DOUBLE	6.283	9° 27'	20°
WCS-8F		FOUR	12.566	18° 26'	25°



PRECISION WORM GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
1.0	SINGLE, DOUBLE OR FOUR THREAD PIN HUB	10	10	464 BRASS ALLOY	DIN 7/AGMA 10	RIGHT HAND

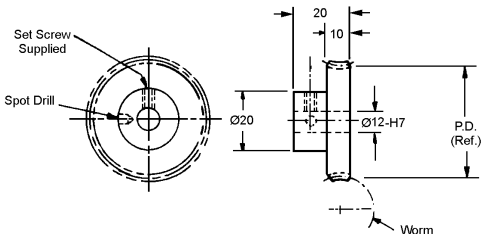


SINGLE THREAD WORM	DOUBLE THREAD WORM	FOUR THREAD WORM	NO. OF TEETH	PITCH DIA.
Circular Pitch 3.142 Helix Angle 4° 45' Pressure Angle 14-1/2°	Circular Pitch 6.283 Helix Angle 9° 27' Pressure Angle 20°	Circular Pitch 12.566 Helix Angle 18° 26' Pressure Angle 25°		
STOCK NO.	STOCK NO.	STOCK NO.		
WCB86-S20	WCB86-D20	WCB86-F20	20	20.00
WCB86-S30	WCB86-D30	WCB86-F30	30	30.00
WCB86-S40	WCB86-D40	WCB86-F40	40	40.00
WCB86-S50	WCB86-D50	WCB86-F50	50	50.00
WCB86-S60	WCB86-D60	WCB86-F60	60	60.00
WCB86-S72	WCB86-D72	WCB86-F72	72	72.00
WCB86-S80	WCB86-D80	WCB86-F80	80	80.00
WCB86-S96	WCB86-D96	WCB86-F96	96	96.00
WCB86-S100	WCB86-D100	WCB86-F100	100	100.00

Ratio = $\frac{\text{\# of Teeth}}{\text{Worm Threads}}$

May be two piece construction. Hub diameter never exceeds O.D.
Other number of teeth AGMA 12 ir 14 / DIN 5 or 3 available on request.

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
1.0	SINGLE, DOUBLE OR FOUR THREAD PIN HUB	12	10	464 BRASS ALLOY	DIN 7/AGMA 10	RIGHT HAND



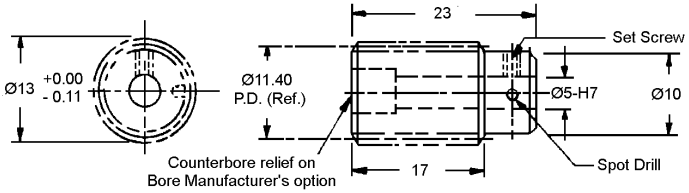
SINGLE THREAD WORM	DOUBLE THREAD WORM	FOUR THREAD WORM	NO. OF TEETH	PITCH DIA.
Circular Pitch 3.142 Helix Angle 4° 45' Pressure Angle 14-1/2°	Circular Pitch 6.283 Helix Angle 9° 27' Pressure Angle 20°	Circular Pitch 12.566 Helix Angle 18° 26' Pressure Angle 25°		
STOCK NO.	STOCK NO.	STOCK NO.		
WCB88-S20	WCB88-D20	WCB88-F20	20	20.00
WCB88-S30	WCB88-D30	WCB88-F30	30	30.00
WCB88-S40	WCB88-D40	WCB88-F40	40	40.00
WCB88-S50	WCB88-D50	WCB88-F50	50	50.00
WCB88-S60	WCB88-D60	WCB88-F60	60	60.00
WCB88-S72	WCB88-D72	WCB88-F72	72	72.00
WCB88-S80	WCB88-D80	WCB88-F80	80	80.00
WCB88-S96	WCB88-D96	WCB88-F96	96	96.00
WCB88-S100	WCB88-D100	WCB88-F100	100	100.00

Ratio = $\frac{\text{\# of Teeth}}{\text{Worm Threads}}$

May be two piece construction. Hub diameter never exceeds O.D.
Other number of teeth AGMA 12 ir 14 / DIN 5 or 3 available on request.

PRECISION WORMS

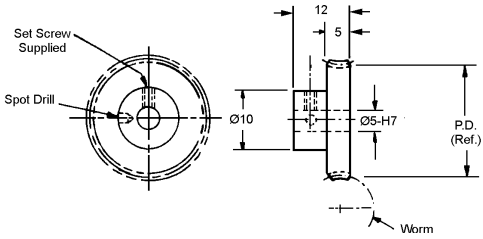
MODULE	STYLE	BORE	MATERIAL	QUALITY	TYPE
0.8	SINGLE, DOUBLE OR FOUR THREAD	5	STAINLESS STEEL DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND



STOCK NO.	THREAD	LEAD	LEAD ANGLE	PRESSURE ANGLE
WDS-5S	SINGLE	3.142	4° 45'	14-1/2°
WDS-5D	DOUBLE	6.283	9° 27'	20°
WDS-5F	FOUR	12.566	18° 26'	25°

PRECISION WORM GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.8	SINGLE, DOUBLE OR FOUR THREAD PIN HUB	5	5	464 BRASS ALLOY	DIN 7/AGMA 10	RIGHT HAND

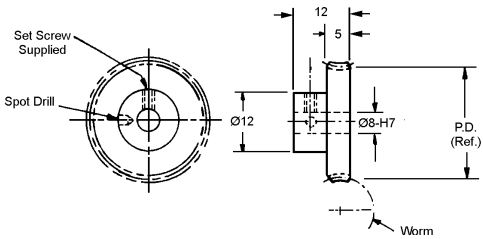


SINGLE THREAD WORM	DOUBLE THREAD WORM	FOUR THREAD WORM	NO. OF TEETH	PITCH DIA.
Circular Pitch 2.513 Helix Angle 4° - 0' Pressure Angle 14-1/2°	Circular Pitch 5.027 Helix Angle 7° - 59' Pressure Angle 20°	Circular Pitch 10.053 Helix Angle 15°- 40' Pressure Angle 25°		
STOCK NO.	STOCK NO.	STOCK NO.		
WDB83-S20	WDB83-D20	WDB83-F20	20	16.00
WDB83-S30	WDB83-D30	WDB83-F30	30	24.00
WDB83-S40	WDB83-D40	WDB83-F40	40	32.00
WDB83-S50	WDB83-D50	WDB83-F50	50	40.00
WDB83-S60	WDB83-D60	WDB83-F60	60	48.00
WDB83-S80	WDB83-D80	WDB83-F80	80	64.00
WDB83-S96	WDB83-D96	WDB83-F96	96	76.80
WDB83-S100	WDB83-D100	WDB83-F100	100	80.00

Ratio = $\frac{\text{\# of Teeth}}{\text{Worm Threads}}$

May be two piece construction. Hub diameter never exceeds O.D.
Other number of teeth AGMA 12 ir 14 / DIN 5 or 3 available on request.

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.8	SINGLE, DOUBLE OR FOUR THREAD PIN HUB	8	5	464 BRASS ALLOY	DIN 7/AGMA 10	RIGHT HAND



SINGLE THREAD WORM	DOUBLE THREAD WORM	FOUR THREAD WORM	NO. OF TEETH	PITCH DIA.
Circular Pitch 2.513 Helix Angle 4° - 0' Pressure Angle 14-1/2°	Circular Pitch 5.027 Helix Angle 7° - 59' Pressure Angle 20°	Circular Pitch 10.053 Helix Angle 15°- 40' Pressure Angle 25°		
STOCK NO.	STOCK NO.	STOCK NO.		
WDB95-S20	WDB95-D20	WDB95-F20	20	16.00
WDB95-S30	WDB95-D30	WDB95-F30	30	24.00
WDB95-S40	WDB95-D40	WDB95-F40	40	32.00
WDB95-S50	WDB95-D50	WDB95-F50	50	40.00
WDB95-S60	WDB95-D60	WDB95-F60	60	48.00
WDB95-S80	WDB95-D80	WDB95-F80	80	64.00
WDB95-S96	WDB95-D96	WDB95-F96	96	76.80
WDB95-S100	WDB95-D100	WDB95-F100	100	80.00

Ratio = $\frac{\text{\# of Teeth}}{\text{Worm Threads}}$

May be two piece construction. Hub diameter never exceeds O.D.
Other number of teeth AGMA 12 ir 14 / DIN 5 or 3 available on request.

PRECISION WORMS

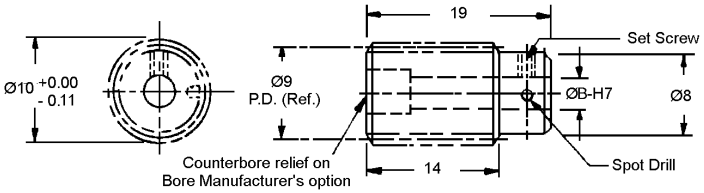
MODULE	STYLE	BORE	MATERIAL	QUALITY	TYPE
0.5	SINGLE, DOUBLE OR FOUR THREAD	3	STAINLESS STEEL DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	THREAD	LEAD	LEAD ANGLE	PRESSURE ANGLE
WFS-3S	SINGLE	1.571	3° 10'	14-1/2°
WFS-3D	DOUBLE	3.142	6° 20'	20°
WFS-3F	FOUR	6.283	12° 31'	25°

B

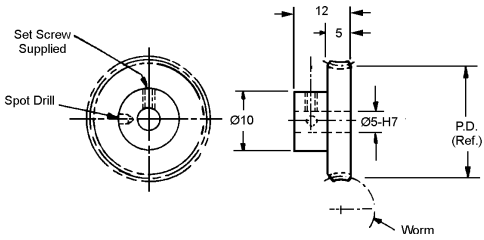
MODULE	STYLE	BORE	MATERIAL	QUALITY	TYPE
0.5	SINGLE, DOUBLE OR FOUR THREAD	5	STAINLESS STEEL DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	THREAD	LEAD	LEAD ANGLE	PRESSURE ANGLE
WFS-5S	SINGLE	1.571	3° 10'	14-1/2°
WFS-5D	DOUBLE	3.142	6° 20'	20°
WFS-5F	FOUR	6.283	12° 31'	25°



PRECISION WORM GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.5	SINGLE, DOUBLE OR FOUR THREAD PIN HUB	5	5	464 BRASS ALLOY	DIN 7/AGMA 10	RIGHT HAND

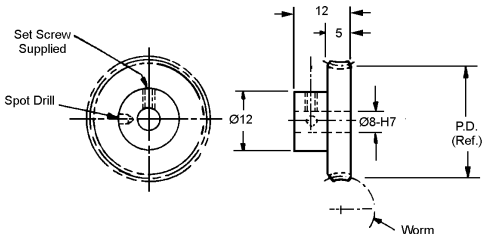


SINGLE THREAD WORM	DOUBLE THREAD WORM	FOUR THREAD WORM	NO. OF TEETH	PITCH DIA.
Circular Pitch 1.571 Helix Angle 3° 10' Pressure Angle 14-1/2°	Circular Pitch 3.142 Helix Angle 6° 20' Pressure Angle 20°	Circular Pitch 6.283 Helix Angle 12° 31' Pressure Angle 25°		
STOCK NO.	STOCK NO.	STOCK NO.		
WFB83-S30	WFB83-D30	WFB83-F30	30	15.00
WFB83-S40	WFB83-D40	WFB83-F40	40	20.00
WFB83-S50	WFB83-D50	WFB83-F50	50	25.00
WFB83-S60	WFB83-D60	WFB83-F60	60	30.00
WFB83-S70	WFB83-D70	WFB83-F70	70	35.00
WFB83-S80	WFB83-D80	WFB83-F80	80	40.00
WFB83-S90	WFB83-D90	WFB83-F90	90	45.00
WFB83-S100	WFB83-D100	WFB83-F100	100	50.00
WFB83-S120	WFB83-D120	WFB83-F120	120	60.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

May be two piece construction. Hub diameter never exceeds O.D.
Other number of teeth AGMA 12 ir 14 / DIN 5 or 3 available on request.

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.5	SINGLE, DOUBLE OR FOUR THREAD PIN HUB	8	5	464 BRASS ALLOY	DIN 7/AGMA 10	RIGHT HAND



SINGLE THREAD WORM	DOUBLE THREAD WORM	FOUR THREAD WORM	NO. OF TEETH	PITCH DIA.
Circular Pitch 1.571 Helix Angle 3° 10' Pressure Angle 14-1/2°	Circular Pitch 3.142 Helix Angle 6° 20' Pressure Angle 20°	Circular Pitch 6.283 Helix Angle 12° 31' Pressure Angle 25°		
STOCK NO.	STOCK NO.	STOCK NO.		
WFB95-S30	WFB95-D30	WFB95-F30	30	15.00
WFB95-S40	WFB95-D40	WFB95-F40	40	20.00
WFB95-S50	WFB95-D50	WFB95-F50	50	25.00
WFB95-S60	WFB95-D60	WFB95-F60	60	30.00
WFB95-S70	WFB95-D70	WFB95-F70	70	35.00
WFB95-S80	WFB95-D80	WFB95-F80	80	40.00
WFB95-S90	WFB95-D90	WFB95-F90	90	45.00
WFB95-S100	WFB95-D100	WFB95-F100	100	50.00
WFB95-S120	WFB95-D120	WFB95-F120	120	60.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

May be two piece construction. Hub diameter never exceeds O.D.
Other number of teeth AGMA 12 ir 14 / DIN 5 or 3 available on request.

PRECISION WORMS

MODULE	STYLE	BORE	MATERIAL	QUALITY	TYPE
0.4	SINGLE, DOUBLE OR FOUR THREAD	3	STAINLESS STEEL DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	THREAD	LEAD	LEAD ANGLE	ØH	PRESSURE ANGLE
WGS-3S	SINGLE	1.257	1° 44'	8	14-1/2°
WGS-3D	DOUBLE	2.513	3° 28'		
WGS-3F	FOUR	5.027	6° 54'		

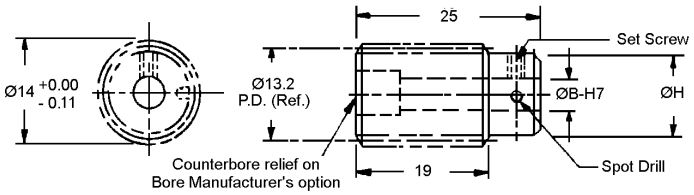
B

MODULE	STYLE	BORE	MATERIAL	QUALITY	TYPE
0.4	SINGLE, DOUBLE OR FOUR THREAD	5	STAINLESS STEEL DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	THREAD	LEAD	LEAD ANGLE	ØH	PRESSURE ANGLE
WGS-5S	SINGLE	1.257	1° 44'	10	14-1/2°
WGS-5D	DOUBLE	2.513	3° 28'		
WGS-5F	FOUR	5.027	6° 54'		

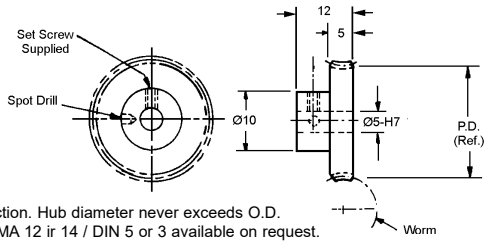
MODULE	STYLE	BORE	MATERIAL	QUALITY	TYPE
0.4	SINGLE, DOUBLE OR FOUR THREAD	7	STAINLESS STEEL DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	THREAD	LEAD	LEAD ANGLE	ØH	PRESSURE ANGLE
WGS-7S	SINGLE	1.257	1° 44'	11	14-1/2°
WGS-7D	DOUBLE	2.513	3° 28'		
WGS-7F	FOUR	5.027	6° 54'		



PRECISION WORM GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	SINGLE, DOUBLE OR FOUR THREAD PIN HUB	5	5	464 BRASS ALLOY	DIN 7/AGMA 10	RIGHT HAND

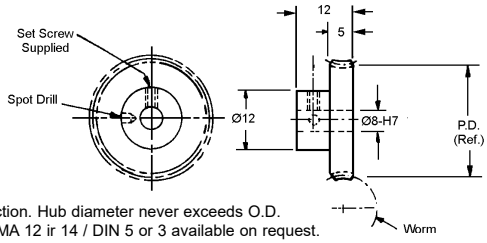


May be two piece construction. Hub diameter never exceeds O.D.
Other number of teeth AGMA 12 ir 14 / DIN 5 or 3 available on request.

SINGLE THREAD WORM	DOUBLE THREAD WORM	FOUR THREAD WORM	NO. OF TEETH	PITCH DIA.
Circular Pitch 1.257 Helix Angle 1° 44' Pressure Angle 14-1/2°	Circular Pitch 2.513 Helix Angle 3° 28' Pressure Angle 14-1/2°	Circular Pitch 5.027 Helix Angle 6° 54' Pressure Angle 14-1/2°		
STOCK NO.	STOCK NO.	STOCK NO.		
WGB83-S40	WGB83-D40	WGB83-F40	40	16.00
WGB83-S50	WGB83-D50	WGB83-F50	50	20.00
WGB83-S60	WGB83-D60	WGB83-F60	60	24.00
WGB83-S70	WGB83-D70	WGB83-F70	70	28.00
WGB83-S80	WGB83-D80	WGB83-F80	80	32.00
WGB83-S90	WGB83-D90	WGB83-F90	90	36.00
WGB83-S100	WGB83-D100	WGB83-F100	100	40.00
WGB83-S110	WGB83-D110	WGB83-F110	110	44.00
WGB83-S120	WGB83-D120	WGB83-F120	120	48.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	SINGLE, DOUBLE OR FOUR THREAD PIN HUB	8	5	464 BRASS ALLOY	DIN 7/AGMA 10	RIGHT HAND



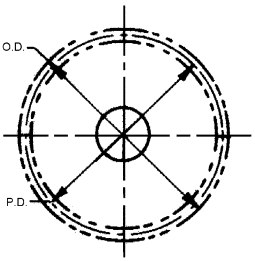
May be two piece construction. Hub diameter never exceeds O.D.
Other number of teeth AGMA 12 ir 14 / DIN 5 or 3 available on request.

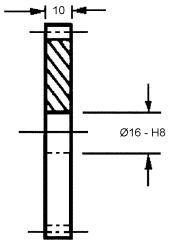
SINGLE THREAD WORM	DOUBLE THREAD WORM	FOUR THREAD WORM	NO. OF TEETH	PITCH DIA.
Circular Pitch 1.257 Helix Angle 1° 44' Pressure Angle 14-1/2°	Circular Pitch 2.513 Helix Angle 3° 28' Pressure Angle 14-1/2°	Circular Pitch 5.027 Helix Angle 6° 54' Pressure Angle 14-1/2°		
STOCK NO.	STOCK NO.	STOCK NO.		
WGB95-S40	WGB95-D40	WGB95-F40	40	16.00
WGB95-S50	WGB95-D50	WGB95-F50	50	20.00
WGB95-S60	WGB95-D60	WGB95-F60	60	24.00
WGB95-S70	WGB95-D70	WGB95-F70	70	28.00
WGB95-S80	WGB95-D80	WGB95-F80	80	32.00
WGB95-S90	WGB95-D90	WGB95-F90	90	36.00
WGB95-S100	WGB95-D100	WGB95-F100	100	40.00
WGB95-S110	WGB95-D110	WGB95-F110	110	44.00
WGB95-S120	WGB95-D120	WGB95-F120	120	48.00
WGB95-S180	WGB95-D180	WGB95-F180	180	72.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.5	HUBLESS	16	10	STAINLESS STEEL DIN 1.4305	DIN 8/AGMA 9	20°

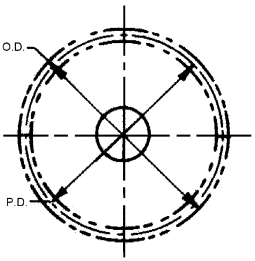


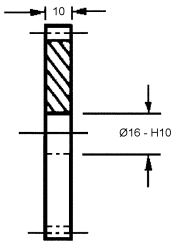


STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FAS120-18	18	27.00	30.00
FAS120-20	20	30.00	33.00
FAS120-24	24	36.00	39.00
FAS120-28	28	42.00	45.00
FAS120-30	30	45.00	48.00
FAS120-32	32	48.00	51.00
FAS120-36	36	54.00	57.00
FAS120-40	40	60.00	63.00
FAS120-48	48	72.00	75.00
FAS120-56	56	84.00	87.00
FAS120-60	60	90.00	93.00
FAS120-64	64	96.00	99.00

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.5	HUBLESS	16	10	POLYURETHANE WITH LUBRICANT	DIN 9/AGMA 8	20°



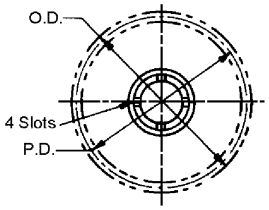


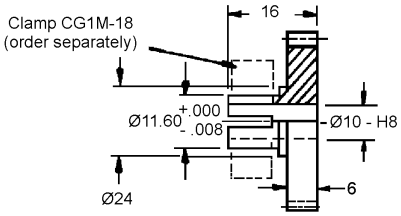
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FAU120-18	18	27.00	30.00
FAU120-20	20	30.00	33.00
FAU120-24	24	36.00	39.00
FAU120-28	28	42.00	45.00
FAU120-30	30	45.00	48.00
FAU120-32	32	48.00	51.00
FAU120-36	36	54.00	57.00
FAU120-40	40	60.00	63.00
FAU120-48	48	72.00	75.00
FAU120-56	56	84.00	87.00
FAU120-60	60	90.00	93.00
FAU120-64	64	96.00	99.00

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.5	CLAMP HUB	10	6	STAINLESS STEEL DIN 1.4305	DIN 8/AGMA 9	20°

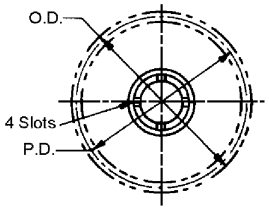


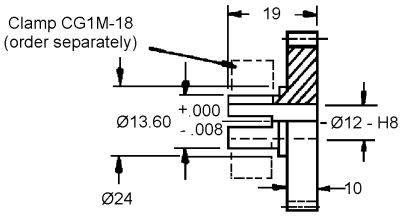


STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CAS56-16	16	24.00	27.00
CAS56-18	18	27.00	30.00
CAS56-20	20	30.00	33.00
CAS56-24	24	36.00	39.00
CAS56-32	32	48.00	51.00
CAS56-40	40	60.00	63.00
CAS56-48	48	72.00	75.00

Available on request: Other numbers of teeth; 14 - 1/2° pressure angle.

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.5	CLAMP HUB	12	10	STAINLESS STEEL DIN 1.4305	DIN 8/AGMA 9	20°





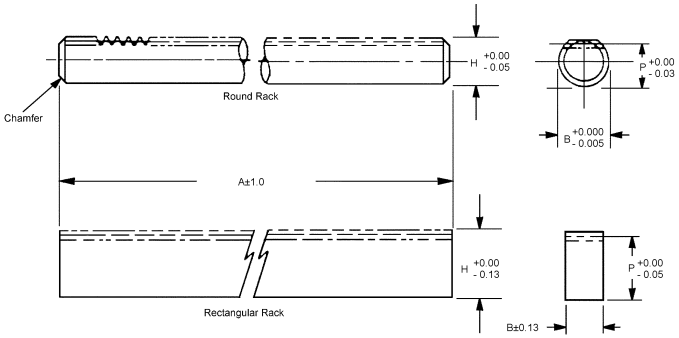
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CAS57-16	16	24.00	27.00
CAS57-18	18	27.00	30.00
CAS57-20	20	30.00	33.00
CAS57-24	24	36.00	39.00
CAS57-32	32	48.00	51.00
CAS57-40	40	60.00	63.00
CAS57-48	48	72.00	75.00

Available on request: Other numbers of teeth; 14 - 1/2° pressure angle.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

GEAR RACKS

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
1.5	ROUND & RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°

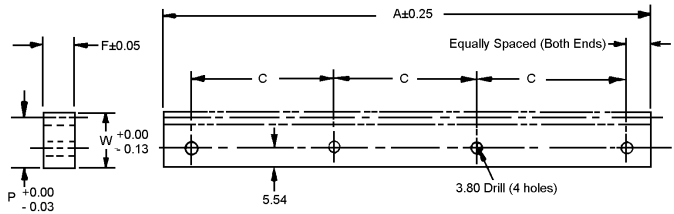


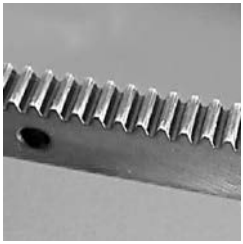
B

STOCK NO.	RACK STYLE	MOD.	P (Ref.)	B	A	H
R2M-1	ROUND	1.5	15.77	19.974	600	17.27
R3M-1	RECTANGULAR	1.5	17.04	9.02	600	18.54

Available on request: Special, modified and custom racks.

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
1.5	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





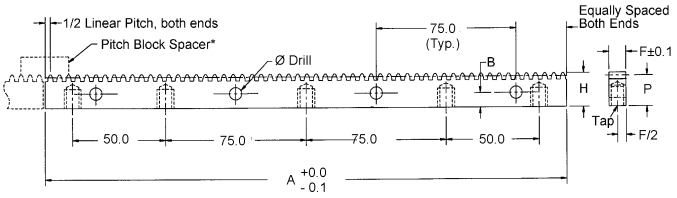
STOCK NO.	A	P (Ref.)	W	F	C
R4M-05	248.8	11.4	12.2	5.8	80.0

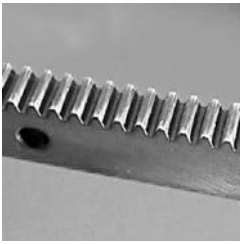
Available on request: Special, modified and custom racks.

Quality Class AGMA12/DIN 5 available on request.

GEAR RACKS

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
1.5	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





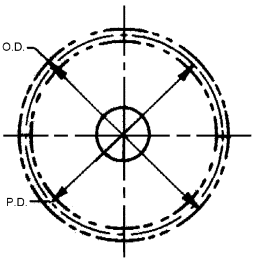
Spacer block is designed for butting to achieve continuous lengths.

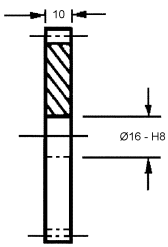
RACKS	SPACER BLOCK								
STOCK NO.	STOCK NO.	LINEAR PITCH	A	P (REF.)	H +0.00 -0.13	F	B	Ø DRILL	TAP
R1M-1	R1M-SB	4.71	282.7	16.91	18.42	9.0	7.9	7.0	M5.0 X 0.8

Quality Class AGMA 12/Din 5 available on request. Custom racks available on request.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.25	HUBLESS	16	10	STAINLESS STEEL DIN 1.4305	DIN 8/AGMA 9	20°



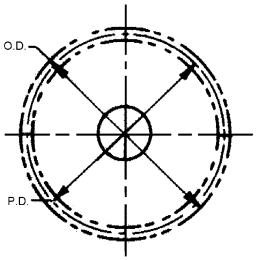


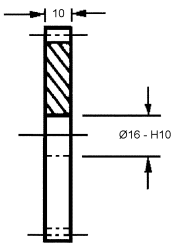
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FBS120-24	24	30.00	32.50
FBS120-25	25	31.25	33.75
FBS120-30	30	37.50	40.00
FBS120-35	35	43.75	46.25
FBS120-40	40	50.00	52.50
FBS120-45	45	56.25	58.75
FBS120-50	50	62.50	65.00
FBS120-60	60	75.00	77.50
FBS120-70	70	87.50	90.00
FBS120-80	80	100.00	102.50

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

B

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.25	HUBLESS	16	10	POLYURETHANE WITH LUBRICANT	DIN 9/AGMA 8	20°





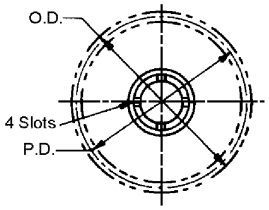
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FBU120-24	24	30.00	32.50
FBU120-25	25	31.25	33.75
FBU120-30	30	37.50	40.00
FBU120-35	35	43.75	46.25
FBU120-40	40	50.00	52.50
FBU120-45	45	56.25	58.75
FBU120-50	50	62.50	65.00
FBU120-60	60	75.00	77.50
FBU120-70	70	87.50	90.00
FBU120-80	80	100.00	102.50

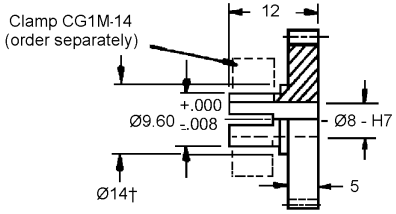
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.25	CLAMP HUB	8	5	STAINLESS STEEL DIN 1.4305	DIN 8/AGMA 9	20°



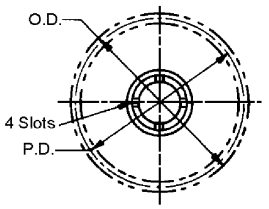


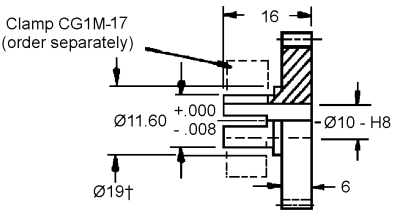
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CBS65-16	16†	20.00	22.50
CBS65-20	20	25.00	27.50
CBS65-24	24	30.00	32.50
CBS65-32	32	40.00	42.50
CBS65-40	40	50.00	52.50
CBS65-48	48	60.00	62.50
CBS65-50	50	62.00	65.00
CBS65-55	55	68.00	71.25
CBS65-60	60	75.00	77.50

Available on request: Other numbers of teeth;
14 - 1/2° pressure angle; Quality Class DIN 5 / AGMA 12

† Teeth may runout on flange diameter.

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.25	CLAMP HUB	10	6	STAINLESS STEEL DIN 1.4305	DIN 8/AGMA 9	20°





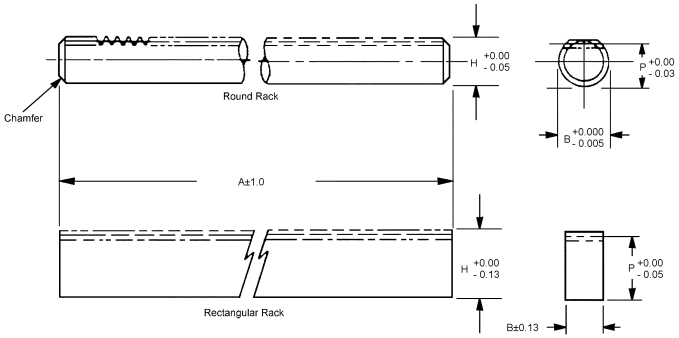
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CBS56-16	16†	20.00	22.50
CBS56-20	20	25.00	27.50
CBS56-24	24	30.00	32.50
CBS56-32	32	40.00	42.50
CBS56-40	40	50.00	52.50
CBS56-48	48	60.00	62.50
CBS56-50	50	62.00	65.00
CBS56-55	55	68.00	71.25
CBS56-60	60	75.00	77.50

Available on request: Other numbers of teeth;
14 - 1/2° pressure angle; Quality Class DIN 5 / AGMA 12

† Teeth may runout on flange diameter.

GEAR RACKS

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
1.25	ROUND & RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°

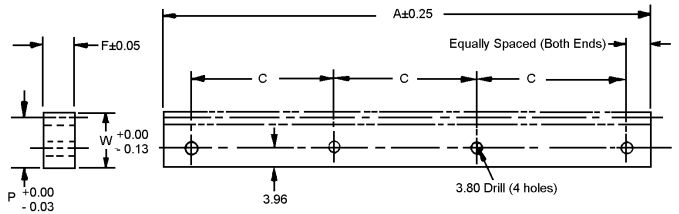


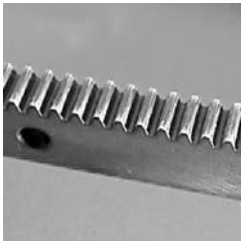
B

STOCK NO.	RACK STYLE	MOD.	P (Ref.)	B	A	H
R2M-2	ROUND	1.25	12.21	19.974	600	13.46
R3M-2	RECTANGULAR	1.25	17.24	9.02	600	18.54

Available on request: Special, modified and custom racks.

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
1.25	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





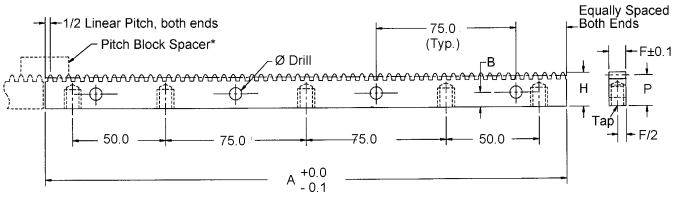
STOCK NO.	A	P (Ref.)	W	F	C
R4M-9	247.4	10.9	12.2	5.8	80.0

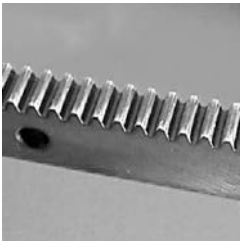
Available on request: Special, modified and custom racks.

Quality Class AGMA12/DIN 5 available on request.

GEAR RACKS

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
1.25	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





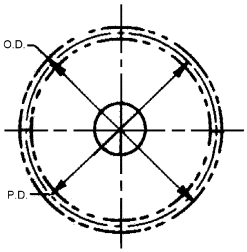
Spacer block is designed for butting to achieve continuous lengths.

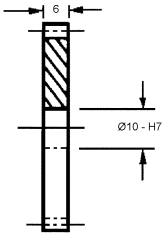
RACKS	SPACER BLOCK								
STOCK NO.	STOCK NO.	LINEAR PITCH	A	P (REF.)	H +0.00 -0.13	F	B	Ø DRILL	TAP
R1M-2	R1M-2-SB	3.93	282.8	17.17	18.42	9.0	7.9	7.0	M5.0 X 0.8

Quality Class AGMA 12/Din 5 available on request. Custom racks available on request.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	HUBLESS	10	6	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



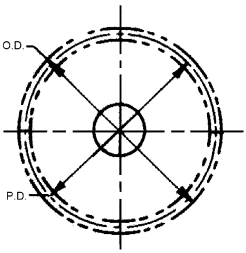


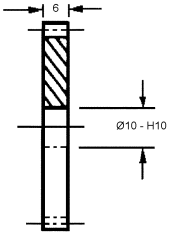
STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FCS106-24	FCA106-24	24	24.00	26.00
FCS106-30	FCA106-30	30	30.00	32.00
FCS106-32	FCA106-32	32	32.00	34.00
FCS106-36	FCA106-36	36	36.00	38.00
FCS106-48	FCA106-48	48	48.00	50.00
FCS106-60	FCA106-60	60	60.00	62.00
FCS106-64	FCA106-64	64	64.00	66.00
FCS106-72	FCA106-72	72	72.00	74.00
FCS106-96	FCA106-96	96	96.00	98.00

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

B

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	HUBLESS	10	6	POLYURETHANE WITH LUBRICANT	DIN 9/AGMA 8	20°





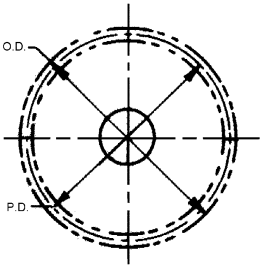
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FCU106-24	24	24.00	26.00
FCU106-30	30	30.00	32.00
FCU106-32	32	32.00	34.00
FCU106-36	36	36.00	38.00
FCU106-48	48	48.00	50.00
FCU106-60	60	60.00	62.00
FCU106-64	64	64.00	66.00
FCU106-72	72	72.00	74.00
FCU106-96	96	96.00	98.00

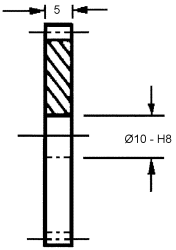
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	HUBLESS	10	5	DELRIN	DIN 8/AGMA 9	20°





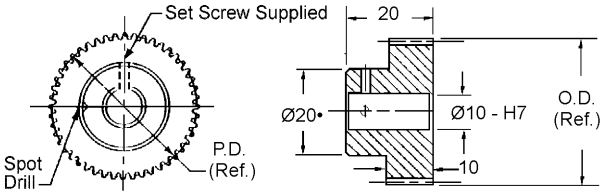
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FCD105-15	15	15.00	17.00
FCD105-16	16	16.00	18.00
FCD105-17	17	17.00	19.00
FCD105-18	18	18.00	20.00
FCD105-19	19	19.00	21.00
FCD105-20	20	20.00	22.00
FCD105-21	21	21.00	23.00
FCD105-22	22	22.00	24.00
FCD105-23	23	23.00	25.00
FCD105-24	24	24.00	26.00
FCD105-25	25	25.00	27.00
FCD105-28	28	28.00	30.00
FCD105-30	30	30.00	32.00
FCD105-32	32	32.00	34.00
FCD105-33	33	33.00	35.00
FCD105-36	36	36.00	38.00
FCD105-40	40	40.00	42.00
FCD105-42	42	42.00	44.00
FCD105-45	45	45.00	47.00
FCD105-46	46	46.00	48.00
FCD105-48	48	48.00	50.00
FCD105-50	50	50.00	52.00
FCD105-52	52	52.00	54.00
FCD105-55	55	55.00	57.00
FCD105-56	56	56.00	58.00
FCD105-57	57	57.00	59.00
FCD105-60	60	60.00	62.00
FCD105-64	64	64.00	66.00
FCD105-66	66	66.00	68.00
FCD105-69	69	69.00	71.00
FCD105-72	72	72.00	74.00
FCD105-78	78	78.00	80.00
FCD105-84	84	84.00	86.00
FCD105-90	90	90.00	92.00
FCD105-93	93	93.00	95.00

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	PIN HUB	10	5	STAINLESS STEEL DIN 1.4305	DIN 7/AGMA 10	20°

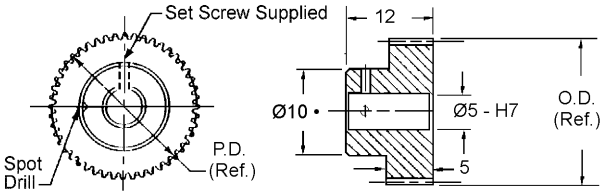


STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PCS86-18	18•	18.00	20.00
PCS86-20	20•	20.00	22.00
PCS86-24	24•	24.00	26.00
PCS86-28	28	28.00	30.00
PCS86-30	30	30.00	32.00
PCS86-36	36	36.00	38.00
PCS86-40	40	40.00	42.00
PCS86-48	48	48.00	50.00
PCS86-56	56	56.00	58.00
PCS86-60	60	60.00	62.00
PCS86-72	72	72.00	74.00
PCS86-80	80	80.00	82.00
PCS86-96	96	96.00	98.00

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

- For 18 - 22 teeth hub diameter equals 15.5

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	PIN HUB	5	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



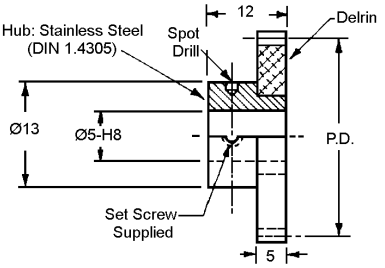
STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PCS83-15	PCA83-15	15	15.00	17.00
PCS83-16	PCA83-16	16	16.00	18.00
PCS83-18	PCA83-18	18	18.00	20.00
PCS83-20	PCA83-20	20	20.00	22.00
PCS83-22	PCA83-22	22	22.00	24.00
PCS83-24	PCA83-24	24	24.00	26.00
PCS83-30	PCA83-30	30	30.00	32.00
PCS83-36	PCA83-36	36	36.00	38.00
PCS83-42	PCA83-42	42	42.00	44.00
PCS83-48	PCA83-48	48	48.00	50.00
PCS83-54	PCA83-54	54	54.00	56.00
PCS83-60	PCA83-60	60	60.00	62.00
PCS83-72	PCA83-72	72	72.00	74.00
PCS83-84	PCA83-84	84	84.00	86.00
PCS83-96	PCA83-96	96	96.00	98.00

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

- For 11 - 12 teeth hub diameter is 8.1

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	PIN HUB	5	5	DELRIN	DIN 8/AGMA 9	20°



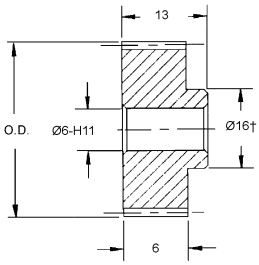
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PCD121X-15	15	15.00	17.00
PCD121X-16	16	16.00	18.00
PCD121X-17	17	17.00	19.00
PCD121X-18	18	18.00	20.00
PCD121X-19	19	19.00	21.00
PCD121X-20	20	20.00	22.00
PCD121X-21	21	21.00	23.00
PCD121X-22	22	22.00	24.00
PCD121X-23	23	23.00	25.00
PCD121X-24	24	24.00	26.00
PCD121X-25	25	25.00	27.00
PCD121X-28	28	28.00	30.00
PCD121X-30	30	30.00	32.00
PCD121X-32	32	32.00	34.00
PCD121X-33	33	33.00	35.00
PCD121X-36	36	36.00	38.00
PCD121X-40	40	40.00	42.00
PCD121X-42	42	42.00	44.00
PCD121X-45	45	45.00	47.00
PCD121X-46	46	46.00	48.00
PCD121X-48	48	48.00	50.00
PCD121X-50	50	50.00	52.00
PCD121X-52	52	52.00	54.00
PCD121X-55	55	55.00	57.00
PCD121X-56	56	56.00	58.00
PCD121X-57	57	57.00	59.00
PCD121X-60	60	60.00	62.00
PCD121X-64	64	64.00	66.00
PCD121X-66	66	66.00	68.00
PCD121X-69	69	69.00	71.00
PCD121X-72	72	72.00	74.00
PCD121X-78	78	78.00	80.00
PCD121X-84	84	84.00	86.00
PCD121X-90	90	90.00	92.00
PCD121X-93	93	93.00	95.00

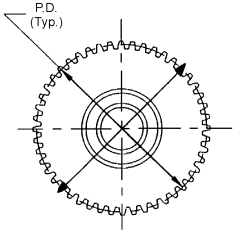
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	PIN HUB	6	6	DELRIN	DIN 12/AGMA 5	20°





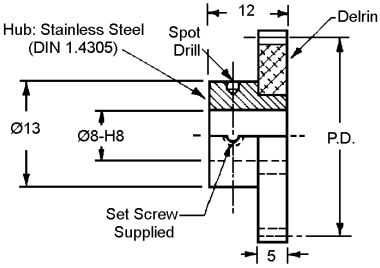
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PCD106M-15	15†	15.00	17.00
PCD106M-16	16†	16.00	18.00
PCD106M-18	18	18.00	20.00
PCD106M-20	20	20.00	22.00
PCD106M-21	21	21.00	23.00
PCD106M-24	24	24.00	26.00
PCD106M-30	30	30.00	32.00
PCD106M-36	36	36.00	38.00
PCD106M-42	42	42.00	44.00
PCD106M-48	48	48.00	50.00
PCD106M-54	54	54.00	56.00
PCD106M-60	60	60.00	62.00

Available on request:
Other bore sizes, numbers of teeth

† Teeth runout on hub.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	PIN HUB	8	5	DELRIN	DIN 8/AGMA 9	20°



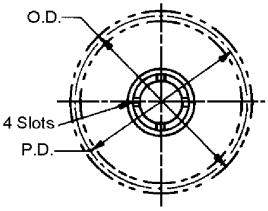
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PCD138X-15	15	15.00	17.00
PCD138X-16	16	16.00	18.00
PCD138X-17	17	17.00	19.00
PCD138X-18	18	18.00	20.00
PCD138X-19	19	19.00	21.00
PCD138X-20	20	20.00	22.00
PCD138X-21	21	21.00	23.00
PCD138X-22	22	22.00	24.00
PCD138X-23	23	23.00	25.00
PCD138X-24	24	24.00	26.00
PCD138X-25	25	25.00	27.00
PCD138X-28	28	28.00	30.00
PCD138X-30	30	30.00	32.00
PCD138X-32	32	32.00	34.00
PCD138X-33	33	33.00	35.00
PCD138X-36	36	36.00	38.00
PCD138X-40	40	40.00	42.00
PCD138X-42	42	42.00	44.00
PCD138X-45	45	45.00	47.00
PCD138X-46	46	46.00	48.00
PCD138X-48	48	48.00	50.00
PCD138X-50	50	50.00	52.00
PCD138X-52	52	52.00	54.00
PCD138X-55	55	55.00	57.00
PCD138X-56	56	56.00	58.00
PCD138X-57	57	57.00	59.00
PCD138X-60	60	60.00	62.00
PCD138X-64	64	64.00	66.00
PCD138X-66	66	66.00	68.00
PCD138X-69	69	69.00	71.00
PCD138X-72	72	72.00	74.00
PCD138X-78	78	78.00	80.00
PCD138X-84	84	84.00	86.00
PCD138X-90	90	90.00	92.00
PCD138X-93	93	93.00	95.00

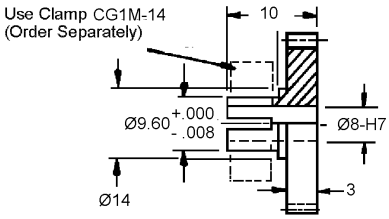
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	CLAMP HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 8/AGMA 9	20°





B

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CCS64-12	CCA64-12	12	12.00	14.00
CCS64-13	CCA64-13	13	13.00	15.00
CCS64-14	CCA64-14	14	14.00	16.00
CCS64-15	CCA64-15	15	15.00	17.00
CCS64-16	CCA64-16	16	16.00	18.00
CCS64-17	CCA64-17	17	17.00	19.00
CCS64-18	CCA64-18	18	18.00	20.00
CCS64-19	CCA64-19	19	19.00	21.00
CCS64-20	CCA64-20	20	20.00	22.00
CCS64-21	CCA64-21	21	21.00	23.00
CCS64-22	CCA64-22	22	22.00	24.00
CCS64-23	CCA64-23	23	23.00	25.00
CCS64-24	CCA64-24	24	24.00	26.00
CCS64-27	CCA64-27	27	27.00	29.00
CCS64-30	CCA64-30	30	30.00	32.00
CCS64-33	CCA64-33	33	33.00	35.00
CCS64-36	CCA64-36	36	36.00	38.00
CCS64-39	CCA64-39	39	39.00	41.00
CCS64-42	CCA64-42	42	42.00	44.00
CCS64-45	CCA64-45	45	45.00	47.00
CCS64-48	CCA64-48	48	48.00	50.00
CCS64-51	CCA64-51	51	51.00	53.00
CCS64-54	CCA64-54	54	54.00	56.00
CCS64-57	CCA64-57	57	57.00	59.00
CCS64-60	CCA64-60	60	60.00	62.00
CCS64-63	CCA64-63	63	63.00	65.00
CCS64-66	CCA64-66	66	66.00	68.00
CCS64-69	CCA64-69	69	69.00	71.00
CCS64-72	CCA64-72	72	72.00	74.00
CCS64-75	CCA64-75	75	75.00	77.00
CCS64-78	CCA64-78	78	78.00	80.00
CCS64-81	CCA64-81	81	81.00	83.00
CCS64-84	CCA64-84	84	84.00	86.00
CCS64-87	CCA64-87	87	87.00	89.00
CCS64-90	CCA64-90	90	90.00	92.00
CCS64-93	CCA64-93	93	93.00	95.00
CCS64-96	CCA64-96	96	96.00	98.00
CCS64-99	CCA64-99	99	99.00	101.00

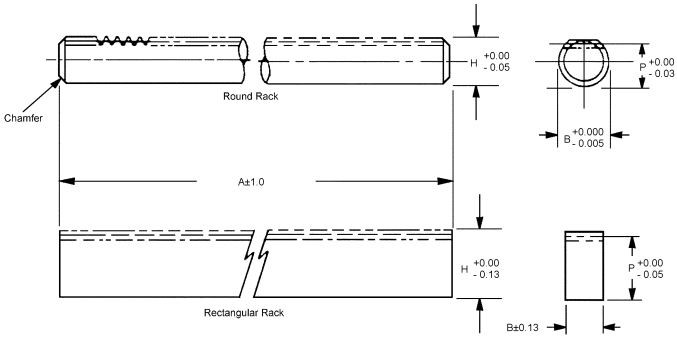
Available on request:
Other bore sizes;
numbers of teeth;
14-12° Pressure Angle;
Quality Class DIN 5/AGMA12

*For 17 teeth and below, teeth cut into flange

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

GEAR RACKS

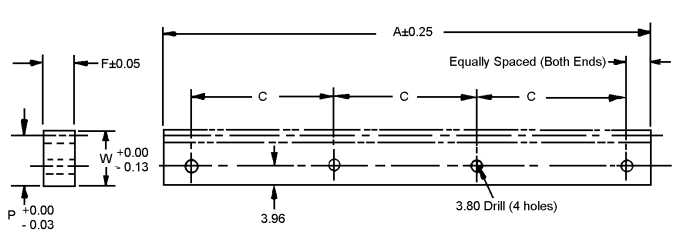
MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	ROUND & RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°

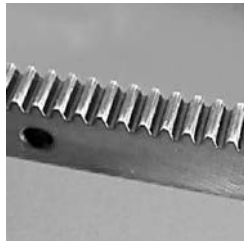


STOCK NO.	RACK STYLE	MOD.	P (Ref.)	B	A	H
R2M-3	ROUND	1.0	11.19	12.974	450	12.19
R3M-3	RECTANGULAR	1.0	11.19	5.84	450	12.19

Available on request: Special, modified and custom racks.

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





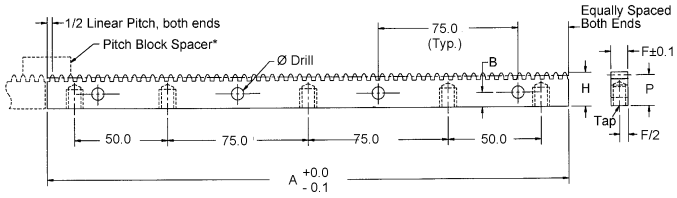
STOCK NO.	A	P (Ref.)	W	F	C
R4M-11	248.2	11.2	12.2	5.8	80.0

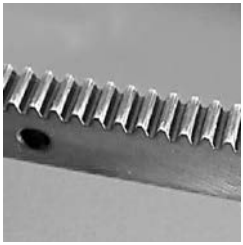
Quality Class AGMA12/DIN 5 available on request.

Available on request: Special, modified and custom racks.

GEAR RACKS

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





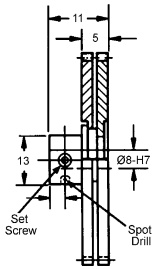
Spacer block is designed for butting to achieve continuous lengths.

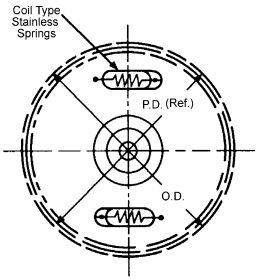
RACKS	SPACER BLOCK								
STOCK NO.	STOCK NO.	LINEAR PITCH	A	P (REF.)	H +0.00 -0.13	F	B	Ø DRILL	TAP
R1M-3	R1M-3-SB	3.14	279.6	11.07	12.07	5.8	5.5	3.8	M4.0 X 0.7

Quality Class AGMA 12/Din 5 available on request. Custom racks available on request.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	PIN HUB	8	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APCMM-30-X	APCQM-30-X	30	30.00	32.0
APCMM-35-X	APCQM-35-X	35	35.00	37.0
APCMM-36-X	APCQM-36-X	36	36.00	38.0
APCMM-40-X	APCQM-40-X	40	40.00	42.0
APCMM-42-X	APCQM-42-X	42	42.00	44.0
APCMM-45-X	APCQM-45-X	45	45.00	47.0
APCMM-48-X	APCQM-48-X	48	48.00	50.0
APCMM-50-X	APCQM-50-X	50	50.00	52.0
APCMM-54-X	APCQM-54-X	54	54.00	56.0
APCMM-55-X	APCQM-55-X	55	55.00	57.0
APCMM-60-X	APCQM-60-X	60	60.00	62.0
APCMM-65-X	APCQM-65-X	65	65.00	67.0
APCMM-66-X	APCQM-66-X	66	66.00	68.0

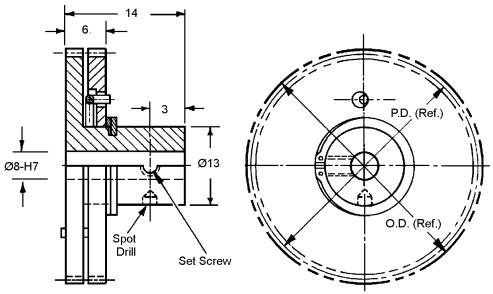
Available on request:
Other numbers of teeth;
Quality Class AGMA12 & 14 / DIN 5 & 3;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	PIN HUB	8	6	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



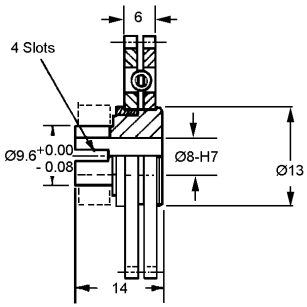
B

STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APCBSM-18-X	APCDSM-18-X	18	18.00	20.00
APCBSM-21-X	APCDSM-21-X	21	21.00	23.00
APCBSM-24-X	APCDSM-24-X	24	24.00	26.00

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	CLAMP HUB	8	6	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



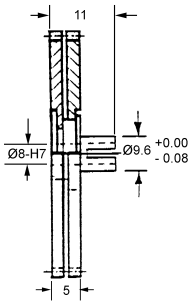
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACCBSM-18-X	ACCDSM-18-X	18	18.00	20.00
ACCBSM-21-X	ACCDSM-21-X	21	21.00	23.00
ACCBSM-24-X	ACCDSM-24-X	24	24.00	26.00

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
1.0	CLAMP HUB	8	6	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACCMM-30-X	ACCQM-30-X	30	30.00	32.0
ACCMM-35-X	ACCQM-35-X	35	35.00	37.0
ACCMM-36-X	ACCQM-36-X	36	36.00	38.0
ACCMM-40-X	ACCQM-40-X	40	40.00	42.0
ACCMM-42-X	ACCQM-42-X	42	42.00	44.0
ACCMM-45-X	ACCQM-45-X	45	45.00	47.0
ACCMM-48-X	ACCQM-48-X	48	48.00	50.0
ACCMM-50-X	ACCQM-50-X	50	50.00	52.0
ACCMM-54-X	ACCQM-54-X	54	54.00	56.0
ACCMM-55-X	ACCQM-55-X	55	55.00	57.0
ACCMM-60-X	ACCQM-60-X	60	60.00	62.0
ACCMM-65-X	ACCQM-65-X	65	65.00	67.0
ACCMM-66-X	ACCQM-66-X	66	66.00	68.0

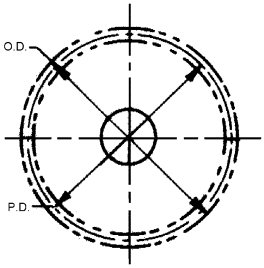
Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

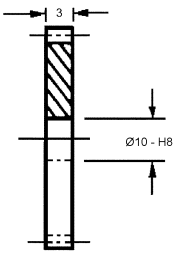
Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	HUBLESS	10	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





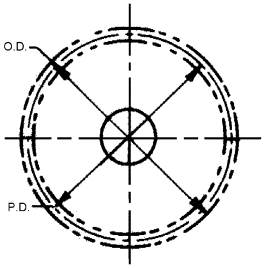
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 ANODIZED STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FDS103-20	FDA103-20	20	16.00	17.60
FDS103-24	FDA103-24	24	19.20	20.80
FDS103-26	FDA103-26	26	20.80	22.40
FDS103-28	FDA103-28	28	22.40	24.00
FDS103-30	FDA103-30	30	24.00	25.60
FDS103-32	FDA103-32	32	25.60	27.20
FDS103-36	FDA103-36	36	28.80	30.40
FDS103-40	FDA103-40	40	32.00	33.60
FDS103-42	FDA103-42	42	33.60	35.20
FDS103-44	FDA103-44	44	35.20	36.80
FDS103-48	FDA103-48	48	38.40	40.00
FDS103-60	FDA103-60	60	48.00	49.60
FDS103-64	FDA103-64	64	51.20	52.80
FDS103-72	FDA103-72	72	57.60	59.20
FDS103-75	FDA103-75	75	60.00	61.60
FDS103-76	FDA103-76	76	60.80	62.40
FDS103-80	FDA103-80	80	64.00	65.60
FDS103-81	FDA103-81	81	64.80	66.40
FDS103-86	FDA103-86	86	68.80	70.40
FDS103-88	FDA103-88	88	70.40	72.00
FDS103-90	FDA103-90	90	72.00	73.60
FDS103-92	FDA103-92	92	73.60	75.20
FDS103-95	FDA103-95	95	76.00	77.60
FDS103-96	FDA103-96	96	76.80	78.40
FDS103-100	FDA103-100	100	80.00	81.60
FDS103-105	FDA103-105	105	84.00	85.60
FDS103-108	FDA103-108	108	86.40	88.00
FDS103-110	FDA103-110	110	88.00	89.60
FDS103-112	FDA103-112	112	89.60	91.20
FDS103-115	FDA103-115	115	92.00	93.60
FDS103-116	FDA103-116	116	92.80	94.40
FDS103-120	FDA103-120	120	96.00	97.60
FDS103-124	FDA103-124	124	99.20	100.80
FDS103-126	FDA103-126	126	100.80	102.40
FDS103-128	FDA103-128	128	102.40	104.00
FDS103-132	FDA103-132	132	105.60	107.20

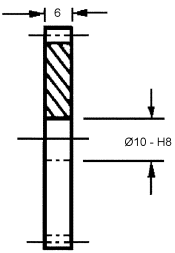
Available on request:
Other numbers of teeth;
Quality Class AGMA 12 & 14 / DIN 5 & 3;
14-1/2° Pressure Angle

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	HUBLESS	10	6	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





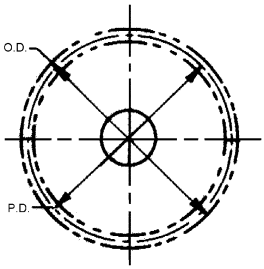
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 ANODIZED STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FDS106-32	FDA106-32	32	25.60	27.20
FDS106-36	FDA106-36	36	28.80	30.40
FDS106-40	FDA106-40	40	32.00	33.60
FDS106-48	FDA106-48	48	38.40	40.00
FDS106-60	FDA106-60	60	48.00	49.60
FDS106-64	FDA106-64	64	51.20	52.80
FDS106-72	FDA106-72	72	57.60	59.20
FDS106-75	FDA106-75	75	60.00	61.60
FDS106-80	FDA106-80	80	64.00	65.60
FDS106-96	FDA106-96	96	76.80	78.40
FDS106-120	FDA106-120	120	96.00	97.60
FDS106-128	FDA106-128	128	102.40	104.00

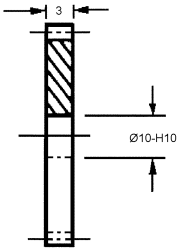
Available on request:
Other numbers of teeth;
14-1/2° Pressure Angle

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	HUBLESS	10	3	POLYURETHANE WITH LUBRICANT	DIN 8/AGMA 9	20°

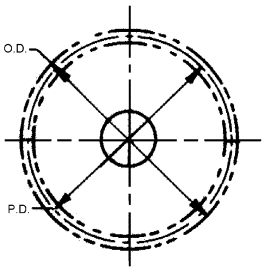


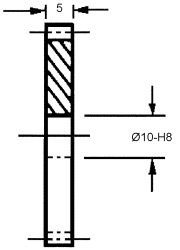


STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FDU103-32	32	25.60	27.20
FDU103-36	36	28.80	30.40
FDU103-40	40	32.00	33.60
FDU103-48	48	38.40	40.00
FDU103-60	60	48.00	49.60
FDU103-64	64	51.20	52.80
FDU103-72	72	57.60	59.20

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	HUBLESS	10	5	DELRIN	DIN 8/AGMA 9	20°



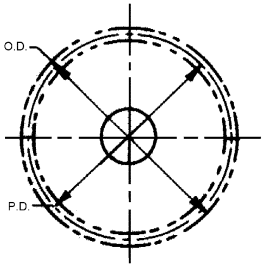


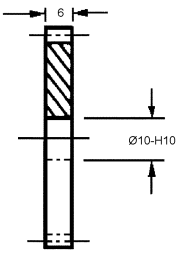
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FDD105-20	20	16.00	17.60
FDD105-21	21	16.80	18.40
FDD105-22	22	17.60	19.20
FDD105-23	23	18.40	20.00
FDD105-24	24	19.20	20.80
FDD105-25	25	20.00	21.60
FDD105-26	26	20.80	22.40
FDD105-28	28	22.40	24.00
FDD105-30	30	24.00	25.60
FDD105-32	32	25.60	27.20
FDD105-36	36	28.80	30.40
FDD105-40	40	32.00	33.60
FDD105-42	42	33.60	35.20
FDD105-44	44	35.20	36.80
FDD105-46	46	36.80	38.40
FDD105-48	48	38.40	40.00
FDD105-50	50	40.00	41.60

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	HUBLESS	10	6	POLYURETHANE WITH LUBRICANT	DIN 9/AGMA 8	20°





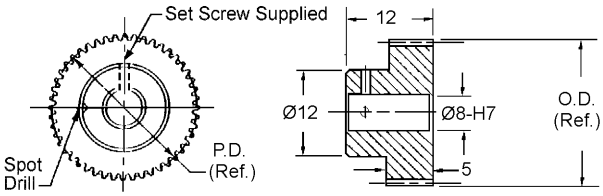
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FDU106-32	32	25.60	27.20
FDU106-36	36	28.80	30.40
FDU106-40	40	32.00	33.60
FDU106-48	48	38.40	40.00
FDU106-60	60	48.00	49.60
FDU106-64	64	51.20	52.80
FDU106-72	72	57.60	59.20
FDU106-75	75	60.00	61.60
FDU106-80	80	64.00	65.60
FDU106-96	96	76.80	78.40
FDU106-112	112	89.60	91.20
FDU106-120	120	96.00	97.60
FDU106-128	128	102.40	104.00

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	PIN HUB	8	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



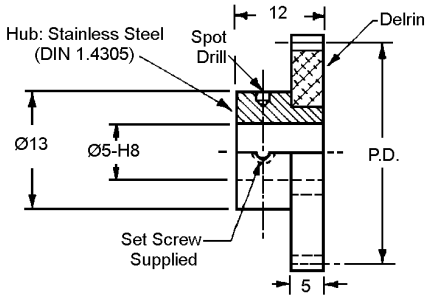
STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PDS95-18	PDA95-18	18	14.40	16.00
PDS95-20	PDA95-20	20	16.00	17.60
PDS95-24	PDA95-24	24	19.20	20.80
PDS95-26	PDA95-26	26	20.80	22.40
PDS95-28	PDA95-28	28	22.40	24.00
PDS95-30	PDA95-30	30	24.00	25.60
PDS95-32	PDA95-32	32	25.60	27.20
PDS95-36	PDA95-36	36	28.80	30.40
PDS95-40	PDA95-40	40	32.00	33.60
PDS95-48	PDA95-48	48	38.40	40.00
PDS95-52	PDA95-52	52	41.60	43.20
PDS95-56	PDA95-56	56	44.80	46.40
PDS95-60	PDA95-60	60	48.00	49.60
PDS95-64	PDA95-64	64	51.20	52.80
PDS95-72	PDA95-72	72	57.60	59.20
PDS95-80	PDA95-80	80	64.00	65.60
PDS95-88	PDA95-88	88	70.40	72.00
PDS95-92	PDA95-92	92	73.60	75.20
PDS95-96	PDA95-96	96	76.80	78.40
PDS95-100	PDA95-100	100	80.00	81.60
PDS95-112	PDA95-112	112	89.60	91.20
PDS95-120	PDA95-120	120	96.00	97.60
PDS95-128	PDA95-128	128	102.40	104.00

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	PIN HUB	5	5	DELRIN	DIN 8/AGMA 9	20°



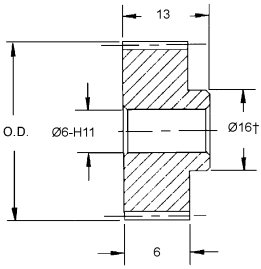
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PDD121X-20	20	16.00	17.60
PDD121X-21	21	16.80	18.40
PDD121X-22	22	17.60	19.20
PDD121X-23	23	18.40	20.00
PDD121X-24	24	19.20	20.80
PDD121X-25	25	20.00	21.60
PDD121X-26	26	20.80	22.40
PDD121X-28	28	22.40	24.00
PDD121X-30	30	24.00	25.60
PDD121X-32	32	25.60	27.20
PDD121X-36	36	28.80	30.40
PDD121X-40	40	32.00	33.60
PDD121X-42	42	33.60	35.20
PDD121X-44	44	35.20	36.80
PDD121X-46	46	36.80	38.40
PDD121X-48	48	38.40	40.00
PDD121X-50	50	40.00	41.60
PDD121X-52	52	41.60	43.20
PDD121X-56	56	44.80	46.40
PDD121X-60	60	48.00	49.60
PDD121X-63	63	50.40	52.00
PDD121X-64	64	51.20	52.80
PDD121X-66	66	52.80	54.40
PDD121X-69	69	55.20	56.80
PDD121X-72	72	57.60	59.20
PDD121X-75	75	60.00	61.60
PDD121X-80	80	64.00	65.60
PDD121X-84	84	67.20	68.80
PDD121X-88	88	70.40	72.00
PDD121X-92	92	73.60	75.20
PDD121X-96	96	76.80	78.40
PDD121X-104	104	83.20	84.80
PDD121X-108	108	86.40	88.00
PDD121X-112	112	89.60	91.20
PDD121X-124	124	99.20	100.80

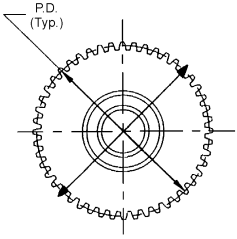
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	PIN HUB	6	6	DELRIN	DIN 12/AGMA 5	20°





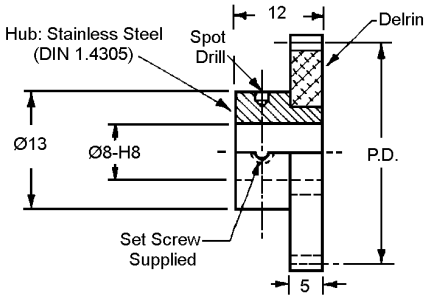
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PDD106M-20	20†	16.00	17.60
PDD106M-24	24	19.20	20.80
PDD106M-28	28	22.40	24.00
PDD106M-30	30	24.00	25.60
PDD106M-32	32	25.60	27.20
PDD106M-40	40	32.00	33.60
PDD106M-48	48	38.40	40.00
PDD106M-50	50	40.00	41.60
PDD106M-56	56	44.80	46.40
PDD106M-60	60	48.00	49.60
PDD106M-64	64	51.20	52.80
PDD106M-70	70	56.00	57.60
PDD106M-72	72	57.60	59.20
PDD106M-76	76	60.80	62.40
PDD106M-80	80	64.00	65.60
PDD106M-88	88	70.40	72.00
PDD106M-90	90	72.00	73.60

Available on request:
Other bore sizes, numbers of teeth

† Teeth runout on hub.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	PIN HUB	8	5	DELRIN	DIN 8/AGMA 9	20°



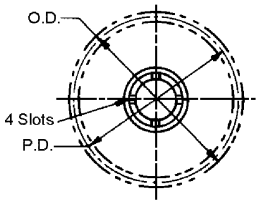
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PDD138X-20	20	16.00	17.60
PDD138X-21	21	16.80	18.40
PDD138X-22	22	17.60	19.20
PDD138X-23	23	18.40	20.00
PDD138X-24	24	19.20	20.80
PDD138X-25	25	20.00	21.60
PDD138X-26	26	20.80	22.40
PDD138X-28	28	22.40	24.00
PDD138X-30	30	24.00	25.60
PDD138X-32	32	25.60	27.20
PDD138X-36	36	28.80	30.40
PDD138X-40	40	32.00	33.60
PDD138X-42	42	33.60	35.20
PDD138X-44	44	35.20	36.80
PDD138X-46	46	36.80	38.40
PDD138X-48	48	38.40	40.00
PDD138X-50	50	40.00	41.60
PDD138X-52	52	41.60	43.20
PDD138X-56	56	44.80	46.40
PDD138X-60	60	48.00	49.60
PDD138X-63	63	50.40	52.00
PDD138X-64	64	51.20	52.80
PDD138X-66	66	52.80	54.40
PDD138X-69	69	55.20	56.80
PDD138X-72	72	57.60	59.20
PDD138X-75	75	60.00	61.60
PDD138X-80	80	64.00	65.60
PDD138X-84	84	67.20	68.80
PDD138X-88	88	70.40	72.00
PDD138X-92	92	73.60	75.20
PDD138X-96	96	76.80	78.40
PDD138X-104	104	83.20	84.80
PDD138X-108	108	86.40	88.00
PDD138X-112	112	89.60	91.20
PDD138X-124	124	99.20	100.80

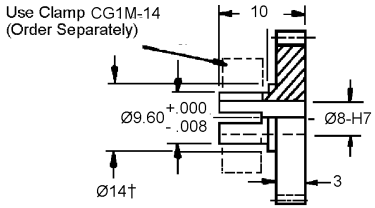
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	CLAMP HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





B

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CDS64-14	CDA64-14	14†	11.20	12.80
CDS64-15	CDA64-15	15†	12.00	13.60
CDS64-16	CDA64-16	16†	12.80	14.40
CDS64-17	CDA64-17	17†	13.60	15.20
CDS64-18	CDA64-18	18†	14.40	16.00
CDS64-19	CDA64-19	19†	15.20	16.80
CDS64-20	CDA64-20	20	16.00	17.60
CDS64-22	CDA64-22	22	17.60	19.20
CDS64-24	CDA64-24	24	19.20	20.80
CDS64-25	CDA64-25	25	20.00	21.60
CDS64-26	CDA64-26	26	20.80	22.40
CDS64-28	CDA64-28	28	22.40	24.00
CDS64-30	CDA64-30	30	24.00	25.60
CDS64-32	CDA64-32	32	25.60	27.20
CDS64-34	CDA64-34	34	27.20	28.80
CDS64-36	CDA64-36	36	28.80	30.40
CDS64-38	CDA64-38	38	30.40	32.00
CDS64-39	CDA64-39	39	31.20	32.80
CDS64-40	CDA64-40	40	32.00	33.60
CDS64-45	CDA64-45	45	36.00	37.60
CDS64-48	CDA64-48	48	38.40	40.00
CDS64-50	CDA64-50	50	40.00	41.60
CDS64-54	CDA64-54	54	43.20	44.80
CDS64-55	CDA64-55	55	44.00	45.60
CDS64-56	CDA64-56	56	44.80	46.40
CDS64-60	CDA64-60	60	48.00	49.60
CDS64-64	CDA64-64	64	51.20	52.80
CDS64-65	CDA64-65	65	52.00	53.60
CDS64-68	CDA64-68	68	54.40	56.00
CDS64-70	CDA64-70	70	56.00	57.60
CDS64-72	CDA64-72	72	57.60	59.20
CDS64-76	CDA64-76	76	60.80	62.40
CDS64-80	CDA64-80	80	64.00	65.60
CDS64-88	CDA64-88	88	70.40	72.00
CDS64-90	CDA64-90	90	72.00	73.60
CDS64-96	CDA64-96	96	76.80	78.40
CDS64-112	CDA64-112	112	89.60	91.20
CDS64-127	CDA64-127	127	101.60	103.20
CDS64-128	CDA64-128	128	102.40	104.00
CDS64-132	CDA64-132	132	105.60	107.20

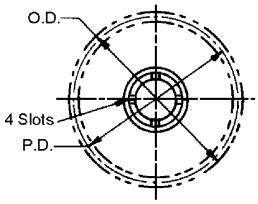
Available on request:
Other bore sizes;
numbers of teeth;
14-12° Pressure Angle;
Quality Class DIN 5/AGMA12

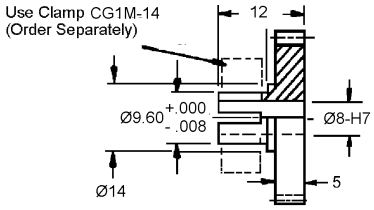
† Teeth may runout on flange diameter.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	CLAMP HUB	8	5	STAINLESS STEEL DIN 1.4305	DIN 7/AGMA 10	20°





STAINLESS STEEL STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CDS65-20	20	16.00	17.60
CDS65-21	21	16.80	18.40
CDS65-22	22	17.60	19.20
CDS65-23	23	18.40	20.00
CDS65-24	24	19.20	20.80
CDS65-25	25	20.00	21.60
CDS65-28	28	22.40	24.00
CDS65-30	30	24.00	25.60
CDS65-32	32	25.60	27.20
CDS65-36	36	28.80	30.40
CDS65-40	40	32.00	33.60
CDS65-48	48	38.40	40.00
CDS65-56	56	44.80	46.40
CDS65-60	60	48.00	49.60
CDS65-64	64	51.20	52.80
CDS65-72	72	57.60	59.20
CDS65-80	80	64.00	65.60
CDS65-96	96	76.80	78.40
CDS65-112	112	89.60	91.20
CDS65-128	128	102.40	104.00
CDS65-132	132	105.60	107.20

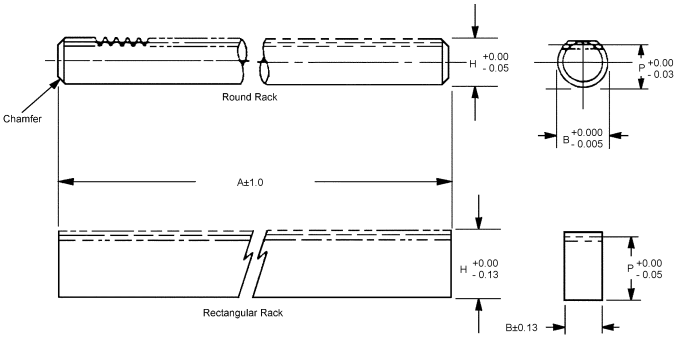
Available on request:
Other numbers of teeth;
14-12° Pressure Angle;
Quality Class DIN 5/AGMA12

† Teeth may runout on flange diameter.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

GEAR RACKS

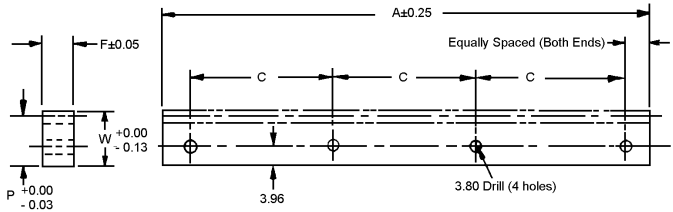
MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	ROUND & RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°

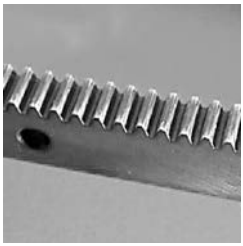


STOCK NO.	RACK STYLE	MOD.	P (Ref.)	B	A	H
R2M-4	ROUND	0.8	7.84	9.974	450	12.19
R3M-4	RECTANGULAR	0.8	11.39	5.84	450	12.19

Available on request: Special, modified and custom racks.

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





STOCK NO.	A	P (Ref.)	W	F	C
R4M-05	248.8	11.4	12.2	5.8	80.0

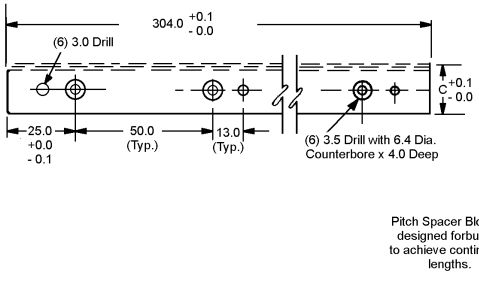
Available on request: Special, modified and custom racks.

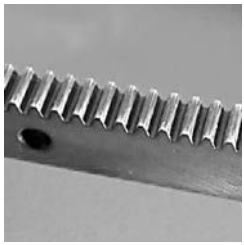
Available on request: Special, modified and custom racks.

Quality Class AGMA12/DIN 5 available on request.

GEAR RACKS

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





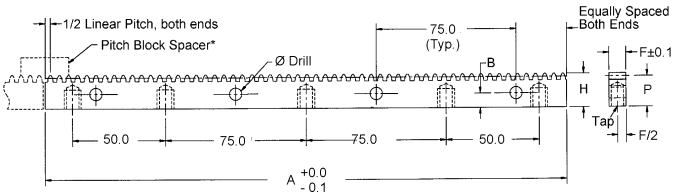
RACKS STOCK NO.	SPACER BLOCKS STOCK NO.	MODULE	LINEAR PITCH	C
R8M-1-G1	R8M-1-SB	0.8	2.51	11.39

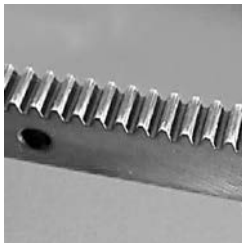
Available on request: special, modified and custom racks.

Quality Class AGMA12/DIN 5 available on request.

Adjacent hole center ±0.06
Accumulative hole centers ±0.14

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





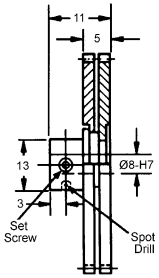
Spacer block is designed for butting to achieve continuous lengths.

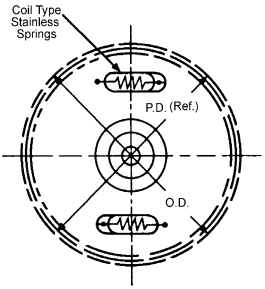
RACKS STOCK NO.	SPACER BLOCK STOCK NO.	LINEAR PITCH	A	P (REF.)	H +0.00 -0.13	F	B	Ø DRILL	TAP
R1M-4	R1M-4-SB	2.51	281.5	11.26	12.07	5.8	5.5	3.8	M4.0 X 0.7

Quality Class AGMA 12/Din 5 available on request. Custom racks available on request.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	PIN HUB	8	6	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APDMM-40-X	APDQM-40-X	40	32.00	33.6
APDMM-45-X	APDOM-45-X	45	36.00	37.6
APDMM-48-X	APDQM-48-X	48	38.40	40.0
APDMM-50-X	APDQM-50-X	50	40.00	41.6
APDMM-55-X	APDQM-55-X	55	44.00	45.6
APDMM-56-X	APDQM-56-X	56	44.80	46.4
APDMM-60-X	APDQM-60-X	60	48.00	49.6
APDMM-64-X	APDQM-64-X	64	51.20	52.8
APDMM-65-X	APDQM-65-X	65	52.00	53.6
APDMM-70-X	APDQM-70-X	70	56.00	57.6
APDMM-72-X	APDQM-72-X	72	57.60	59.2
APDMM-75-X	APDQM-75-X	75	60.00	61.6
APDMM-80-X	APDQM-80-X	80	64.00	65.6
APDMM-85-X	APDQM-85-X	85	66.00	69.6

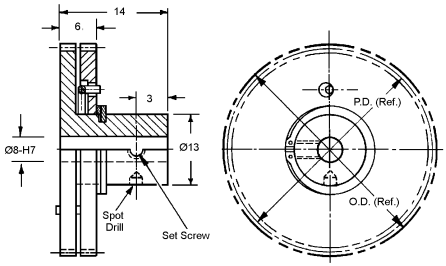
Available on request:
Other numbers of teeth;
Quality Class AGMA12 & 14 / DIN 5 & 3;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	PIN HUB	8	6	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°

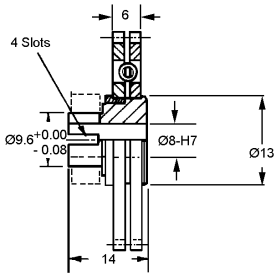


STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APDBSM-24-X	APDDSM-24-X	24	19.20	20.80
APDBSM-28-X	APDDSM-28-X	28	22.40	24.00
APDBSM-32-X	APDDSM-32-X	32	25.60	27.20

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	CLAMP HUB	8	6	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



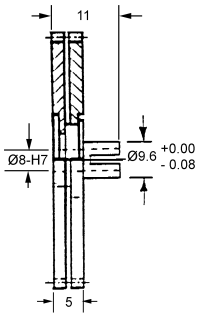
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACDBSM-24-X	ACDDSM-24-X	24	19.20	20.80
ACDBSM-28-X	ACDDSM-28-X	28	22.40	24.00
ACDBSM-32-X	ACDDSM-32-X	32	25.60	27.20

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.8	CLAMP HUB	8	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACDMM-40-X	ACDQM-40-X	40	32.00	33.6
ACDMM-45-X	ACDQM-45-X	45	36.00	37.6
ACDMM-48-X	ACDQM-48-X	48	38.40	40.0
ACDMM-50-X	ACDQM-50-X	50	40.00	41.6
ACDMM-55-X	ACDQM-55-X	55	44.00	45.6
ACDMM-56-X	ACDQM-56-X	56	44.80	46.4
ACDMM-60-X	ACDQM-60-X	60	48.00	49.6
ACDMM-64-X	ACDQM-64-X	64	51.20	52.8
ACDMM-65-X	ACDQM-65-X	65	52.00	53.6
ACDMM-70-X	ACDQM-70-X	70	56.00	57.6
ACDMM-72-X	ACDQM-72-X	72	57.60	59.2
ACDMM-75-X	ACDQM-75-X	75	60.00	61.6
ACDMM-80-X	ACDQM-80-X	80	64.00	65.6
ACDMM-85-X	ACDQM-85-X	85	66.00	69.6

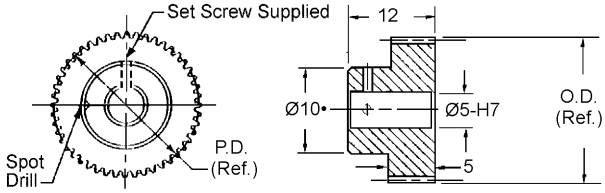
Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.6	PIN HUB	5	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PES83-18	PEA83-18	18•	10.80	12.00
PES83-20	PEA83-20	20	12.00	13.20
PES83-22	PEA83-22	22	13.20	14.40
PES83-24	PEA83-24	24	14.40	15.60
PES83-25	PEA83-25	25	15.00	16.20
PES83-26	PEA83-26	26	15.60	16.80
PES83-28	PEA83-28	28	16.80	18.00
PES83-30	PEA83-30	30	18.00	19.20
PES83-32	PEA83-32	32	19.20	20.40
PES83-36	PEA83-36	36	21.60	22.80
PES83-40	PEA83-40	40	24.00	25.20
PES83-42	PEA83-42	42	25.20	26.40
PES83-45	PEA83-45	45	27.00	28.20
PES83-48	PEA83-48	48	28.80	30.00
PES83-50	PEA83-50	50	30.00	31.20
PES83-54	PEA83-54	54	32.40	33.60
PES83-56	PEA83-56	56	33.60	34.80
PES83-60	PEA83-60	60	36.00	37.20
PES83-64	PEA83-64	64	38.40	39.60
PES83-70	PEA83-70	70	42.00	43.20
PES83-72	PEA83-72	72	43.20	44.40
PES83-75	PEA83-75	75	45.00	46.20
PES83-76	PEA83-76	76	45.60	46.80
PES83-80	PEA83-80	80	48.00	49.20
PES83-88	PEA83-88	88	52.80	54.00
PES83-90	PEA83-90	90	54.00	55.20
PES83-96	PEA83-96	96	57.60	58.80
PES83-100	PEA83-100	100	60.00	61.20
PES83-110	PEA83-110	110	66.00	67.20
PES83-120	PEA83-120	120	72.00	73.20
PES83-124	PEA83-124	124	74.40	75.60
PES83-128	PEA83-128	128	76.80	78.00

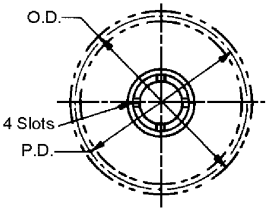
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

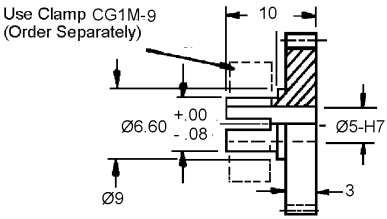
- For 17 - 18 teeth hub diameter equals 8.0

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.6	CLAMP HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





B

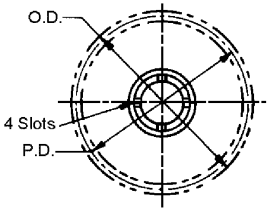
STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CES52-20	CEA52-20	20	12.00	13.20
CES52-24	CEA52-24	24	14.40	15.60
CES52-28	CEA52-28	28	16.80	18.00
CES52-30	CEA52-30	30	18.00	19.20
CES52-32	CEA52-32	32	19.20	20.40
CES52-40	CEA52-40	40	24.00	25.20
CES52-46	CEA52-46	46	27.60	28.80
CES52-48	CEA52-48	48	28.80	30.00
CES52-56	CEA52-56	56	33.60	34.80
CES52-60	CEA52-60	60	36.00	37.20
CES52-66	CEA52-66	66	39.60	40.80
CES52-70	CEA52-70	70	42.00	43.20
CES52-72	CEA52-72	72	43.20	44.40
CES52-84	CEA52-84	84	50.40	51.60
CES52-90	CEA52-90	90	54.00	55.20
CES52-96	CEA52-96	96	57.60	58.80
CES52-100	CEA52-100	100	60.00	61.20
CES52-102	CEA52-102	102	61.20	62.40
CES52-105	CEA52-105	105	63.00	64.20
CES52-108	CEA52-108	108	64.80	66.00
CES52-110	CEA52-110	110	66.00	67.20
CES52-114	CEA52-114	114	68.40	69.60
CES52-120	CEA52-120	120	72.00	73.20
CES52-126	CEA52-126	126	75.60	76.80
CES52-132	CEA52-132	132	79.20	80.40
CES52-138	CEA52-138	138	82.80	84.00
CES52-140	CEA52-140	140	84.00	85.20
CES52-144	CEA52-144	144	86.40	87.60
CES52-150	CEA52-150	150	90.00	91.20
CES52-156	CEA52-156	156	93.60	94.80
CES52-160	CEA52-160	160	96.00	97.20
CES52-168	CEA52-168	168	100.80	102.00
CES52-170	CEA52-170	170	102.00	103.20

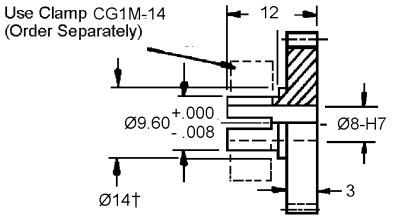
Available on request:
Other bore sizes;
numbers of teeth;
14-12° Pressure Angle;
Quality Class DIN 5/AGMA12

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.6	CLAMP HUB	8	3	STAINLESS STEEL DIN 1.4305	DIN 7/AGMA 10	20°





STAINLESS STEEL STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CES64-23	23†	13.80	15.00
CES64-24	24†	14.00	15.60
CES64-25	25†	15.00	16.20
CES64-28	28	16.80	18.00
CES64-30	30	18.00	19.20
CES64-32	32	19.20	20.40
CES64-36	36	21.60	22.80
CES64-40	40	24.00	25.20
CES64-42	42	25.20	26.40
CES64-45	45	27.00	28.20
CES64-48	48	28.80	30.00
CES64-50	50	30.00	31.20
CES64-54	54	32.40	33.60
CES64-60	60	36.00	37.20
CES64-70	70	42.00	42.20
CES64-72	72	43.20	44.40
CES64-75	75	45.00	46.20
CES64-78	78	46.80	48.00
CES64-80	80	48.00	49.20
CES64-84	84	50.40	51.60
CES64-88	88	52.80	54.00
CES64-90	90	54.00	55.20
CES64-96	96	57.60	58.80
CES64-100	100	60.00	61.20
CES64-108	108	64.80	66.00
CES64-112	112	67.20	68.40
CES64-120	120	72.00	73.20
CES64-128	128	76.80	78.00
CES64-132	132	79.20	80.40
CES64-144	144	86.40	87.60
CES64-150	150	90.00	91.20
CES64-162	162	97.20	98.40
CES64-168	168	100.80	102.00

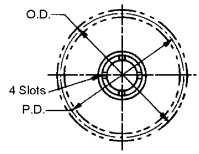
Available on request:
Other numbers of teeth;
14-12° Pressure Angle;
Quality Class DIN 5/AGMA12

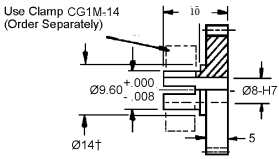
† Teeth may runout on flange diameter.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.6	CLAMP HUB	8	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





Available on request:
Other bore sizes;
numbers of teeth;
14-12° Pressure Angle;
Quality Class DIN 5/AGMA12

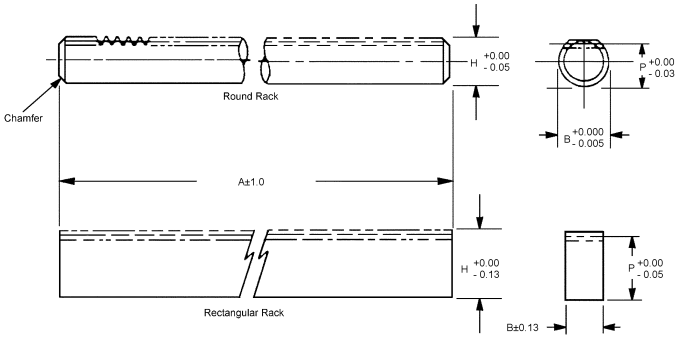
† Teeth may runout on flange diameter.

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CES65-20	CEA65-20	20†	12.00	13.20
CES65-21	CEA65-21	21†	12.60	13.80
CES65-22	CEA65-22	22†	13.20	14.40
CES65-23	CEA65-23	23†	13.80	15.00
CES65-24	CEA65-24	24†	14.40	15.60
CES65-25	CEA65-25	25†	15.00	16.80
CES65-26	CEA65-26	26	15.60	17.40
CES65-27	CEA65-27	27	16.20	18.00
CES65-28	CEA65-28	28	16.80	18.60
CES65-29	CEA65-29	29	17.40	19.20
CES65-30	CEA65-30	30	18.00	20.40
CES65-32	CEA65-32	32	19.20	21.60
CES65-34	CEA65-34	34	20.40	22.50
CES65-35	CEA65-35	35	21.00	22.20
CES65-36	CEA65-36	36	21.60	22.80
CES65-38	CEA65-38	38	22.80	24.00
CES65-40	CEA65-40	40	24.00	25.20
CES65-42	CEA65-42	42	25.20	26.40
CES65-44	CEA65-44	44	26.40	27.40
CES65-45	CEA65-45	45	27.00	28.20
CES65-46	CEA65-46	46	27.60	28.80
CES65-47	CEA65-47	47	28.20	29.40
CES65-48	CEA65-48	48	28.80	30.00
CES65-50	CEA65-50	50	30.00	31.20
CES65-54	CEA65-54	54	32.40	33.60
CES65-55	CEA65-55	55	33.00	34.20
CES65-56	CEA65-56	56	33.60	34.80
CES65-60	CEA65-60	60	36.00	37.20
CES65-64	CEA65-64	64	38.40	39.60
CES65-66	CEA65-66	66	39.60	40.80
CES65-68	CEA65-68	68	40.80	42.00
CES65-70	CEA65-70	70	42.00	43.20
CES65-72	CEA65-72	72	43.20	44.40
CES65-75	CEA65-75	75	45.00	46.20
CES65-78	CEA65-78	78	46.80	48.00
CES65-80	CEA65-80	80	48.00	49.20
CES65-81	CEA65-81	81	48.60	49.80
CES65-84	CEA65-84	84	50.40	51.60
CES65-85	CEA65-85	85	51.00	52.20
CES65-88	CEA65-88	88	52.80	54.00
CES65-90	CEA65-90	90	54.00	55.20
CES65-91	CEA65-91	91	54.60	55.80
CES65-92	CEA65-92	92	55.20	56.40
CES65-93	CEA65-93	93	55.80	57.00
CES65-96	CEA65-96	96	57.60	58.80
CES65-100	CEA65-100	100	60.00	61.20
CES65-102	CEA65-102	102	61.20	62.40
CES65-104	CEA65-104	104	62.40	63.60
CES65-105	CEA65-105	105	63.00	64.20
CES65-108	CEA65-108	108	64.80	66.00
CES65-112	CEA65-112	112	67.20	68.40
CES65-114	CEA65-114	114	68.40	69.60
CES65-120	CEA65-120	120	72.00	73.20
CES65-126	CEA65-126	126	75.60	76.80
CES65-127	CEA65-127	127	76.20	77.40
CES65-128	CEA65-128	128	76.80	78.00
CES65-132	CEA65-132	132	79.20	80.40
CES65-136	CEA65-136	136	81.60	82.80
CES65-138	CEA65-138	138	82.80	84.00
CES65-144	CEA65-144	144	86.40	87.60
CES65-150	CEA65-150	150	90.00	91.20
CES65-152	CEA65-152	152	91.20	92.40
CES65-156	CEA65-156	156	93.60	94.80
CES65-162	CEA65-162	162	97.20	98.40
CES65-168	CEA65-168	168	100.80	102.00
CES65-171	CEA65-171	171	102.60	103.80
CES65-175	CEA65-175	175	105.00	106.20

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

GEAR RACKS

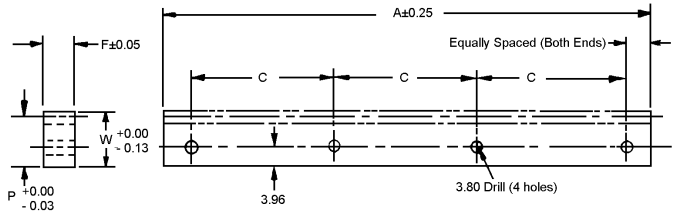
MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.6	ROUND & RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°



STOCK NO.	RACK STYLE	MOD.	P (Ref.)	B	A	H
R2M-5	ROUND	0.6	4.99	5.974	450	5.59
R3M-5	RECTANGULAR	0.6	11.59	5.84	450	12.19

Available on request: Special, modified and custom racks.

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.6	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°



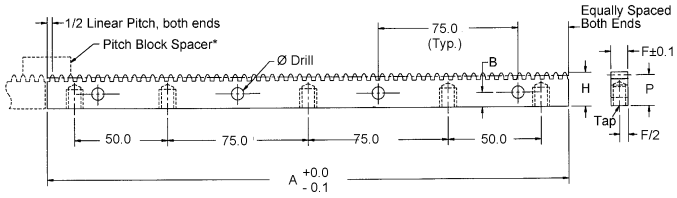
STOCK NO.	A	P (Ref.)	W	F	C
R4M-17	244.3	11.6	12.2	5.8	70.0

Available on request: Special, modified and custom racks.

Quality Class AGMA12/DIN 5 available on request.

GEAR RACKS

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.6	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°



B

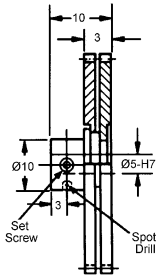
Spacer block is designed for butting to achieve continuous lengths.

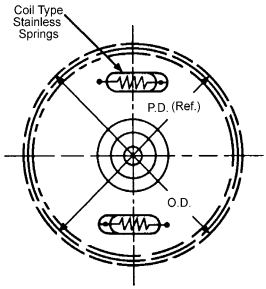
RACKS	SPACER BLOCK								
STOCK NO.	STOCK NO.	LINEAR PITCH	A	P (REF.)	H +0.00 -0.13	F	B	Ø DRILL	TAP
R1M-5	R1M-5-SB	1.88	280.9	11.47	12.07	5.8	5.5	3.8	M4.0 X 0.7

Quality Class AGMA 12/Din 5 available on request. Custom racks available on request.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.6	PIN HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APEUM-65	APEVM-65	65	39.00	40.2
APEUM-70	APEVM-70	70	42.00	43.2
APEUM-72	APEVM-72	72	43.20	44.4
APEUM-75	APEVM-75	75	45.00	46.2
APEUM-80	APEVM-80	80	48.00	49.2
APEUM-84	APEVM-84	84	50.40	51.6
APEUM-85	APEVM-85	85	51.00	52.2
APEUM-90	APEVM-90	90	54.00	55.2
APEUM-95	APEVM-95	95	57.00	58.2
APEUM-96	APEVM-96	96	57.60	58.8
APEUM-100	APEVM-100	100	60.00	61.2
APEUM-105	APEVM-105	105	63.00	64.2
APEUM-110	APEVM-110	110	66.00	67.2
APEUM-115	APEVM-115	115	69.00	70.2
APEUM-120	APEVM-120	120	72.00	73.2
APEUM-125	APEVM-125	125	75.00	76.2
APEUM-130	APEVM-130	130	78.00	79.2
APEUM-132	APEVM-132	132	79.20	80.4
APEUM-140	APEVM-140	140	84.00	85.2
APEUM-144	APEVM-144	144	88.40	87.6
APEUM-150	APEVM-150	150	90.00	91.2

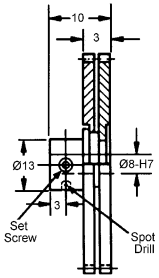
Available on request:
Other numbers of teeth;
Quality Class AGMA12 & 14 / DIN 5 & 3;
14-1/2° Pressure Angle

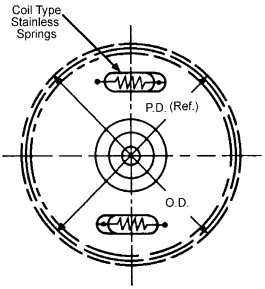
Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.6	PIN HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





B

STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APEWM-65-X	APEXM-65-X	65	39.00	40.2
APEWM-70-X	APEXM-70-X	70	42.00	43.2
APEWM-72-X	APEXM-72-X	72	43.20	44.4
APEWM-75-X	APEXM-75-X	75	45.00	46.2
APEWM-80-X	APEXM-80-X	80	48.00	49.2
APEWM-84-X	APEXM-84-X	84	50.40	51.6
APEWM-85-X	APEXM-85-X	85	51.00	52.2
APEWM-90-X	APEXM-90-X	90	54.00	55.2
APEWM-95-X	APEXM-95-X	95	57.00	58.2
APEWM-96-X	APEXM-96-X	96	57.60	58.8
APEWM-100-X	APEXM-100-X	100	60.00	61.2
APEWM-105-X	APEXM-105-X	105	63.00	64.2
APEWM-110-X	APEXM-110-X	110	66.00	67.2
APEWM-115-X	APEXM-115-X	115	69.00	70.2
APEWM-120-X	APEXM-120-X	120	72.00	73.2
APEWM-125-X	APEXM-125-X	125	75.00	76.2
APEWM-130-X	APEXM-130-X	130	78.00	79.2
APEWM-132-X	APEXM-132-X	132	79.20	80.4
APEWM-140-X	APEXM-140-X	140	84.00	85.2
APEWM-144-X	APEXM-144-X	144	88.40	87.6
APEWM-150-X	APEXM-150-X	150	90.00	91.2

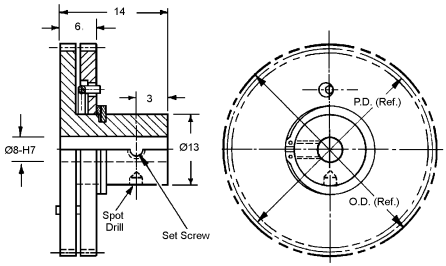
Available on request:
Other numbers of teeth;
Quality Class AGMA12 & 14 / DIN 5 & 3;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.6	PIN HUB	8	6	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°

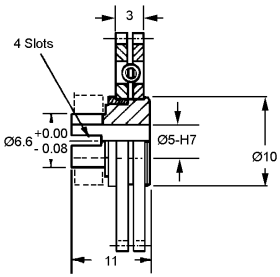


STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APEBSM-28-X	APEDSM-28-X	28	16.80	18.00
APEBSM-32-X	APEDSM-32-X	32	19.20	20.40
APEBSM-36-X	APEDSM-36-X	36	21.60	22.80

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.6	CLAMP HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



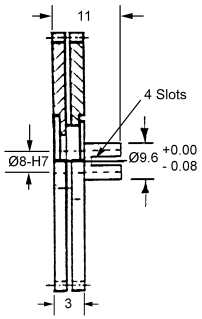
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACEUM-65	ACEVM-65	65	39.00	40.2
ACEUM-70	ACEVM-70	70	42.00	43.2
ACEUM-72	ACEVM-72	72	43.20	44.4
ACEUM-75	ACEVM-75	75	45.00	46.2
ACEUM-80	ACEVM-80	80	48.00	49.2
ACEUM-84	ACEVM-84	84	50.40	51.6
ACEUM-85	ACEVM-85	85	51.00	52.2
ACEUM-90	ACEVM-90	90	54.00	55.2
ACEUM-95	ACEVM-95	95	57.00	58.2
ACEUM-96	ACEVM-96	96	57.60	58.8
ACEUM-100	ACEVM-100	100	60.00	61.2
ACEUM-105	ACEVM-105	105	63.00	64.2
ACEUM-110	ACEVM-110	110	66.00	67.2
ACEUM-115	ACEVM-115	115	69.00	70.2
ACEUM-120	ACEVM-120	120	72.00	73.2
ACEUM-125	ACEVM-125	125	75.00	76.2
ACEUM-130	ACEVM-130	130	78.00	79.2
ACEUM-132	ACEVM-132	132	79.20	80.4
ACEUM-140	ACEVM-140	140	84.00	85.2
ACEUM-144	ACEVM-144	144	88.40	87.6
ACEUM-150	ACEVM-150	150	90.00	91.2

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.6	CLAMP HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACEWM-65-X	ACEXM-65-X	65	39.00	40.2
ACEWM-70-X	ACEXM-70-X	70	42.00	43.2
ACEWM-72-X	ACEXM-72-X	72	43.20	44.4
ACEWM-75-X	ACEXM-75-X	75	45.00	46.2
ACEWM-80-X	ACEXM-80-X	80	48.00	49.2
ACEWM-84-X	ACEXM-84-X	84	50.40	51.6
ACEWM-85-X	ACEXM-85-X	85	51.00	52.2
ACEWM-90-X	ACEXM-90-X	90	54.00	55.2
ACEWM-95-X	ACEXM-95-X	95	57.00	58.2
ACEWM-96-X	ACEXM-96-X	96	57.60	58.8
ACEWM-100-X	ACEXM-100-X	100	60.00	61.2
ACEWM-105-X	ACEXM-105-X	105	63.00	64.2
ACEWM-110-X	ACEXM-110-X	110	66.00	67.2
ACEWM-115-X	ACEXM-115-X	115	69.00	70.2
ACEWM-120-X	ACEXM-120-X	120	72.00	73.2
ACEWM-125-X	ACEXM-125-X	125	75.00	76.2
ACEWM-130-X	ACEXM-130-X	130	78.00	79.2
ACEWM-132-X	ACEXM-132-X	132	79.20	80.4
ACEWM-140-X	ACEXM-140-X	140	84.00	85.2
ACEWM-144-X	ACEXM-144-X	144	88.40	87.6
ACEWM-150-X	ACEXM-150-X	150	90.00	91.2

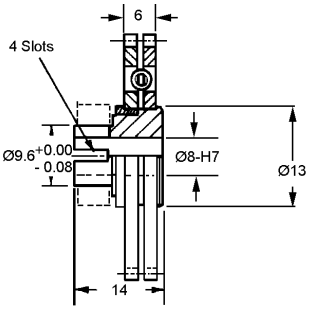
Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.6	CLAMP HUB	8	6	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACEBSM-28-X	ACEDSM-28-X	28	16.80	18.00
ACEBSM-32-X	ACEDSM-32-X	32	19.20	20.40
ACEBSM-36-X	ACEDSM-36-X	36	21.60	22.80

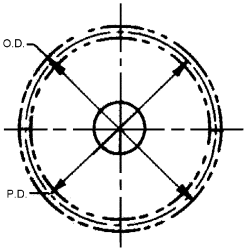
Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

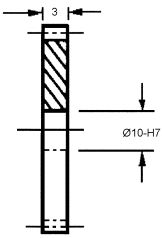
Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	HUBLESS	10	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°

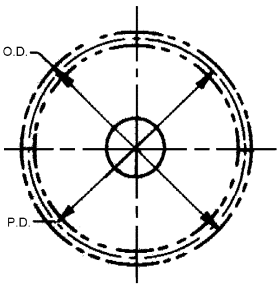


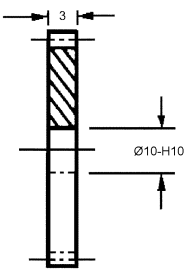


Available on request:
Other numbers of teeth;
Quality Class AGMA 12 & 14 / DIN 5 & 3;
14 - 1/2° pressure angle.

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FFS103-30	FFA103-30	30	15.00	16.00
FFS103-32	FFA103-32	32	16.00	17.00
FFS103-40	FFA103-40	40	20.00	21.00
FFS103-42	FFA103-42	42	21.00	22.00
FFS103-44	FFA103-44	44	22.00	23.00
FFS103-48	FFA103-48	48	24.00	25.00
FFS103-50	FFA103-50	50	25.00	26.00
FFS103-54	FFA103-54	54	27.00	28.00
FFS103-60	FFA103-60	60	30.00	31.00
FFS103-64	FFA103-64	64	32.00	33.00
FFS103-65	FFA103-65	65	32.50	33.50
FFS103-70	FFA103-70	70	35.00	36.00
FFS103-72	FFA103-72	72	36.00	37.00
FFS103-75	FFA103-75	75	37.50	38.50
FFS103-80	FFA103-80	80	40.00	41.00
FFS103-84	FFA103-84	84	42.00	43.00
FFS103-85	FFA103-85	85	42.50	43.50
FFS103-90	FFA103-90	90	45.00	46.00
FFS103-96	FFA103-96	96	48.00	49.00
FFS103-100	FFA103-100	100	50.00	51.00
FFS103-105	FFA103-105	105	52.50	53.50
FFS103-108	FFA103-108	108	54.00	55.00
FFS103-110	FFA103-110	110	55.00	56.00
FFS103-114	FFA103-114	114	57.00	58.00
FFS103-120	FFA103-120	120	60.00	61.00
FFS103-125	FFA103-125	125	62.50	63.50
FFS103-130	FFA103-130	130	65.00	66.00
FFS103-132	FFA103-132	132	66.00	67.00
FFS103-135	FFA103-135	135	67.50	68.50
FFS103-138	FFA103-138	138	69.00	70.00
FFS103-140	FFA103-140	140	70.00	71.00
FFS103-144	FFA103-144	144	72.00	73.00
FFS103-150	FFA103-150	150	75.00	76.00
FFS103-156	FFA103-156	156	78.00	79.00
FFS103-160	FFA103-160	160	80.00	81.00
FFS103-168	FFA103-168	168	84.00	85.00
FFS103-170	FFA103-170	170	85.00	86.00
FFS103-180	FFA103-180	180	90.00	91.00
FFS103-186	FFA103-186	186	93.00	94.00
FFS103-190	FFA103-190	190	95.00	96.00
FFS103-192	FFA103-192	192	96.00	97.00

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	HUBLESS	10	3	POLYURETHANE WITH LUBRICANT	DIN 7/AGMA 10	20°



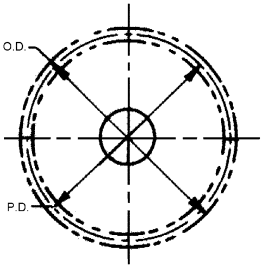


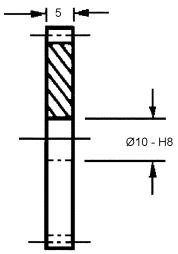
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FFU103-48	48	24.00	25.00
FFU103-60	60	30.00	31.00
FFU103-72	72	36.00	37.00
FFU103-84	84	42.00	43.00
FFU103-96	96	48.00	49.00
FFU103-108	108	54.00	55.00

Available on request:
Other numbers of teeth;
Quality Class AGMA 12 & 14 / DIN 5 & 3;
14 - 1/2° pressure angle.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	HUBLESS	10	5	DELRIN	DIN 8/AGMA 9	20°

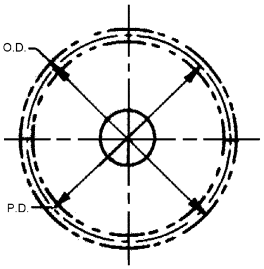


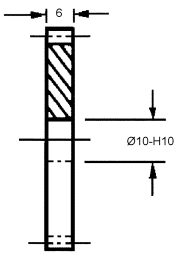


Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FFD105-28	28	14.00	15.00
FFD105-29	29	14.50	15.50
FFD105-30	30	15.00	16.00
FFD105-32	32	16.00	17.00
FFD105-34	34	17.00	18.00
FFD105-36	36	18.00	19.00
FFD105-38	38	19.00	20.00
FFD105-40	40	20.00	21.00
FFD105-42	42	21.00	22.00
FFD105-44	44	22.00	23.00
FFD105-46	46	23.00	24.00
FFD105-48	48	24.00	25.00
FFD105-50	50	25.00	26.00
FFD105-55	55	27.50	28.50
FFD105-56	56	28.00	29.00
FFD105-60	60	30.00	31.00
FFD105-64	64	32.00	33.00
FFD105-68	68	34.00	35.00
FFD105-72	72	36.00	37.00
FFD105-75	75	37.50	38.50
FFD105-80	80	40.00	41.00
FFD105-84	84	42.00	43.00
FFD105-90	90	45.00	46.00
FFD105-92	92	46.00	47.00
FFD105-96	96	48.00	49.00
FFD105-100	100	50.00	51.00
FFD105-110	110	55.00	56.00
FFD105-120	120	60.00	61.00
FFD105-132	132	66.00	67.00
FFD105-138	138	69.00	70.00
FFD105-144	144	72.00	73.00
FFD105-156	156	78.00	79.00
FFD105-168	168	84.00	85.00
FFD105-180	180	90.00	91.00
FFD105-186	186	93.00	94.00

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	HUBLESS	10	6	POLYMRETHANE	DIN 7/AGMA 10	20°



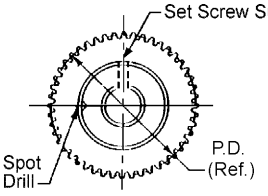


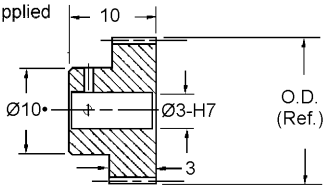
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FFU103-120	120	60.00	61.00
FFU103-144	144	72.00	73.00
FFU103-168	168	84.00	85.00
FFU103-192	192	96.00	97.00

Available on request:
Other numbers of teeth;
Quality Class AGMA 12 & 14 / DIN 5 & 3;
14 - 1/2° pressure angle.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	PIN HUB	3	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PFS80-18	PFA80-18	18•	9.00	10.00
PFS80-19	PFA80-19	19•	9.50	10.50
PFS80-20	PFA80-20	20•	10.00	11.00
PFS80-21	PFA80-21	21•	10.50	11.50
PFS80-22	PFA80-22	22•	11.00	12.00
PFS80-24	PFA80-24	24	12.00	13.00
PFS80-25	PFA80-25	25	12.50	13.50
PFS80-26	PFA80-26	26	13.00	14.00
PFS80-27	PFA80-27	27	13.50	14.50
PFS80-28	PFA80-28	28	14.00	15.00
PFS80-30	PFA80-30	30	15.00	16.00
PFS80-32	PFA80-32	32	16.00	17.00
PFS80-34	PFA80-34	34	17.00	18.00
PFS80-36	PFA80-36	36	18.00	19.00
PFS80-40	PFA80-40	40	20.00	21.00
PFS80-42	PFA80-42	42	21.00	22.00
PFS80-46	PFA80-46	46	23.00	24.00
PFS80-48	PFA80-48	48	24.00	25.00
PFS80-50	PFA80-50	50	25.00	26.00
PFS80-55	PFA80-55	55	27.50	28.50
PFS80-56	PFA80-56	56	28.00	29.00
PFS80-60	PFA80-60	60	30.00	31.00
PFS80-64	PFA80-64	64	32.00	33.00
PFS80-65	PFA80-65	65	32.50	33.50
PFS80-70	PFA80-70	70	35.00	36.00
PFS80-72	PFA80-72	72	36.00	37.00
PFS80-75	PFA80-75	75	37.50	38.50
PFS80-80	PFA80-80	80	40.00	41.00
PFS80-84	PFA80-84	84	42.00	43.00
PFS80-85	PFA80-85	85	42.50	43.50
PFS80-90	PFA80-90	90	45.00	46.00
PFS80-96	PFA80-96	96	48.00	49.00
PFS80-100	PFA80-100	100	50.00	51.00
PFS80-102	PFA80-102	102	51.00	52.00
PFS80-105	PFA80-105	105	52.50	53.50
PFS80-110	PFA80-110	110	55.00	56.00
PFS80-120	PFA80-120	120	60.00	61.00

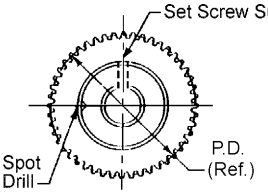
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

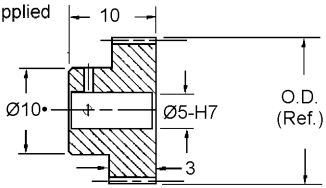
- For 14 - 22 teeth hub diameter equals 5.6

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	PIN HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PFS82-20	PFA82-20	20•	10.00	11.00
PFS82-21	PFA82-21	21•	10.50	11.50
PFS82-22	PFA82-22	22•	11.00	12.00
PFS82-23	PFA82-23	23	11.50	12.50
PFS82-24	PFA82-24	24	12.00	13.00
PFS82-25	PFA82-25	25	12.50	13.50
PFS82-28	PFA82-28	28	14.00	15.00
PFS82-30	PFA82-30	30	15.00	16.00
PFS82-32	PFA82-32	32	16.00	17.00
PFS82-34	PFA82-34	34	17.00	18.00
PFS82-36	PFA82-36	36	18.00	19.00
PFS82-40	PFA82-40	40	20.00	21.00
PFS82-42	PFA82-42	42	21.00	22.00
PFS82-46	PFA82-46	46	23.00	24.00
PFS82-48	PFA82-48	48	24.00	25.00
PFS82-50	PFA82-50	50	25.00	26.00
PFS82-60	PFA82-60	60	30.00	31.00
PFS82-64	PFA82-64	64	32.00	33.00
PFS82-70	PFA82-70	70	35.00	36.00
PFS82-72	PFA82-72	72	36.00	37.00
PFS82-80	PFA82-80	80	40.00	41.00
PFS82-84	PFA82-84	84	42.00	43.00
PFS82-90	PFA82-90	90	45.00	46.00
PFS82-96	PFA82-96	96	48.00	49.00
PFS82-105	PFA82-105	105	52.50	53.50
PFS82-120	PFA82-120	120	60.00	61.00
PFS82-132	PFA82-132	132	66.00	67.00
PFS82-144	PFA82-144	144	72.00	73.00
PFS82-156	PFA82-156	156	78.00	79.00
PFS82-168	PFA82-168	168	84.00	85.00
PFS82-190	PFA82-190	190	95.00	96.00
PFS82-192	PFA82-192	192	96.00	97.00

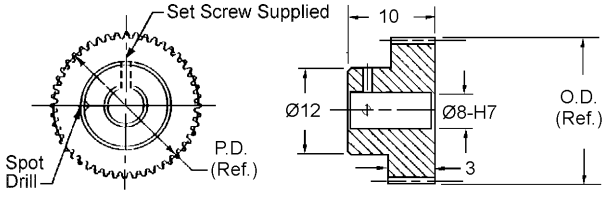
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

- For 20 - 22 teeth hub diameter equals 8.1

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	PIN HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



B

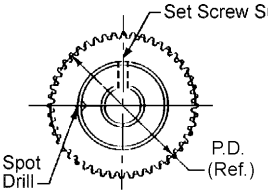
STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PFS94-28	PFA94-28	28	14.00	15.00
PFS94-30	PFA94-30	30	15.00	16.00
PFS94-32	PFA94-32	32	16.00	17.00
PFS94-35	PFA94-35	35	17.50	18.50
PFS94-36	PFA94-36	36	18.00	19.00
PFS94-40	PFA94-40	40	20.00	21.00
PFS94-42	PFA94-42	42	21.00	22.00
PFS94-44	PFA94-44	44	22.00	23.00
PFS94-45	PFA94-45	45	22.50	23.50
PFS94-46	PFA94-46	46	23.00	24.00
PFS94-48	PFA94-48	48	24.00	25.00
PFS94-50	PFA94-50	50	25.00	26.00
PFS94-54	PFA94-54	54	27.00	28.00
PFS94-55	PFA94-55	55	27.50	28.50
PFS94-56	PFA94-56	56	28.00	29.00
PFS94-60	PFA94-60	60	30.00	31.00
PFS94-64	PFA94-64	64	32.00	33.00
PFS94-65	PFA94-65	65	32.50	33.50
PFS94-70	PFA94-70	70	35.00	36.00
PFS94-72	PFA94-72	72	36.00	37.00
PFS94-75	PFA94-75	75	37.50	38.50
PFS94-78	PFA94-78	78	39.00	40.00
PFS94-80	PFA94-80	80	40.00	41.00
PFS94-84	PFA94-84	84	42.00	43.00
PFS94-85	PFA94-85	85	42.50	43.50
PFS94-90	PFA94-90	90	45.00	46.00
PFS94-96	PFA94-96	96	48.00	49.00
PFS94-100	PFA94-100	100	50.00	51.00
PFS94-105	PFA94-105	105	52.50	53.50
PFS94-108	PFA94-108	108	54.00	55.00
PFS94-110	PFA94-110	110	55.00	56.00
PFS94-120	PFA94-120	120	60.00	61.00
PFS94-126	PFA94-126	126	63.00	64.00
PFS94-132	PFA94-132	132	66.00	67.00
PFS94-140	PFA94-140	140	70.00	71.00
PFS94-144	PFA94-144	144	72.00	73.00
PFS94-145	PFA94-145	145	72.50	73.50
PFS94-150	PFA94-150	150	75.00	76.00
PFS94-156	PFA94-156	156	78.00	79.00
PFS94-160	PFA94-160	160	80.00	81.00
PFS94-168	PFA94-168	168	84.00	85.00
PFS94-180	PFA94-180	180	90.00	91.00
PFS94-192	PFA94-192	192	96.00	97.00

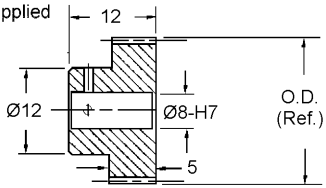
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	PIN HUB	8	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





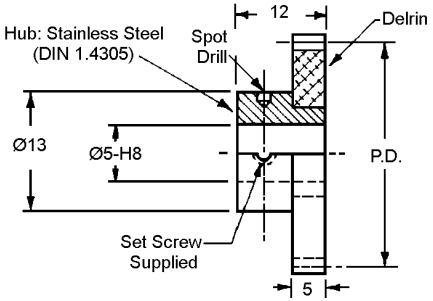
STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PFS95-27	PFA95-27	27	13.50	14.50
PFS95-28	PFA95-28	28	14.00	15.00
PFS95-29	PFA95-29	29	14.50	15.50
PFS95-30	PFA95-30	30	15.00	16.00
PFS95-32	PFA95-32	32	16.00	17.00
PFS95-34	PFA95-34	34	17.00	18.00
PFS95-36	PFA95-36	36	18.00	19.00
PFS95-40	PFA95-40	40	20.00	21.00
PFS95-42	PFA95-42	42	21.00	22.00
PFS95-45	PFA95-45	45	22.50	23.50
PFS95-48	PFA95-48	48	24.00	25.00
PFS95-50	PFA95-50	50	25.00	26.00
PFS95-55	PFA95-55	55	27.50	28.50
PFS95-56	PFA95-56	56	28.00	29.00
PFS95-60	PFA95-60	60	30.00	31.00
PFS95-64	PFA95-64	64	32.00	33.00
PFS95-65	PFA95-65	65	32.50	33.50
PFS95-70	PFA95-70	70	35.00	36.00
PFS95-72	PFA95-72	72	36.00	37.00
PFS95-75	PFA95-75	75	37.50	38.50
PFS95-80	PFA95-80	80	40.00	41.00
PFS95-84	PFA95-84	84	42.00	43.00
PFS95-85	PFA95-85	85	42.50	43.50
PFS95-90	PFA95-90	90	45.00	46.00
PFS95-95	PFA95-95	95	47.50	48.50
PFS95-96	PFA95-96	96	48.00	49.00
PFS95-100	PFA95-100	100	50.00	51.00
PFS95-105	PFA95-105	105	52.50	53.50
PFS95-108	PFA95-108	108	54.00	55.00
PFS95-110	PFA95-110	110	55.00	56.00
PFS95-120	PFA95-120	120	60.00	61.00
PFS95-128	PFA95-128	128	64.00	65.00
PFS95-168	PFA95-168	168	84.00	85.00
PFS95-192	PFA95-192	192	96.00	97.00
PFS95-198	PFA95-198	198	99.00	100.00

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	PIN HUB	5	5	DELRIN	DIN 8/AGMA 9	20°



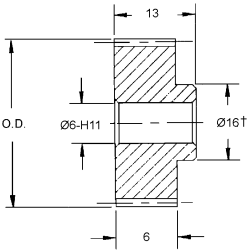
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PFD121X-28	28	14.00	15.00
PFD121X-29	29	14.50	15.50
PFD121X-30	30	15.00	16.00
PFD121X-32	32	16.00	17.00
PFD121X-34	34	17.00	18.00
PFD121X-36	36	18.00	19.00
PFD121X-38	38	19.00	20.00
PFD121X-40	40	20.00	21.00
PFD121X-42	42	21.00	22.00
PFD121X-44	44	22.00	23.00
PFD121X-46	46	23.00	24.00
PFD121X-48	48	24.00	25.00
PFD121X-50	50	25.00	26.00
PFD121X-55	55	27.50	28.50
PFD121X-56	56	28.00	29.00
PFD121X-60	60	30.00	31.00
PFD121X-64	64	32.00	33.00
PFD121X-68	68	34.00	35.00
PFD121X-72	72	36.00	37.00
PFD121X-75	75	37.50	38.50
PFD121X-80	80	40.00	41.00
PFD121X-84	84	42.00	43.00
PFD121X-90	90	45.00	46.00
PFD121X-92	92	46.00	47.00
PFD121X-96	96	48.00	49.00
PFD121X-100	100	50.00	51.00
PFD121X-110	110	55.00	56.00
PFD121X-120	120	60.00	61.00
PFD121X-132	132	66.00	67.00
PFD121X-138	138	69.00	70.00
PFD121X-144	144	72.00	73.00
PFD121X-156	156	78.00	79.00
PFD121X-168	168	84.00	85.00
PFD121X-180	180	90.00	91.00
PFD121X-186	186	93.00	94.00

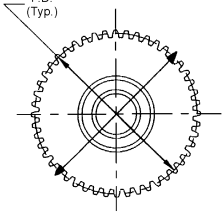
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	PIN HUB	6	6	MOLDED DELRIN	DIN 12/AGMA 5	20°





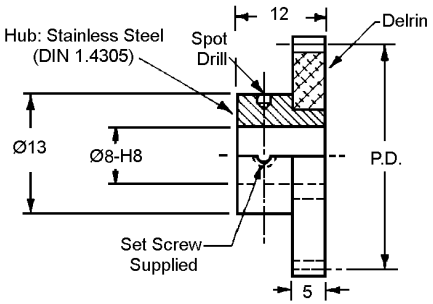
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PFD106M-28	28†	14.00	15.00
PFD106M-30	30†	15.00	16.00
PFD106M-36	36	18.00	19.00
PFD106M-40	40	20.00	21.00
PFD106M-42	42	21.00	22.00
PFD106M-48	48	24.00	25.00
PFD106M-50	50	25.00	26.00
PFD106M-60	60	30.00	31.00
PFD106M-70	70	35.00	36.00
PFD106M-72	72	36.00	37.00
PFD106M-80	80	40.00	41.00
PFD106M-84	84	42.00	43.00
PFD106M-90	90	45.00	46.00
PFD106M-96	96	48.00	49.00
PFD106M-100	100	50.00	51.00
PFD106M-108	108	54.00	55.00
PFD106M-120	120	60.00	61.00

Available on request:
Other bore sizes, numbers of teeth;
14-12° Pressure Angle

† Teeth runout on hub.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	PIN HUB	8	5	DELRIN	DIN 8/AGMA 9	20°



B

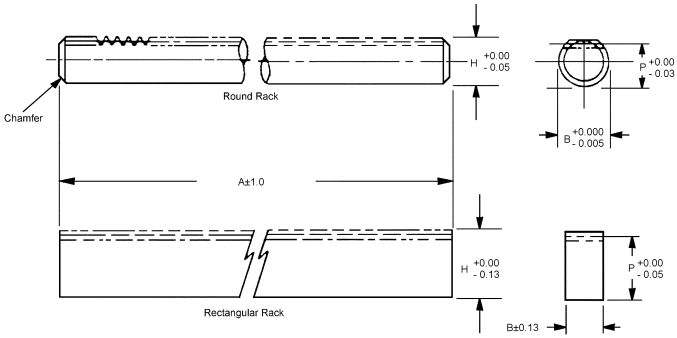
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PFD138X-28	28	14.00	15.00
PFD138X-29	29	14.50	15.50
PFD138X-30	30	15.00	16.00
PFD138X-32	32	16.00	17.00
PFD138X-34	34	17.00	18.00
PFD138X-36	36	18.00	19.00
PFD138X-38	38	19.00	20.00
PFD138X-40	40	20.00	21.00
PFD138X-42	42	21.00	22.00
PFD138X-44	44	22.00	23.00
PFD138X-46	46	23.00	24.00
PFD138X-48	48	24.00	25.00
PFD138X-50	50	25.00	26.00
PFD138X-55	55	27.50	28.50
PFD138X-56	56	28.00	29.00
PFD138X-60	60	30.00	31.00
PFD138X-64	64	32.00	33.00
PFD138X-68	68	34.00	35.00
PFD138X-72	72	36.00	37.00
PFD138X-75	75	37.50	38.50
PFD138X-80	80	40.00	41.00
PFD138X-84	84	42.00	43.00
PFD138X-90	90	45.00	46.00
PFD138X-92	92	46.00	47.00
PFD138X-96	96	48.00	49.00
PFD138X-100	100	50.00	51.00
PFD138X-110	110	55.00	56.00
PFD138X-120	120	60.00	61.00
PFD138X-132	132	66.00	67.00
PFD138X-138	138	69.00	70.00
PFD138X-144	144	72.00	73.00
PFD138X-156	156	78.00	79.00
PFD138X-168	168	84.00	85.00
PFD138X-180	180	90.00	91.00
PFD138X-186	186	93.00	94.00

Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

GEAR RACKS

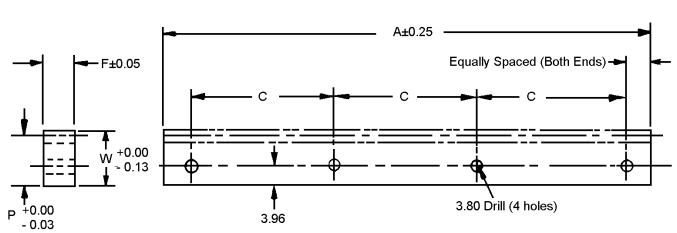
MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	ROUND & RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°

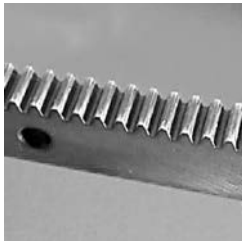


STOCK NO.	RACK STYLE	MOD.	P (Ref.)	B	A	H
R2M-6	ROUND	0.5	5.09	5.974	450	5.59
R3M-6	RECTANGULAR	0.5	11.69	5.84	450	12.19

Available on request: Special, modified and custom racks.

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





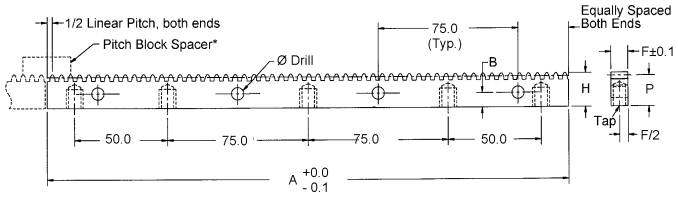
STOCK NO.	A	P (Ref.)	W	F	C
R4M-19	244.7	11.7	12.2	5.8	70.0

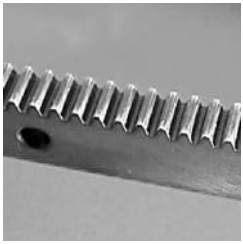
Quality Class AGMA12/DIN 5 available on request.

Available on request: Special, modified and custom racks.

GEAR RACKS

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





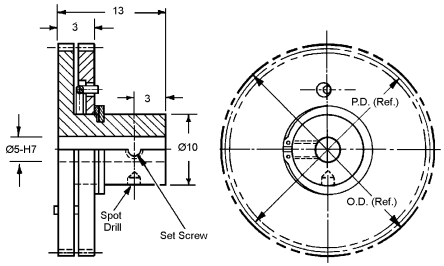
Spacer block is designed for butting to achieve continuous lengths.

RACKS	SPACER BLOCK								
STOCK NO.	STOCK NO.	LINEAR PITCH	A	P (REF.)	H +0.00 -0.13	F	B	Ø DRILL	TAP
R1M-6	R1M-6-SB	1.57	279.6	11.56	12.07	5.8	5.5	3.8	M4.0 X 0.7

Quality Class AGMA 12/Din 5 available on request. Custom racks available on request.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	PIN HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APFHSM-30	APFJSM-30	30	15.00	16.00
APFHSM-32	APFJSM-32	32	16.00	17.00
APFHSM-36	APFJSM-36	36	18.00	19.00
APFHSM-48	APFJSM-48	48	24.00	25.00

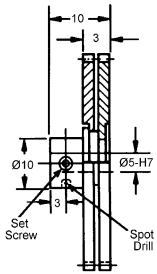
Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

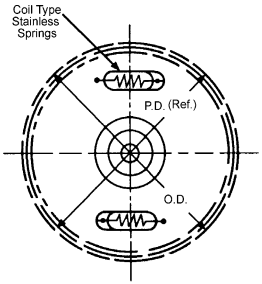
Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	PIN HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





B

STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APFUM-65	APFVM-65	65	32.50	33.50
APFUM-70	APFVM-70	70	35.00	36.00
APFUM-72	APFVM-72	72	36.00	37.00
APFUM-75	APFVM-75	75	37.50	38.50
APFUM-80	APFVM-80	80	40.00	41.00
APFUM-84	APFVM-84	84	42.00	43.00
APFUM-85	APFVM-85	85	42.50	43.50
APFUM-90	APFVM-90	90	45.00	46.00
APFUM-95	APFVM-95	95	47.50	48.50
APFUM-96	APFVM-96	96	48.00	49.00
APFUM-100	APFVM-100	100	50.00	51.00
APFUM-106	APFVM-105	105	52.50	53.50
APFUM-110	APFVM-110	110	55.00	56.00
APFUM-115	APFVM-115	115	57.50	58.50
APFUM-120	APFVM-120	120	60.00	61.00
APFUM-125	APFVM-125	125	62.50	63.50
APFUM-130	APFVM-130	130	65.00	66.00
APFUM-132	APFVM-132	132	66.00	67.00
APFUM-140	APFVM-140	140	70.00	71.00
APFUM-144	APFVM-144	144	72.00	73.00
APFUM-150	APFVM-150	150	75.00	76.00

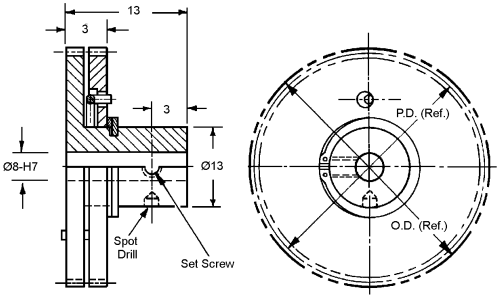
Available on request:
Other numbers of teeth;
Quality Class AGMA12 & 14 / DIN 5 & 3;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	PIN HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°

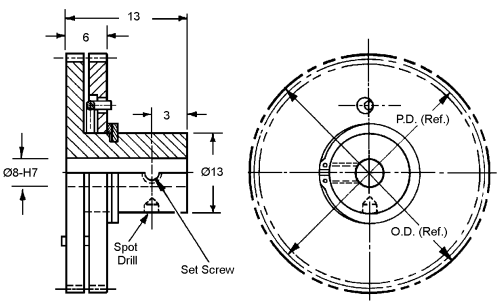


STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APFKSM-32-X	APFLSM-32-X	32	16.00	17.00
APFKSM-36-X	APFLSM-36-X	36	18.00	19.00
APFKSM-48-X	APFLSM-48-X	48	24.00	25.00

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	PIN HUB	8	6	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APFBSM-36-X	APFDSM-36-X	36	18.00	19.00
APFBSM-42-X	APFDSM-42-X	42	21.00	22.00
APFBSM-48-X	APFDSM-48-X	48	24.00	25.00

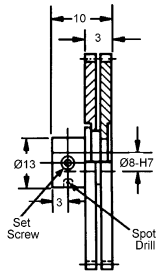
Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

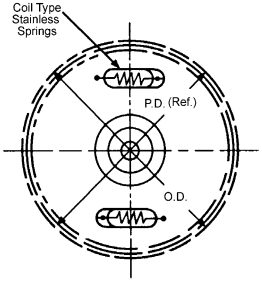
Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	PIN HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 1.3155 ANODIZED	DIN 7/AGMA 10	20°





B

STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APFWM-65-X	APFXM-65-X	65	32.50	33.50
APFWM-70-X	APFXM-70-X	70	35.00	36.00
APFWM-72-X	APFXM-72-X	72	36.00	37.00
APFWM-75-X	APFXM-75-X	75	37.50	38.50
APFWM-80-X	APFXM-80-X	80	40.00	41.00
APFWM-84-X	APFXM-84-X	84	42.00	43.00
APFWM-85-X	APFXM-85-X	85	42.50	43.50
APFWM-90-X	APFXM-90-X	90	45.00	46.00
APFWM-95-X	APFXM-95-X	95	47.50	48.50
APFWM-96-X	APFXM-96-X	96	48.00	49.00
APFWM-100-X	APFXM-100-X	100	50.00	51.00
APFWM-105-X	APFXM-105-X	105	52.50	53.50
APFWM-110-X	APFXM-110-X	110	55.00	56.00
APFWM-115-X	APFXM-115-X	115	57.50	58.50
APFWM-120-X	APFXM-120-X	120	60.00	61.00
APFWM-125-X	APFXM-125-X	125	62.50	63.50
APFWM-130-X	APFXM-130-X	130	65.00	66.00
APFWM-132-X	APFXM-132-X	132	66.00	67.00
APFWM-140-X	APFXM-140-X	140	70.00	71.00
APFWM-144-X	APFXM-144-X	144	72.00	73.00
APFWM-150-X	APFXM-150-X	150	75.00	76.00

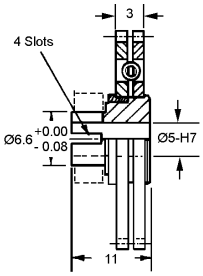
Available on request:
Other numbers of teeth;
Quality Class AGMA12 & 14 / DIN 5 & 3;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	CLAMP HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACFUM-65	ACFVM-65	65	32.50	33.50
ACFUM-70	ACFVM-70	70	35.00	36.00
ACFUM-72	ACFVM-72	72	36.00	37.00
ACFUM-75	ACFVM-75	75	37.50	38.50
ACFUM-80	ACFVM-80	80	40.00	41.00
ACFUM-84	ACFVM-84	84	42.00	43.00
ACFUM-85	ACFVM-85	85	42.50	43.50
ACFUM-90	ACFVM-90	90	45.00	46.00
ACFUM-95	ACFVM-95	95	47.50	48.50
ACFUM-96	ACFVM-96	96	48.00	49.00
ACFUM-100	ACFVM-100	100	50.00	51.00
ACFUM-105	ACFVM-105	105	52.50	53.50
ACFUM-110	ACFVM-110	110	55.00	56.00
ACFUM-115	ACFVM-115	115	57.50	58.50
ACFUM-120	ACFVM-120	120	60.00	61.00
ACFUM-125	ACFVM-125	125	62.50	63.50
ACFUM-130	ACFVM-130	130	65.00	66.00
ACFUM-132	ACFVM-132	132	66.00	67.00
ACFUM-140	ACFVM-140	140	70.00	71.00
ACFUM-144	ACFVM-144	144	72.00	73.00
ACFUM-150	ACFVM-150	150	75.00	76.00

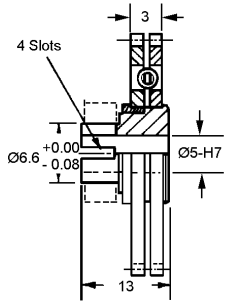
Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	CLAMP HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°

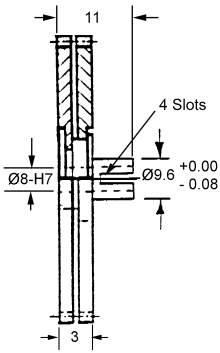


STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACFHSM-30	ACFJSM-30	30	15.00	16.00
ACFHSM-32	ACFJSM-32	32	16.00	17.00
ACFHSM-36	ACFJSM-36	36	18.00	19.00
ACFHSM-48	ACFJSM-48	48	24.00	25.00

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	CLAMP HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



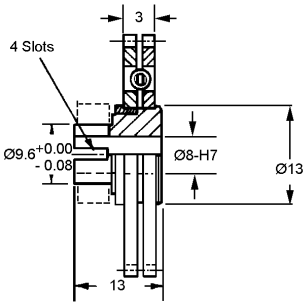
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACFWM-65-X	ACFXM-65-X	65	32.50	33.50
ACFWM-70-X	ACFXM-70-X	70	35.00	36.00
ACFWM-72-X	ACFXM-72-X	72	36.00	37.00
ACFWM-75-X	ACFXM-75-X	75	37.50	38.50
ACFWM-80-X	ACFXM-80-X	80	40.00	41.00
ACFWM-84-X	ACFXM-84-X	84	42.00	43.00
ACFWM-85-X	ACFXM-85-X	85	42.50	43.50
ACFWM-90-X	ACFXM-90-X	90	45.00	46.00
ACFWM-95-X	ACFXM-95-X	95	47.50	48.50
ACFWM-96-X	ACFXM-96-X	96	48.00	49.00
ACFWM-100-X	ACFXM-100-X	100	50.00	51.00
ACFWM-105-X	ACFXM-105-X	105	52.50	53.50
ACFWM-110-X	ACFXM-110-X	110	55.00	56.00
ACFWM-115-X	ACFXM-115-X	115	57.50	58.50
ACFWM-120-X	ACFXM-120-X	120	60.00	61.00
ACFWM-125-X	ACFXM-125-X	125	62.50	63.50
ACFWM-130-X	ACFXM-130-X	130	65.00	66.00
ACFWM-132-X	ACFXM-132-X	132	66.00	67.00
ACFWM-140-X	ACFXM-140-X	140	70.00	71.00
ACFWM-144-X	ACFXM-144-X	144	72.00	73.00
ACFWM-150-X	ACFXM-150-X	150	75.00	76.00

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	CLAMP HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°

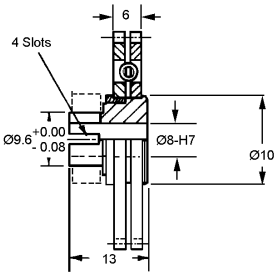


STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACFKSM-32-X	ACFLSM-32-X	32	16.00	17.00
ACFKSM-36-X	ACFLSM-36-X	36	18.00	19.00
ACFKSM-48-X	ACFLSM-48-X	48	24.00	25.00

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.5	CLAMP HUB	8	6	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACFBSM-36-X	ACFDSM-36-X	36	18.00	19.00
ACFBSM-42-X	ACFDSM-42-X	42	21.00	22.00
ACFBSM-48-X	ACFDSM-48-X	48	24.00	25.00

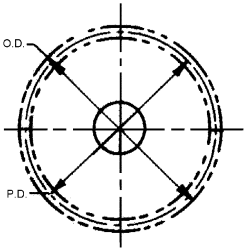
Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

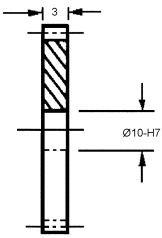
Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	HUBLESS	10	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°

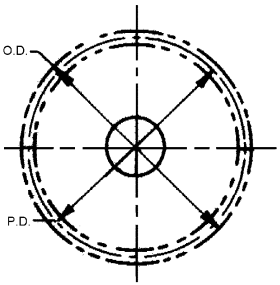


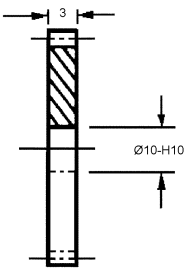


Available on request:
Other numbers of teeth;
Quality Class AGMA 12 & 14 / DIN 5 & 3;
14 - 1/2° pressure angle.

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FGS103-38	FGA103-38	38	15.20	16.00
FGS103-40	FGA103-40	40	16.00	16.80
FGS103-48	FGA103-48	48	19.20	20.00
FGS103-50	FGA103-50	50	20.00	20.80
FGS103-64	FGA103-64	64	25.60	26.40
FGS103-66	FGA103-66	66	26.40	27.20
FGS103-70	FGA103-70	70	28.00	28.80
FGS103-72	FGA103-72	72	28.80	29.60
FGS103-75	FGA103-75	75	30.00	30.80
FGS103-80	FGA103-80	80	32.00	32.80
FGS103-84	FGA103-84	84	33.60	34.40
FGS103-90	FGA103-90	90	36.00	36.80
FGS103-96	FGA103-96	96	38.40	39.20
FGS103-100	FGA103-100	100	40.00	40.80
FGS103-110	FGA103-110	110	44.00	44.80
FGS103-120	FGA103-120	120	48.00	48.80
FGS103-128	FGA103-128	128	51.20	52.00
FGS103-130	FGA103-130	130	52.00	52.80
FGS103-140	FGA103-140	140	56.00	56.80
FGS103-144	FGA103-144	144	57.60	58.40
FGS103-150	FGA103-150	150	60.00	60.80
FGS103-155	FGA103-155	155	62.00	62.80
FGS103-160	FGA103-160	160	64.00	64.80
FGS103-165	FGA103-165	165	66.00	66.80
FGS103-170	FGA103-170	170	68.00	68.80
FGS103-176	FGA103-176	176	70.40	71.20
FGS103-180	FGA103-180	180	72.00	72.80
FGS103-190	FGA103-190	190	76.00	76.80
FGS103-192	FGA103-192	192	76.80	77.60
FGS103-224	FGA103-224	224	89.60	90.40
FGS103-256	FGA103-256	256	102.40	103.20
FGS103-264	FGA103-264	264	105.60	106.40

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	HUBLESS	10	3	POLYURETHANE WITH LUBRICANT	DIN 9/AGMA 8	20°





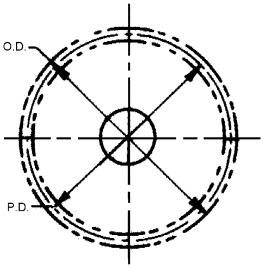
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FGU103-64	64	25.60	26.40
FGU103-80	80	32.00	32.80
FGU103-96	96	38.40	39.20
FGU103-112	112	44.80	45.60
FGU103-128	128	51.20	52.00
FGU103-144	144	57.60	58.40

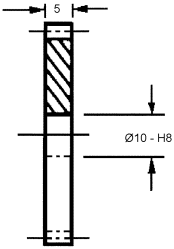
Available on request:
Other numbers of teeth;
Quality Class AGMA 12 & 14 / DIN 5 & 3;
14 - 1/2° pressure angle.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	HUBLESS	10	5	DELRIN	DIN 8/AGMA 9	20°

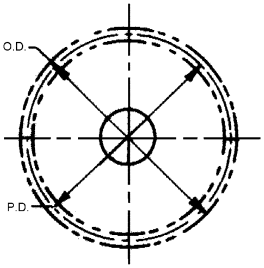


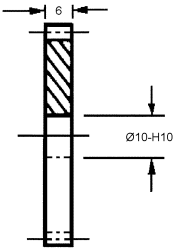


Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle.

STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FGD105-36	36	14.40	15.20
FGD105-37	37	14.80	15.60
FGD105-38	38	15.20	16.00
FGD105-40	40	16.00	16.80
FGD105-42	42	16.80	17.60
FGD105-44	44	17.60	18.40
FGD105-46	46	18.40	19.20
FGD105-48	48	19.20	20.00
FGD105-50	50	20.00	20.80
FGD105-56	56	22.40	23.20
FGD105-60	60	24.00	24.80
FGD105-64	64	25.60	26.40
FGD105-72	72	28.80	29.60
FGD105-74	74	29.60	30.40
FGD105-80	80	32.00	32.80
FGD105-84	84	33.60	34.40
FGD105-88	88	35.20	36.00
FGD105-90	90	36.00	36.80
FGD105-96	96	38.40	39.20
FGD105-100	100	40.00	40.80
FGD105-112	112	44.80	45.60
FGD105-120	120	48.00	48.80
FGD105-127	127	50.80	51.60
FGD105-128	128	51.20	52.00
FGD105-144	144	57.60	58.40
FGD105-152	152	60.80	61.60
FGD105-160	160	64.00	64.80
FGD105-168	168	67.20	68.00
FGD105-176	176	70.40	71.20
FGD105-184	184	73.60	74.40
FGD105-192	192	76.80	77.60
FGD105-224	224	89.60	90.40

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	HUBLESS	10	6	POLYURETHANE WITH LUBRICANT	DIN 9/AGMA 8	20°





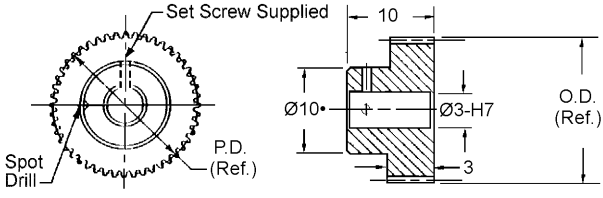
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FGU103-160	160	64.00	64.80
FGU103-192	192	76.80	77.60
FGU103-224	224	89.60	90.40
FGU 103-256	256	102.40	103.20

Available on request:
Other numbers of teeth;
Quality Class AGMA 12 & 14 / DIN 5 & 3;
14 - 1/2° pressure angle.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	PIN HUB	3	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



B

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PGS80-20	PGA80-20	20•	8.00	8.80
PGS80-21	PGA80-21	21•	8.40	9.20
PGS80-22	PGA80-22	22•	8.80	9.60
PGS80-23	PGA80-23	23•	9.20	10.00
PGS80-24	PGA80-24	24•	9.60	10.40
PGS80-25	PGA80-25	25•	10.00	10.80
PGS80-26	PGA80-26	26•	10.40	11.20
PGS80-27	PGA80-27	27•	10.80	11.60
PGS80-28	PGA80-28	28	11.20	12.00
PGS80-29	PGA80-29	29	11.60	12.40
PGS80-30	PGA80-30	30	12.00	12.80
PGS80-32	PGA80-32	32	12.80	13.60
PGS80-34	PGA80-34	34	13.60	14.40
PGS80-36	PGA80-36	36	14.40	15.20
PGS80-38	PGA80-38	38	15.20	16.00
PGS80-40	PGA80-40	40	16.00	16.80
PGS80-42	PGA80-42	42	16.80	17.60
PGS80-44	PGA80-44	44	17.60	18.40
PGS80-46	PGA80-46	46	18.40	19.20
PGS80-48	PGA80-48	48	19.20	20.00
PGS80-50	PGA80-50	50	20.00	20.80
PGS80-55	PGA80-55	55	22.00	22.80
PGS80-56	PGA80-56	56	22.40	23.20
PGS80-60	PGA80-60	60	24.00	24.80
PGS80-64	PGA80-64	64	25.60	26.40
PGS80-65	PGA80-65	65	26.00	26.80
PGS80-70	PGA80-70	70	28.00	28.80
PGS80-72	PGA80-72	72	28.80	29.60
PGS80-75	PGA80-75	75	30.00	30.80
PGS80-80	PGA80-80	80	32.00	32.80
PGS80-84	PGA80-84	84	33.60	34.40
PGS80-85	PGA80-85	85	34.00	34.80
PGS80-88	PGA80-88	88	35.20	36.00
PGS80-90	PGA80-90	90	36.00	36.80
PGS80-92	PGA80-92	92	36.80	37.60
PGS80-95	PGA80-95	95	38.00	38.80
PGS80-96	PGA80-96	96	38.40	39.20
PGS80-104	PGA80-104	104	41.60	42.40
PGS80-105	PGA80-105	105	42.00	42.80
PGS80-112	PGA80-112	112	44.80	45.60
PGS80-120	PGA80-120	120	48.00	48.80
PGS80-121	PGA80-121	121	48.40	49.20
PGS80-127	PGA80-127	127	50.80	51.60
PGS80-128	PGA80-128	128	51.20	52.00

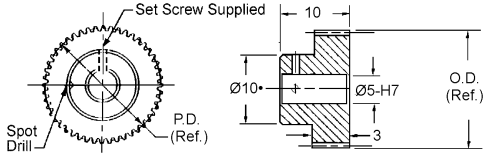
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

- For 17-27 teeth hub diameter equals 5.7

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	PIN HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



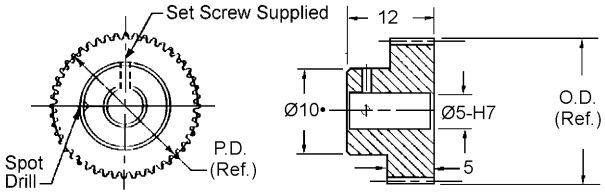
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

• For 23-27 teeth hub diameter equals 8.1

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PGS82-23	PGA82-23	23•	9.20	10.00
PGS82-24	PGA82-24	24•	9.60	10.40
PGS82-25	PGA82-25	25•	10.00	10.80
PGS82-26	PGA82-26	26•	10.40	11.20
PGS82-28	PGA82-28	28	11.20	12.00
PGS82-29	PGA82-29	29	11.60	12.40
PGS82-30	PGA82-30	30	12.00	12.80
PGS82-31	PGA82-31	31	12.40	13.20
PGS82-32	PGA82-32	32	12.80	13.60
PGS82-34	PGA82-34	34	13.60	14.40
PGS82-35	PGA82-35	35	14.00	14.80
PGS82-36	PGA82-36	36	14.40	15.20
PGS82-38	PGA82-38	38	15.20	16.00
PGS82-40	PGA82-40	40	16.00	16.80
PGS82-42	PGA82-42	42	16.80	17.60
PGS82-44	PGA82-44	44	17.60	18.40
PGS82-45	PGA82-45	45	18.00	18.80
PGS82-46	PGA82-46	46	18.40	19.20
PGS82-48	PGA82-48	48	19.20	20.00
PGS82-50	PGA82-50	50	20.00	20.80
PGS82-55	PGA82-55	55	22.00	22.80
PGS82-56	PGA82-56	56	22.40	23.20
PGS82-60	PGA82-60	60	24.00	24.80
PGS82-64	PGA82-64	64	25.60	26.40
PGS82-65	PGA82-65	65	26.00	26.80
PGS82-70	PGA82-70	70	28.00	28.80
PGS82-72	PGA82-72	72	28.80	29.60
PGS82-75	PGA82-75	75	30.00	30.80
PGS82-80	PGA82-80	80	32.00	32.80
PGS82-84	PGA82-84	84	33.60	34.40
PGS82-85	PGA82-85	85	34.00	34.80
PGS82-88	PGA82-88	88	35.20	36.00
PGS82-90	PGA82-90	90	36.00	36.80
PGS82-92	PGA82-92	92	36.80	37.60
PGS82-95	PGA82-95	95	38.00	38.80
PGS82-96	PGA82-96	96	38.40	39.20
PGS82-100	PGA82-100	100	40.00	40.80
PGS82-105	PGA82-105	105	42.00	42.80
PGS82-110	PGA82-110	110	44.00	44.80
PGS82-115	PGA82-115	115	46.00	46.80
PGS82-120	PGA82-120	120	48.00	48.80
PGS82-122	PGA82-122	122	48.80	49.60
PGS82-124	PGA82-124	124	49.60	50.40
PGS82-127	PGA82-127	127	50.80	51.60
PGS82-128	PGA82-128	128	51.20	52.00
PGS82-130	PGA82-130	130	52.00	52.80
PGS82-136	PGA82-136	136	54.40	55.20
PGS82-140	PGA82-140	140	56.00	56.80
PGS82-144	PGA82-144	144	57.60	58.40
PGS82-150	PGA82-150	150	60.00	60.80
PGS82-152	PGA82-152	152	60.80	61.60
PGS82-156	PGA82-156	156	62.40	63.20
PGS82-160	PGA82-160	160	64.00	64.80
PGS82-164	PGA82-164	164	65.60	66.40
PGS82-168	PGA82-168	168	67.20	68.00
PGS82-170	PGA82-170	170	68.00	68.80
PGS82-176	PGA82-176	176	70.40	71.20
PGS82-180	PGA82-180	180	72.00	72.80
PGS82-184	PGA82-184	184	73.60	74.40
PGS82-190	PGA82-190	190	76.00	76.80
PGS82-192	PGA82-192	192	76.80	77.60
PGS82-200	PGA82-200	200	80.00	80.80
PGS82-224	PGA82-224	224	89.60	90.40
PGS82-256	PGA82-256	256	102.40	103.20

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	PIN HUB	5	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



B

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PGS83-24	PGA83-24	24•	9.60	10.40
PGS83-25	PGA83-25	25•	10.00	10.80
PGS83-26	PGA83-26	26•	10.40	11.20
PGS83-28	PGA83-28	28	11.20	12.00
PGS83-30	PGA83-30	30	12.00	12.80
PGS83-32	PGA83-32	32	12.80	13.60
PGS83-36	PGA83-36	36	14.40	15.20
PGS83-40	PGA83-40	40	16.00	16.80
PGS83-44	PGA83-44	44	17.60	18.40
PGS83-46	PGA83-46	46	18.40	19.20
PGS83-48	PGA83-48	48	19.20	20.00
PGS83-50	PGA83-50	50	20.00	20.80
PGS83-56	PGA83-56	56	22.40	23.20
PGS83-60	PGA83-60	60	24.00	24.80
PGS83-64	PGA83-64	64	25.60	26.40
PGS83-70	PGA83-70	70	28.00	28.80
PGS83-75	PGA83-75	75	30.00	30.80
PGS83-80	PGA83-80	80	32.00	32.80
PGS83-88	PGA83-88	88	35.20	36.00
PGS83-90	PGA83-90	90	36.00	36.80
PGS83-96	PGA83-96	96	38.40	39.20
PGS83-100	PGA83-100	100	40.00	40.80
PGS83-110	PGA83-110	110	44.00	44.80
PGS83-112	PGA83-112	112	44.80	45.60
PGS83-120	PGA83-120	120	48.00	48.80
PGS83-128	PGA83-128	128	51.20	52.00
PGS83-136	PGA83-136	136	54.40	55.20
PGS83-144	PGA83-144	144	57.60	58.40
PGS83-152	PGA83-152	152	60.80	61.60
PGS83-160	PGA83-160	160	64.00	64.80
PGS83-176	PGA83-176	176	70.40	71.20
PGS83-192	PGA83-192	192	76.80	77.60
PGS83-200	PGA83-200	200	80.00	80.80
PGS83-208	PGA83-208	208	83.20	84.00
PGS83-224	PGA83-224	224	89.60	90.40
PGS83-240	PGA83-240	240	96.00	96.80
PGS83-256	PGA83-256	256	102.40	103.20

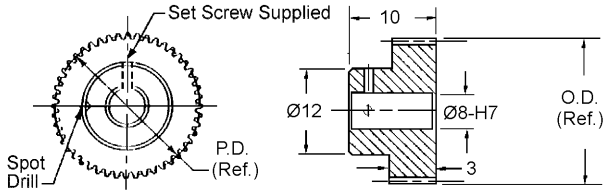
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

- For 24-27 teeth hub diameter equals 8.1

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	PIN HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



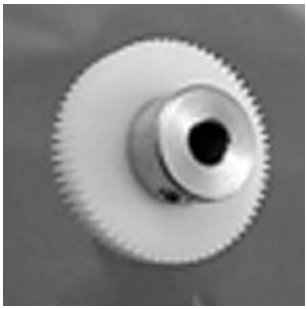
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

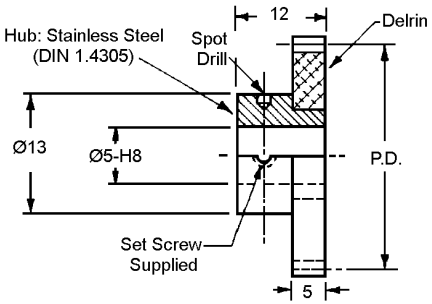
STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PGS94-34	PGA94-34	34	13.60	14.40
PGS94-35	PGA94-35	35	14.00	14.80
PGS94-36	PGA94-36	36	14.40	15.20
PGS94-40	PGA94-40	40	16.00	16.80
PGS94-42	PGA94-42	42	16.80	17.60
PGS94-44	PGA94-44	44	17.60	18.40
PGS94-45	PGA94-45	45	18.00	18.80
PGS94-46	PGA94-46	46	18.40	19.20
PGS94-48	PGA94-48	48	19.20	20.00
PGS94-50	PGA94-50	50	20.00	20.80
PGS94-54	PGA94-54	54	21.60	22.40
PGS94-55	PGA94-55	55	22.00	22.80
PGS94-56	PGA94-56	56	22.40	23.20
PGS94-60	PGA94-60	60	24.00	24.80
PGS94-64	PGA94-64	64	25.60	26.40
PGS94-70	PGA94-70	70	28.00	28.80
PGS94-72	PGA94-72	72	28.80	29.60
PGS94-75	PGA94-75	75	30.00	30.80
PGS94-80	PGA94-80	80	32.00	32.80
PGS94-84	PGA94-84	84	33.60	34.40
PGS94-85	PGA94-85	85	34.00	34.80
PGS94-86	PGA94-86	86	34.40	35.20
PGS94-90	PGA94-90	90	36.00	36.80
PGS94-95	PGA94-95	95	38.00	38.80
PGS94-100	PGA94-100	100	40.00	40.80
PGS94-105	PGA94-105	105	42.00	42.80
PGS94-110	PGA94-110	110	44.00	44.80
PGS94-112	PGA94-112	112	44.80	45.60
PGS94-120	PGA94-120	120	48.00	48.80
PGS94-124	PGA94-124	124	49.60	50.40
PGS94-128	PGA94-128	128	51.20	52.00
PGS94-130	PGA94-130	130	52.00	52.80
PGS94-140	PGA94-140	140	56.00	56.80
PGS94-144	PGA94-144	144	57.60	58.40
PGS94-150	PGA94-150	150	60.00	60.80
PGS94-160	PGA94-160	160	64.00	64.80
PGS94-168	PGA94-168	168	67.20	68.00
PGS94-170	PGA94-170	170	68.00	68.80
PGS94-176	PGA94-176	176	70.40	71.20
PGS94-180	PGA94-180	180	72.00	72.80
PGS94-184	PGA94-184	184	73.60	74.40
PGS94-190	PGA94-190	190	76.00	76.80
PGS94-192	PGA94-192	192	76.80	77.60
PGS94-200	PGA94-200	200	80.00	80.80
PGS94-208	PGA94-208	208	83.20	84.00
PGS94-216	PGA94-216	216	86.40	87.20
PGS94-224	PGA94-224	224	89.60	90.40
PGS94-232	PGA94-232	232	92.80	93.60
PGS94-240	PGA94-240	240	96.00	96.80
PGS94-248	PGA94-248	248	99.20	100.00
PGS94-256	PGA94-256	256	102.40	103.20

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	PIN HUB	5	5	DELRIN	DIN 8/AGMA 9	20°





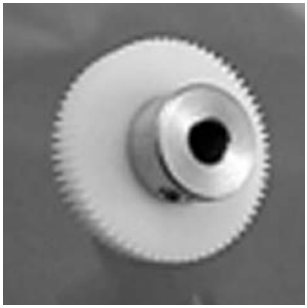
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PGD121X-36	36	14.40	15.20
PGD121X-37	37	14.80	15.60
PGD121X-38	38	15.20	16.00
PGD121X-40	40	16.00	16.80
PGD121X-42	42	16.80	17.60
PGD121X-44	44	17.60	18.40
PGD121X-46	46	18.40	19.20
PGD121X-48	48	19.20	20.00
PGD121X-50	50	20.00	20.80
PGD121X-56	56	22.40	23.20
PGD121X-60	60	24.00	24.80
PGD121X-64	64	25.60	26.40
PGD121X-72	72	28.80	29.60
PGD121X-74	74	29.60	30.40
PGD121X-80	80	32.00	32.80
PGD121X-84	84	33.60	34.40
PGD121X-88	88	35.20	36.00
PGD121X-90	90	36.00	36.80
PGD121X-96	96	38.40	39.20
PGD121X-100	100	40.00	40.80
PGD121X-112	112	44.80	45.60
PGD121X-120	120	48.00	48.80
PGD121X-127	127	50.80	51.60
PGD121X-128	128	51.20	52.00
PGD121X-144	144	57.60	58.40
PGD121X-152	152	60.80	61.60
PGD121X-160	160	64.00	64.80
PGD121X-168	168	67.20	68.00
PGD121X-176	176	70.40	71.20
PGD121X-184	184	73.60	74.40
PGD121X-192	192	76.80	77.60
PGD121X-224	224	89.60	90.40

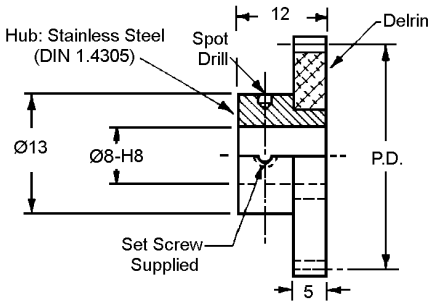
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	PIN HUB	8	5	DELRIN	DIN 8/AGMA 9	20°





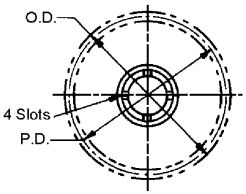
STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PGD138X-36	36	14.40	15.20
PGD138X-37	37	14.80	15.60
PGD138X-38	38	15.20	16.00
PGD138X-40	40	16.00	16.80
PGD138X-42	42	16.80	17.60
PGD138X-44	44	17.60	18.40
PGD138X-46	46	18.40	19.20
PGD138X-48	48	19.20	20.00
PGD138X-50	50	20.00	20.80
PGD138X-56	56	22.40	23.20
PGD138X-60	60	24.00	24.80
PGD138X-64	64	25.60	26.40
PGD138X-72	72	28.80	29.60
PGD138X-74	74	29.60	30.40
PGD138X-80	80	32.00	32.80
PGD138X-84	84	33.60	34.40
PGD138X-88	88	35.20	36.00
PGD138X-90	90	36.00	36.80
PGD138X-96	96	38.40	39.20
PGD138X-100	100	40.00	40.80
PGD138X-112	112	44.80	45.60
PGD138X-120	120	48.00	48.80
PGD138X-127	127	50.80	51.60
PGD138X-128	128	51.20	52.00
PGD138X-144	144	57.60	58.40
PGD138X-152	152	60.80	61.60
PGD138X-160	160	64.00	64.80
PGD138X-168	168	67.20	68.00
PGD138X-176	176	70.40	71.20
PGD138X-184	184	73.60	74.40
PGD138X-192	192	76.80	77.60
PGD138X-224	224	89.60	90.40

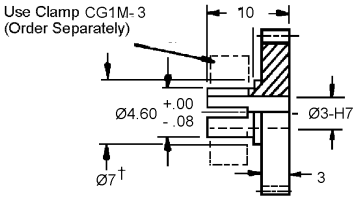
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	CLAMP HUB	3	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CGS50-18	CGA50-18	18†	7.20	8.00
CGS50-19	CGA50-19	19†	7.60	8.40
CGS50-20	CGA50-20	20	8.00	8.80
CGS50-21	CGA50-21	21	8.40	9.20
CGS50-22	CGA50-22	22	8.80	9.60
CGS50-23	CGA50-23	23	9.20	10.00
CGS50-24	CGA50-24	24	9.60	10.40
CGS50-25	CGA50-25	25	10.00	10.80
CGS50-26	CGA50-26	26	10.40	11.20
CGS50-27	CGA50-27	27	10.80	11.60
CGS50-28	CGA50-28	28	11.20	12.00
CGS50-29	CGA50-29	29	11.60	12.40
CGS50-30	CGA50-30	30	12.00	12.80
CGS50-32	CGA50-32	32	12.80	13.60
CGS50-34	CGA50-34	34	13.60	14.40
CGS50-36	CGA50-36	36	14.40	15.20
CGS50-38	CGA50-38	38	15.20	16.00
CGS50-40	CGA50-40	40	16.00	16.80
CGS50-42	CGA50-42	42	16.80	17.60
CGS50-44	CGA50-44	44	17.60	18.40
CGS50-46	CGA50-46	46	18.40	19.40
CGS50-48	CGA50-48	48	19.20	20.00
CGS50-50	CGA50-50	50	20.00	20.80
CGS50-55	CGA50-55	55	22.00	22.80
CGS50-56	CGA50-56	56	22.40	23.20
CGS50-60	CGA50-60	60	24.00	24.80
CGS50-64	CGA50-64	64	25.60	26.40
CGS50-72	CGA50-72	72	28.80	29.60
CGS50-80	CGA50-80	80	32.00	32.80
CGS50-88	CGA50-88	88	35.20	36.00
CGS50-96	CGA50-96	96	38.40	39.20
CGS50-104	CGA50-104	104	41.60	42.40
CGS50-112	CGA50-112	112	44.80	45.60
CGS50-120	CGA50-120	120	48.00	48.00

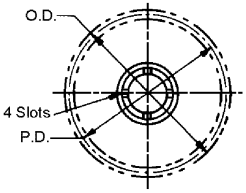
Available on request:
Other bore sizes;
numbers of teeth;
14-12° Pressure Angle;
Quality Class DIN 5/AGMA12

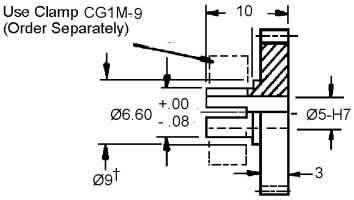
† Teeth may runout on flange diameter.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	CLAMP HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CGS52-24	CGA52-24	24†	9.60	10.40
CGS52-25	CGA52-25	25	10.00	10.80
CGS52-28	CGA52-28	28	11.20	12.00
CGS52-30	CGA52-30	30	12.00	12.80
CGS52-32	CGA52-32	32	12.80	13.60
CGS52-40	CGA52-40	40	16.00	16.80
CGS52-42	CGA52-42	42	16.80	17.60
CGS52-44	CGA52-44	44	17.60	18.40
CGS52-46	CGA52-46	46	18.40	19.20
CGS52-48	CGA52-48	48	19.20	20.00
CGS52-50	CGA52-50	50	20.00	20.80
CGS52-52	CGA52-52	52	20.80	21.60
CGS52-56	CGA52-56	56	22.40	23.20
CGS52-60	CGA52-60	60	24.00	24.80
CGS52-64	CGA52-64	64	25.60	26.40
CGS52-72	CGA52-72	72	28.80	29.60
CGS52-76	CGA52-76	76	30.40	31.20
CGS52-80	CGA52-80	80	32.00	32.80
CGS52-84	CGA52-84	84	33.60	34.40
CGS52-85	CGA52-85	85	34.00	34.80
CGS52-88	CGA52-88	88	35.20	36.00
CGS52-90	CGA52-90	90	36.00	36.80
CGS52-96	CGA52-96	96	38.40	39.20
CGS52-100	CGA52-100	100	40.00	40.80
CGS52-104	CGA52-104	104	41.60	42.40
CGS52-112	CGA52-112	112	44.80	45.60
CGS52-120	CGA52-120	120	48.00	48.80
CGS52-128	CGA52-128	128	51.20	52.00
CGS52-130	CGA52-130	130	52.00	52.80
CGS52-144	CGA52-144	144	57.20	58.40
CGS52-152	CGA52-152	152	60.80	61.60
CGS52-160	CGA52-160	160	64.00	64.80
CGS52-176	CGA52-176	176	70.40	71.20
CGS52-180	CGA52-180	180	72.00	72.80
CGS52-192	CGA52-192	192	76.80	77.60
CGS52-224	CGA52-224	224	89.60	90.40
CGS52-256	CGA52-256	256	102.40	103.20

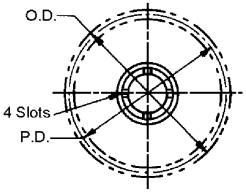
Available on request:
Other bore sizes;
numbers of teeth;
14-12° Pressure Angle;
Quality Class DIN 5/AGMA12

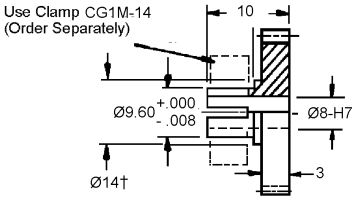
† Teeth may runout on flange diameter.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	CLAMP HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CGS64-30	CGA64-30	30†	12.00	12.80
CGS64-32	CGA64-32	32†	12.80	13.60
CGS64-35	CGA64-35	35†	14.00	14.80
CGS64-36	CGA64-36	36†	14.40	15.20
CGS64-40	CGA64-40	40	16.00	16.80
CGS64-45	CGA64-45	45	18.00	18.80
CGS64-48	CGA64-48	48	19.20	20.00
CGS64-50	CGA64-50	50	20.00	28.80
CGS64-60	CGA64-60	60	24.00	24.80
CGS64-64	CGA64-64	64	25.60	26.40
CGS64-70	CGA64-70	70	28.00	28.80
CGS64-72	CGA64-72	72	28.80	26.60
CGS64-75	CGA64-75	75	30.00	30.80
CGS64-80	CGA64-80	80	32.00	32.80
CGS64-84	CGA64-84	84	33.60	34.40
CGS64-88	CGA64-88	88	35.20	36.00
CGS64-90	CGA64-90	90	36.00	36.80
CGS64-96	CGA64-96	96	38.40	39.20
CGS64-112	CGA64-112	112	44.80	45.60
CGS64-120	CGA64-120	120	48.00	48.80
CGS64-125	CGA64-125	125	50.00	50.80
CGS64-128	CGA64-128	128	51.20	52.00
CGS64-130	CGA64-130	130	52.00	52.80
CGS64-140	CGA64-140	140	56.00	56.80
CGS64-144	CGA64-144	144	57.60	58.40
CGS64-160	CGA64-160	160	64.00	64.80
CGS64-176	CGA64-176	176	70.40	71.20
CGS64-180	CGA64-180	180	72.00	72.80
CGS64-192	CGA64-192	192	76.80	77.60
CGS64-224	CGA64-224	224	89.60	90.40
CGS64-256	CGA64-256	256	102.40	103.20

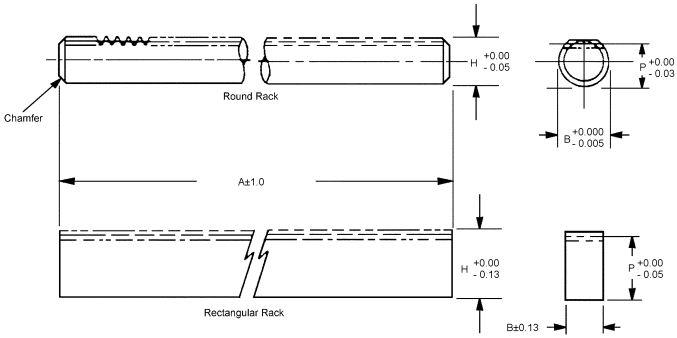
Available on request:
Other bore sizes;
numbers of teeth;
14-12° Pressure Angle;
Quality Class DIN 5/AGMA12

† Teeth may runout on flange diameter.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

GEAR RACKS

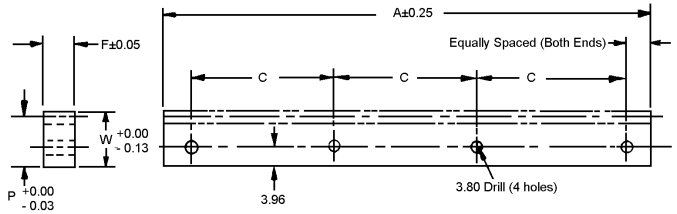
MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	ROUND & RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°



STOCK NO.	RACK STYLE	MOD.	P (Ref.)	B	A	H
R2M-7	ROUND	0.4	5.19	5.974	275	5.59
R3M-7	RECTANGULAR	0.4	11.79	5.84	275	12.19

Available on request: Special, modified and custom racks.

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°



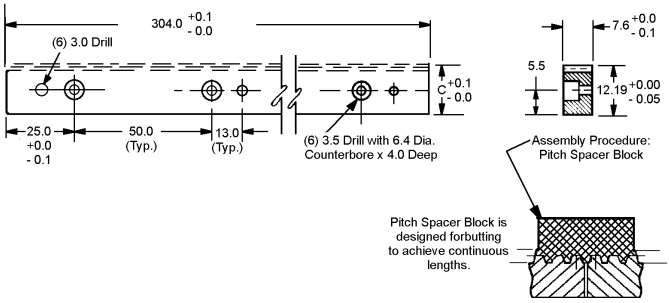
STOCK NO.	A	P (Ref.)	W	F	C
R4M-21	174.7	11.8	12.2	5.8	55.5

Quality Class AGMA12/DIN 5 available on request.

Available on request: Special, modified and custom racks.

GEAR RACKS

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°



B

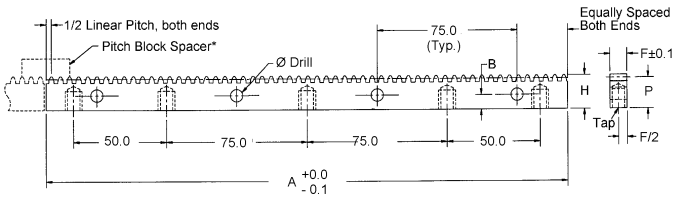
RACKS STOCK NO.	SPACER BLOCKS STOCK NO.	MODULE	LINEAR PITCH	C
R8M-2-G1	R8M-2-SB	0.4	1.26	11.79

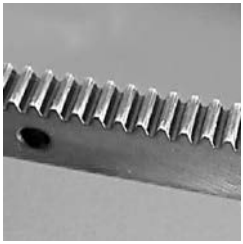
Available on request: special, modified and custom racks.

Quality Class AGMA12/DIN 5 available on request.

Adjacent hole center ±0.06
Accumulative hole centers ±0.14

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





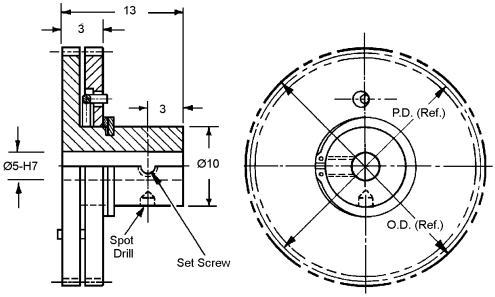
Spacer block is designed for butting to achieve continuous lengths.

RACKS	SPACER BLOCK								
STOCK NO.	STOCK NO.	LINEAR PITCH	A	P (REF.)	H +0.00 -0.13	F	B	Ø DRILL	TAP
R1M-7	R1M-7-SB	1.26	280.2	11.66	12.07	5.8	5.5	3.8	M4.0 X 0.7

Quality Class AGMA 12/Din 5 available on request. Custom racks available on request.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	PIN HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APGHSM-40	APGJSM-40	40	16.00	16.80
APGHSM-48	APGJSM-48	48	19.20	20.00
APGHSM-64	APGJSM-64	64	25.60	26.40

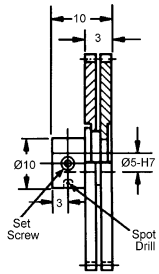
Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

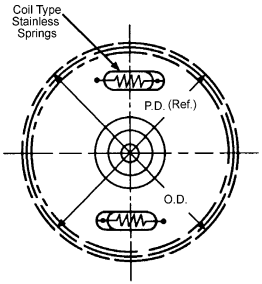
Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	PIN HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





B

STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APGUM-85	APGVM-85	85	34.00	34.80
APGUM-90	APGVM-90	90	36.00	36.80
APGUM-95	APGVM-95	95	38.00	38.80
APGUM-96	APGVM-96	96	38.40	39.20
APGUM-100	APGVM-100	100	40.00	40.80
APGUM-105	APGVM-105	105	42.00	42.80
APGUM-108	APGVM-108	108	43.20	44.00
APGUM-110	APGVM-110	110	44.00	44.80
APGUM-115	APGVM-115	115	46.00	46.80
APGUM-120	APGVM-120	120	48.00	48.80
APGUM-125	APGVM-125	125	50.00	50.80
APGUM-128	APGVM-128	128	51.20	52.00
APGUM-130	APGVM-130	130	52.00	52.80
APGUM-140	APGVM-140	140	56.00	56.80
APGUM-150	APGVM-150	150	60.00	60.80
APGUM-160	APGVM-160	160	64.00	64.80
APGUM-170	APGVM-170	170	68.00	68.80
APGUM-176	APGVM-176	176	70.40	71.20
APGUM-180	APGVM-180	180	72.00	72.80
APGUM-190	APGVM-190	190	76.00	76.80
APGUM-192	APGVM-192	192	76.80	77.60
APGUM-200	APGVM-200	200	80.00	80.80

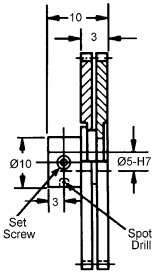
Available on request:
Other numbers of teeth;
Quality Class AGMA12 & 14 / DIN 5 & 3;
14-1/2° Pressure Angle

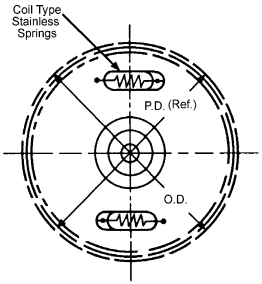
Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	PIN HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APGUM-85	APGVM-85	85	34.00	34.80
APGUM-90	APGVM-90	90	36.00	36.80
APGUM-95	APGVM-95	95	38.00	38.80
APGUM-96	APGVM-96	96	38.40	39.20
APGUM-100	APGVM-100	100	40.00	40.80
APGUM-105	APGVM-105	105	42.00	42.80
APGUM-108	APGVM-108	108	43.20	44.00
APGUM-110	APGVM-110	110	44.00	44.80
APGUM-115	APGVM-115	115	46.00	46.80
APGUM-120	APGVM-120	120	48.00	48.80
APGUM-125	APGVM-125	125	50.00	50.80
APGUM-128	APGVM-128	128	51.20	52.00
APGUM-130	APGVM-130	130	52.00	52.80
APGUM-140	APGVM-140	140	56.00	56.80
APGUM-150	APGVM-150	150	60.00	60.80
APGUM-160	APGVM-160	160	64.00	64.80
APGUM-170	APGVM-170	170	68.00	68.80
APGUM-176	APGVM-176	176	70.40	71.20
APGUM-180	APGVM-180	180	72.00	72.80
APGUM-190	APGVM-190	190	76.00	76.80
APGUM-192	APGVM-192	192	76.80	77.60
APGUM-200	APGVM-200	200	80.00	80.80

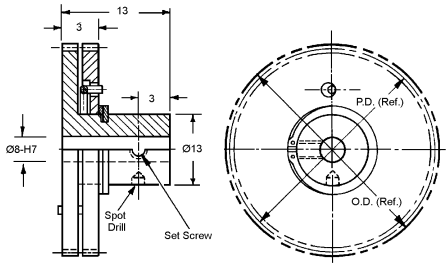
Available on request:
Other numbers of teeth;
Quality Class AGMA12 & 14 / DIN 5 & 3;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	PIN HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



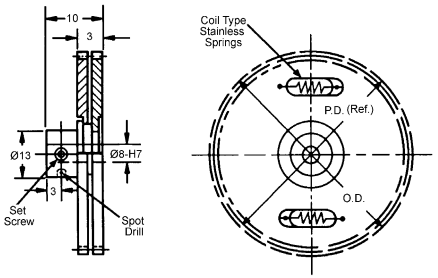
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APGKSM-48-X	APGLSM-48-X	48	19.20	20.00
APGKSM-64-X	APGLSM-64-X	64	25.60	26.40

Available on request:
Other numbers of teeth;
Quality Class AGMA12 & 14 / DIN 5 & 3;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

B

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	PIN HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



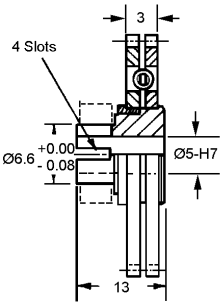
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APGWM-85-X	APGXM-85-X	85	34.00	34.80
APGWM-90-X	APGXM-90-X	90	36.00	36.80
APGWM-95-X	APGXM-95-X	95	38.00	38.80
APGWM-96-X	APGXM-96-X	96	38.40	39.20
APGWM-100-X	APGXM-100-X	100	40.00	40.80
APGWM-105-X	APGXM-105-X	105	42.00	42.80
APGWM-108-X	APGXM-108-X	108	43.20	44.00
APGWM-110-X	APGXM-110-X	110	44.00	44.80
APGWM-115-X	APGXM-115-X	115	46.00	46.80
APGWM-120-X	APGXM-120-X	120	48.00	48.80
APGWM-125-X	APGXM-125-X	125	50.00	50.80
APGWM-128-X	APGXM-128-X	128	51.20	52.00
APGWM-130-X	APGXM-130-X	130	52.00	52.80
APGWM-140-X	APGXM-140-X	140	56.00	56.80
APGWM-150-X	APGXM-150-X	150	60.00	60.80
APGWM-160-X	APGXM-160-X	160	64.00	64.80
APGWM-170-X	APGXM-170-X	170	68.00	68.80
APGWM-176-X	APGXM-176-X	176	70.40	71.20
APGWM-180-X	APGXM-180-X	180	72.00	72.80
APGWM-190-X	APGXM-190-X	190	76.00	76.80
APGWM-192-X	APGXM-192-X	192	76.80	77.60
APGWM-200-X	APGXM-200-X	200	80.00	80.80

Available on request:
Other numbers of teeth;
Quality Class AGMA12 & 14 / DIN 5 & 3;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	CLAMP HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°

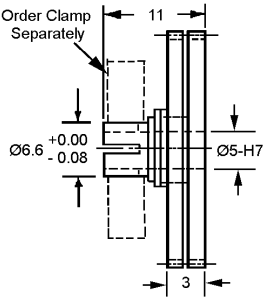


STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACGHSM-40	ACGJSM-40	40	16.00	16.80
ACGHSM-48	ACGJSM-48	48	19.20	20.00
ACGHSM-64	ACGJSM-64	64	25.60	26.40

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	CLAMP HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACGUM-85	ACGVM-85	85	34.00	34.80
ACGUM-90	ACGVM-90	90	36.00	36.80
ACGUM-95	ACGVM-95	95	38.00	38.80
ACGUM-96	ACGVM-96	96	38.40	39.20
ACGUM-100	ACGVM-100	100	40.00	40.80
ACGUM-105	ACGVM-105	105	42.00	42.80
ACGUM-108	ACGVM-108	108	43.20	44.00
ACGUM-110	ACGVM-110	110	44.00	44.80
ACGUM-115	ACGVM-115	115	46.00	46.80
ACGUM-120	ACGVM-120	120	48.00	48.80
ACGUM-125	ACGVM-125	125	50.00	50.80
ACGUM-128	ACGVM-128	128	51.20	52.00
ACGUM-130	ACGVM-130	130	52.00	52.80
ACGUM-140	ACGVM-140	140	56.00	56.80
ACGUM-150	ACGVM-150	150	60.00	60.80
ACGUM-160	ACGVM-160	160	64.00	64.80
ACGUM-170	ACGVM-170	170	68.00	68.80
ACGUM-176	ACGVM-176	176	70.40	71.20
ACGUM-180	ACGVM-180	180	72.00	72.80
ACGUM-190	ACGVM-190	190	76.00	76.80
ACGUM-192	ACGVM-192	192	76.80	77.60
ACGUM-200	ACGVM-200	200	80.00	80.80

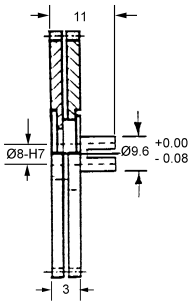
Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	CLAMP HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



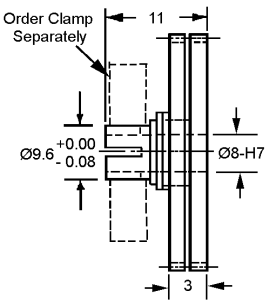
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACGKSM-48-X	ACGJSM-48	48	19.20	20.00
ACGKSM-64 -X	ACGJSM-64	64	25.60	26.40

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

B

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.4	CLAMP HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



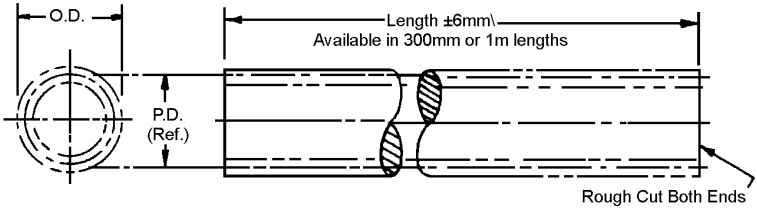
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACGWM-85-X	ACGXM-85-X	85	34.00	34.80
ACGWM-90-X	ACGXM-90-X	90	36.00	36.80
ACGWM-95-X	ACGXM-95-X	95	38.00	38.80
ACGWM-96-X	ACGXM-96-X	96	38.40	39.20
ACGWM-100-X	ACGXM-100-X	100	40.00	40.80
ACGWM-105-X	ACGXM-105-X	105	42.00	42.80
ACGWM-108-X	ACGXM-108-X	108	43.20	44.00
ACGWM-110-X	ACGXM-110-X	110	44.00	44.80
ACGWM-115-X	ACGXM-115-X	115	46.00	46.80
ACGWM-120-X	ACGXM-120-X	120	48.00	48.80
ACGWM-125-X	ACGXM-125-X	125	50.00	50.80
ACGWM-128-X	ACGXM-128-X	128	51.20	52.00
ACGWM-130-X	ACGXM-130-X	130	52.00	52.80
ACGWM-140-X	ACGXM-140-X	140	56.00	56.80
ACGWM-150-X	ACGXM-150-X	150	60.00	60.80
ACGWM-160-X	ACGXM-160-X	160	64.00	64.80
ACGWM-170-X	ACGXM-170-X	170	68.00	68.80
ACGWM-176-X	ACGXM-176-X	176	70.40	71.20
ACGWM-180-X	ACGXM-180-X	180	72.00	72.80
ACGWM-190-X	ACGXM-190-X	190	76.00	76.80
ACGWM-192-X	ACGXM-192-X	192	76.80	77.60
ACGWM-200-X	ACGXM-200-X	200	80.00	80.80

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

SPUR GEAR STOCKS

MODULE	STYLE	MATERIAL	PRESSURE ANGLE
0.4	PINION WIRE	BRASS ALLOY	20°

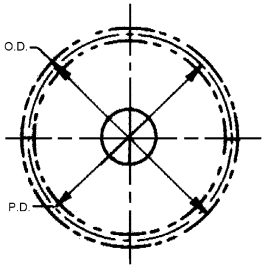


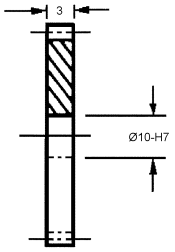
1 METER. LONG STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PWPGB-13	13	5.20	6.00
PWPGB-16	16	6.40	7.20
PWPGB-18	18	7.20	8.00

Available on request:
Other numbers of teeth;
14-1/2° Pressure Angle

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	HUBLESS	10	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



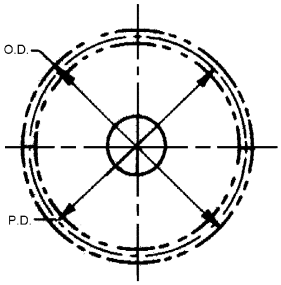


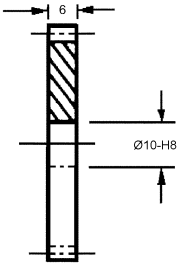
B

STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 ANODIZED STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FHS103-72	FHA103-72	72	21.60	22.20
FHS103-80	FHA103-80	80	24.00	24.60
FHS103-81	FHA103-81	81	24.30	24.90
FHS103-90	FHA103-90	90	27.00	27.60
FHS103-96	FHA103-96	96	28.80	29.40
FHS103-99	FHA103-99	99	29.70	30.30
FHS103-100	FHA103-100	100	30.00	30.60
FHS103-108	FHA103-108	108	32.40	33.00
FHS103-115	FHA103-115	115	34.50	35.10
FHS103-130	FHA103-130	130	39.00	39.60
FHS103-135	FHA103-135	135	40.50	41.10
FHS103-140	FHA103-140	140	42.00	42.60
FHS103-144	FHA103-144	144	43.20	43.80
FHS103-150	FHA103-150	150	45.00	45.60
FHS103-160	FHA103-160	160	48.00	48.60
FHS103-180	FHA103-180	180	54.00	54.60
FHS103-192	FHA103-192	192	57.60	58.20
FHS103-200	FHA103-200	200	60.00	60.60
FHS103-216	FHA103-216	216	64.80	65.40
FHS103-288	FHA103-288	288	86.40	87.00

Available on request:
Other numbers of teeth;
Quality Class AGMA 12 & 14 / DIN 5 & 3;
14 - 1/2° pressure angle.

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	HUBLESS	10	6	POLYURETHANE	DIN 7/AGMA 8	20°



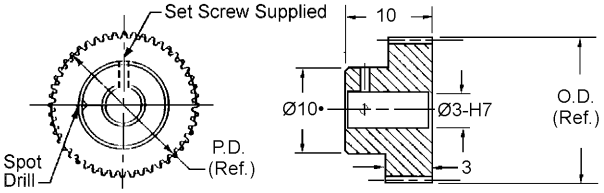


STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FHU103-72	72	21.60	22.20
FHU103-96	96	28.80	29.40
FHU103-100	100	30.00	30.60
FHU103-108	108	32.40	33.00
FHU103-120	120	36.00	36.60
FHU103-125	125	37.50	38.10
FHU103-135	135	40.50	41.10
FHU103-140	140	32.00	42.60
FHU103-150	150	45.00	45.60

Available on request:
Other numbers of teeth;
Quality Class AGMA 12 & 14 / DIN 5 & 3;
14 - 1/2° pressure angle.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	PIN HUB	3	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PHS80-26	PHA80-26	26•	7.80	8.40
PHS80-27	PHA80-27	27•	8.10	8.70
PHS80-28	PHA80-28	28•	8.40	9.00
PHS80-29	PHA80-29	29•	8.70	9.30
PHS80-30	PHA80-30	30•	9.00	9.60
PHS80-32	PHA80-32	32•	9.60	10.20
PHS80-34	PHA80-34	34•	10.20	10.80
PHS80-36	PHA80-36	36•	10.80	11.40
PHS80-38	PHA80-38	38	11.40	12.00
PHS80-40	PHA80-40	40	12.00	12.60
PHS80-42	PHA80-42	42	12.60	13.20
PHS80-44	PHA80-44	44	13.20	13.80
PHS80-45	PHA80-45	45	13.50	14.10
PHS80-46	PHA80-46	46	13.80	14.40
PHS80-48	PHA80-48	48	14.40	15.00
PHS80-50	PHA80-50	50	15.00	15.60
PHS80-54	PHA80-54	54	16.20	16.80
PHS80-56	PHA80-56	56	16.80	17.40
PHS80-60	PHA80-60	60	18.00	18.60
PHS80-64	PHA80-64	64	19.20	19.80
PHS80-70	PHA80-70	70	21.00	21.60
PHS80-72	PHA80-72	72	21.60	22.20
PHS80-75	PHA80-75	75	22.50	23.10
PHS80-80	PHA80-80	80	24.00	24.60
PHS80-84	PHA80-84	84	25.20	25.80
PHS80-85	PHA80-85	85	25.50	26.10
PHS80-90	PHA80-90	90	27.00	27.60
PHS80-92	PHA80-92	92	27.60	28.20
PHS80-96	PHA80-96	96	28.80	29.40
PHS80-100	PHA80-100	100	30.00	30.60
PHS80-110	PHA80-110	110	33.00	33.60
PHS80-117	PHA80-117	117	35.10	35.70
PHS80-120	PHA80-120	120	36.00	36.60
PHS80-130	PHA80-130	130	39.00	39.60
PHS80-144	PHA80-144	144	43.20	43.80

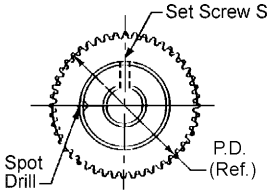
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

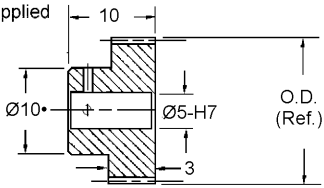
- For 26-36 teeth hub diameter equals 5.4

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	PIN HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PHS82-30	PHA82-30	30•	9.00	9.60
PHS82-32	PHA82-32	32•	9.60	10.20
PHS82-36	PHA82-36	36•	10.80	11.40
PHS82-38	PHA82-38	38	11.40	12.00
PHS82-40	PHA82-40	40	12.00	12.60
PHS82-42	PHA82-42	42	12.60	13.20
PHS82-44	PHA82-44	44	13.20	13.80
PHS82-45	PHA82-45	45	13.50	14.10
PHS82-46	PHA82-46	46	13.80	14.40
PHS82-48	PHA82-48	48	14.40	15.00
PHS82-50	PHA82-50	50	15.00	15.60
PHS82-54	PHA82-54	54	16.20	16.80
PHS82-55	PHA82-55	55	16.50	17.10
PHS82-56	PHA82-56	56	16.80	17.40
PHS82-60	PHA82-60	60	18.00	18.60
PHS82-64	PHA82-64	64	19.20	19.80
PHS82-70	PHA82-70	70	21.00	21.60
PHS82-72	PHA82-72	72	21.60	22.20
PHS82-75	PHA82-75	75	22.50	23.10
PHS82-80	PHA82-80	80	24.00	24.60
PHS82-81	PHA82-81	81	24.30	24.90
PHS82-90	PHA82-90	90	27.00	27.60
PHS82-96	PHA82-96	96	28.80	29.40
PHS82-99	PHA82-99	99	29.70	30.30
PHS82-100	PHA82-100	100	30.00	30.60
PHS82-108	PHA82-108	108	32.40	33.00
PHS82-110	PHA82-110	110	33.00	33.60
PHS82-120	PHA82-120	120	36.00	36.60
PHS82-126	PHA82-126	126	37.80	38.40
PHS82-130	PHA82-130	130	39.00	39.60
PHS82-140	PHA82-140	140	42.00	42.60
PHS82-144	PHA82-144	144	43.20	43.80
PHS82-150	PHA82-150	150	45.00	45.60
PHS82-153	PHA82-153	153	45.90	46.50
PHS82-162	PHA82-162	162	48.60	49.20
PHS82-168	PHA82-168	168	50.40	51.00
PHS82-170	PHA82-170	170	51.00	51.60
PHS82-180	PHA82-180	180	54.00	54.60
PHS82-198	PHA82-198	198	59.40	60.00
PHS82-200	PHA82-200	200	60.00	60.60
PHS82-216	PHA82-216	216	64.80	65.40

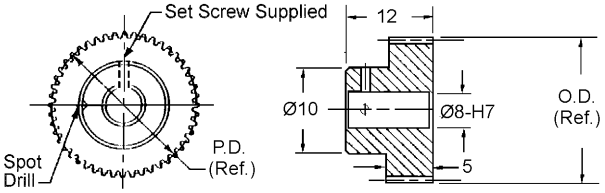
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

- For 30-36 teeth hub diameter equals 8.1

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	PIN HUB	8	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



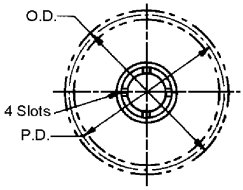
STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PHS95-44	PHA95-44	44	13.20	13.80
PHS95-45	PHA95-45	45	13.50	14.10
PHS95-46	PHA95-46	46	13.80	14.40
PHS95-48	PHA95-48	48	14.40	15.00
PHS95-50	PHA95-50	50	15.00	15.60
PHS95-54	PHA95-54	54	16.20	16.80
PHS95-55	PHA95-55	55	16.50	17.10
PHS95-60	PHA95-60	60	18.00	18.60
PHS95-63	PHA95-63	63	18.90	19.50
PHS95-64	PHA95-64	64	19.20	19.80
PHS95-65	PHA95-65	65	19.50	20.10
PHS95-70	PHA95-70	70	21.00	21.60
PHS95-72	PHA95-72	72	21.60	22.20
PHS95-80	PHA95-80	80	24.00	24.60
PHS95-90	PHA95-90	90	27.00	27.60
PHS95-96	PHA95-96	96	28.80	29.40
PHS95-100	PHA95-100	100	30.00	30.60
PHS95-105	PHA95-105	105	31.50	32.10
PHS95-110	PHA95-110	110	33.00	33.60
PHS95-120	PHA95-120	120	36.00	36.60
PHS95-126	PHA95-126	126	37.80	38.40
PHS95-130	PHA95-130	130	39.00	39.60
PHS95-136	PHA95-136	136	40.80	41.40
PHS95-140	PHA95-140	140	42.00	42.60
PHS95-150	PHA95-150	150	45.00	45.60
PHS95-160	PHA95-160	160	48.00	48.60
PHS95-170	PHA95-170	170	51.00	51.60
PHS95-180	PHA95-180	180	54.00	54.60

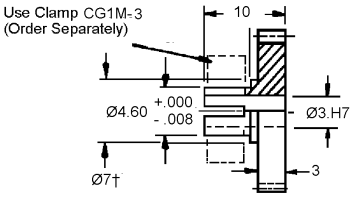
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	CLAMP HUB	3	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





B

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CHS50-22	CHA50-22	22†	6.60	7.20
CHS50-23	CHA50-23	23†	6.90	7.50
CHS50-25	CHA50-25	25†	7.50	8.10
CHS50-26	CHA50-26	26	7.80	8.40
CHS50-27	CHA50-27	27	8.10	8.70
CHS50-28	CHA50-28	28	8.40	9.00
CHS50-30	CHA50-30	30	9.00	9.60
CHS50-32	CHA50-32	32	9.60	10.20
CHS50-34	CHA50-34	34	10.20	10.80
CHS50-36	CHA50-36	36	10.80	11.40
CHS50-38	CHA50-38	38	11.40	12.00
CHS50-40	CHA50-40	40	12.00	12.60
CHS50-42	CHA50-42	42	12.60	13.20
CHS50-50	CHA50-50	50	15.00	15.60
CHS50-56	CHA50-56	56	16.80	17.40
CHS50-60	CHA50-60	60	18.00	18.60
CHS50-64	CHA50-64	64	19.20	19.80
CHS50-70	CHA50-70	70	21.00	21.60
CHS50-72	CHA50-72	72	21.60	22.20
CHS50-75	CHA50-75	75	22.50	23.10
CHS50-80	CHA50-80	80	24.00	24.60
CHS50-81	CHA50-81	81	24.30	24.90
CHS50-85	CHA50-85	85	25.50	26.10
CHS50-90	CHA50-90	90	27.00	27.80
CHS50-96	CHA50-96	96	28.80	29.40

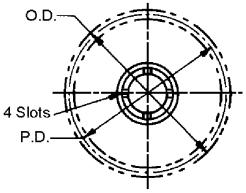
Available on request:
Other bore sizes;
numbers of teeth;
14-12° Pressure Angle;
Quality Class DIN 5/AGMA12

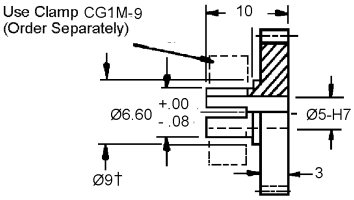
† Teeth may runout on flange diameter.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	CLAMP HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



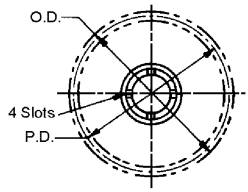


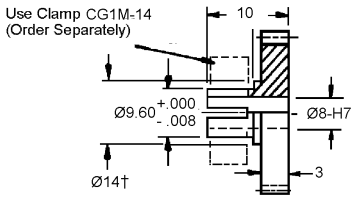
STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CHS52-30	CHA52-30	30†	9.00	9.60
CHS52-36	CHA52-36	36	10.80	11.40
CHS52-72	CHA52-72	72	21.60	22.20
CHS52-100	CHA52-100	100	30.00	30.60
CHS52-126	CHA52-126	126	37.80	38.40
CHS52-160	CHA52-160	160	48.00	48.60
CHS52-180	CHA52-180	180	54.00	54.60
CHS52-216	CHA52-216	216	64.80	65.40
CHS52-288	CHA52-288	288	86.40	87.00

Available on request:
Other bore sizes;
numbers of teeth;
14-12° Pressure Angle;
Quality Class DIN 5/AGMA12

† Teeth may runout on flange diameter.

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	CLAMP HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CHS64-45	CHA64-45	45†	13.50	14.10
CHS64-63	CHA64-63	63	18.90	19.50
CHS64-72	CHA64-72	72	21.60	22.20
CHS64-90	CHA64-90	90	27.70	27.60
CHS64-99	CHA64-99	99	29.70	30.30
CHS64-108	CHA64-108	108	32.40	33.00
CHS64-126	CHA64-126	126	37.80	38.40
CHS64-144	CHA64-144	144	43.20	43.80
CHS64-180	CHA64-180	180	54.00	54.60
CHS64-216	CHA64-216	216	64.80	65.40
CHS64-288	CHA64-288	288	86.40	87.00

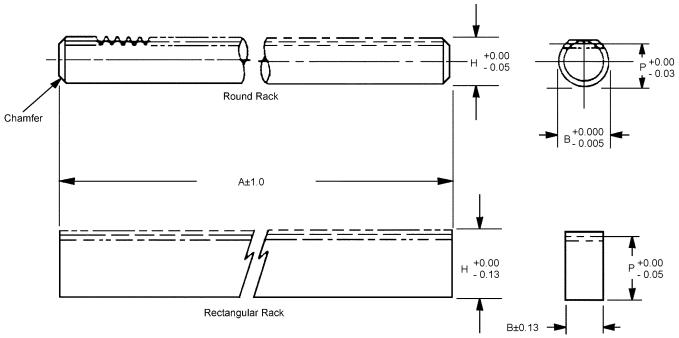
Available on request:
Other bore sizes;
numbers of teeth;
14-12° Pressure Angle;
Quality Class DIN 5/AGMA12

† Teeth may runout on flange diameter.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

GEAR RACKS

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	ROUND & RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°

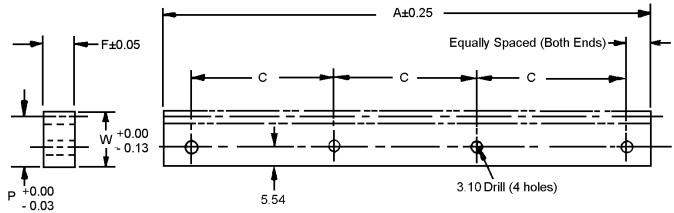


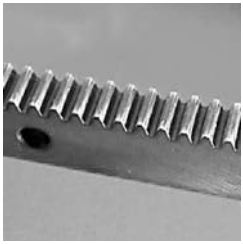
B

STOCK NO.	RACK STYLE	MOD.	P (Ref.)	B	A	H
R2M-8	ROUND	0.3	3.66	4.755	275	3.96
R3M-8	RECTANGULAR	0.3	8.72	4.24	275	9.02

Available on request: Special, modified and custom racks.

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





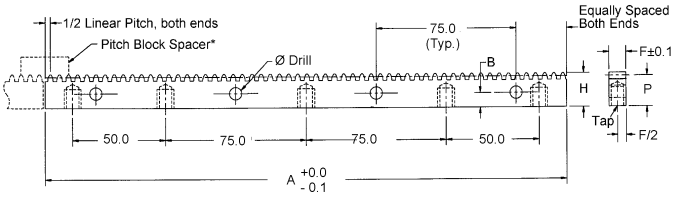
STOCK NO.	A	P (Ref.)	W	F	C
R4M-23	124.4	8.7	9.0	4.2	35.0

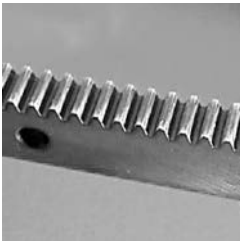
Quality Class AGMA12/DIN 5 available on request.

Available on request: Special, modified and custom racks.

GEAR RACKS

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





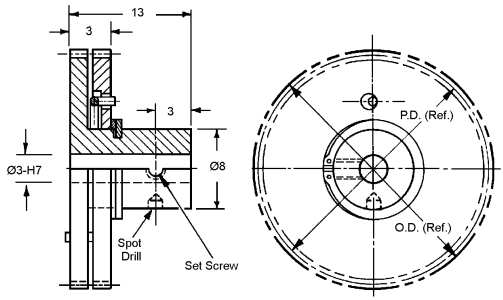
Spacer block is designed for butting to achieve continuous lengths.

RACKS	SPACER BLOCK								
STOCK NO.	STOCK NO.	LINEAR PITCH	A	P (REF.)	H +0.00 -0.13	F	B	Ø DRILL	TAP
R1M-8	R1M-8-SB	0.94	280.9	8.59	8.89	4.2	4.0	3.1	M3.0 X 0.5

Quality Class AGMA 12/Din 5 available on request. Custom racks available on request.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	PIN HUB	3	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°

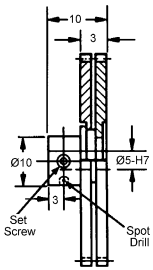


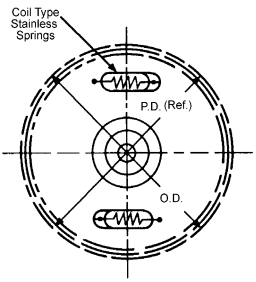
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APHFSM-44	APHGSM-44	44	13.20	13.80
APHFSM-56	APHGSM-56	56	16.80	17.40
APHFSM-72	APHGSM-72	72	21.60	22.20

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	PIN HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





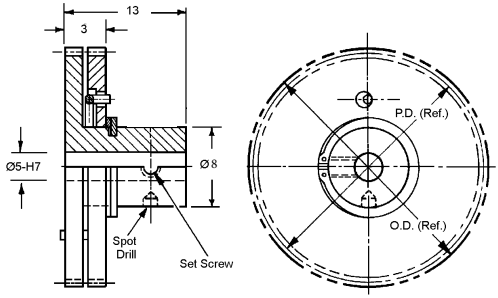
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APHUM-130	APHVM-130	130	39.00	39.60
APHUM-135	APHVM-135	135	40.50	41.10
APHUM-140	APHVM-140	140	42.00	42.60
APHUM-144	APHVM-144	144	43.20	43.80
APHUM-145	APHVM-145	145	43.50	44.10
APHUM-150	APHVM-150	150	45.00	45.60
APHUM-160	APHVM-160	160	48.00	48.60
APHUM-170	APHVM-170	170	51.00	51.60
APHUM-180	APHVM-180	180	54.00	54.60
APHUM-190	APHVM-190	190	57.00	57.60
APHUM-192	APHVM-192	192	57.60	58.20
APHUM-200	APHVM-200	200	60.00	60.60
APHUM-210	APHVM-210	210	63.00	63.60
APHUM-220	APHVM-220	220	66.00	66.60
APHUM-230	APHVM-230	230	69.00	69.60
APHUM-240	APHVM-240	240	72.00	72.60
ACHUM-250	ACHVM-250	250	75.00	75.60

Available on request:
Other numbers of teeth;
Quality Class AGMA 12 & 14 / DIN 5 & 3;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	PIN HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°

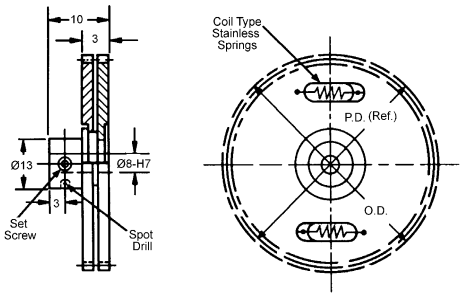


STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APHHSM-44	APHJSM-44	44	13.20	13.80
APHHSM-56	APHJSM-56	56	16.80	17.40
APHHSM-72	APHJSM-72	72	21.60	22.20

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	PIN HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



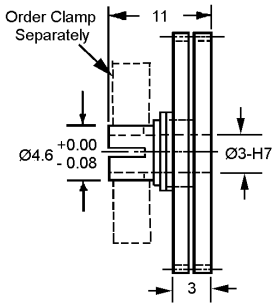
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APHWM-130-X	APHXM-130-X	130	39.00	39.60
APHWM-135-X	APHXM-135-X	135	40.50	41.10
APHWM-140-X	APHXM-140-X	140	42.00	42.60
APHWM-144-X	APHXM-144-X	144	43.20	43.80
APHWM-145-X	APHXM-145-X	145	43.50	44.10
APHWM-150-X	APHXM-150-X	150	45.00	45.60
APHWM-160-X	APHXM-160-X	160	48.00	48.60
APHWM-170-X	APHXM-170-X	170	51.00	51.60
APHWM-180-X	APHXM-180-X	180	54.00	54.60
APHWM-190-X	APHXM-190-X	190	57.00	57.60
APHWM-192-X	APHXM-192-X	192	57.60	58.20
APHWM-200-X	APHXM-200-X	200	60.00	60.60
APHWM-210-X	APHXM-210-X	210	63.00	63.60
APHWM-220-X	APHXM-220-X	220	66.00	66.60
APHWM-230-X	APHXM-230-X	230	69.00	69.60
APHWM-240-X	APHXM-240-X	240	72.00	72.60
APHWM-250-X	APHXM-250-X	250	75.00	75.60

Available on request:
Other numbers of teeth;
Quality Class AGMA 12 & 14 / DIN 5 & 3;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	CLAMP HUB	3	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°

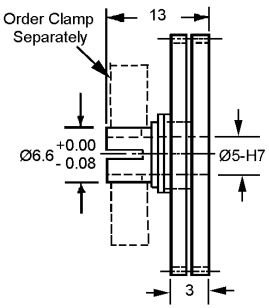


STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACHFSM-44	ACHGSM-44	44	13.20	13.80
ACHFSM-56	ACHGSM-56	56	16.80	17.40
ACHFSM-72	ACHGSM-72	72	21.60	22.20

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	CLAMP HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



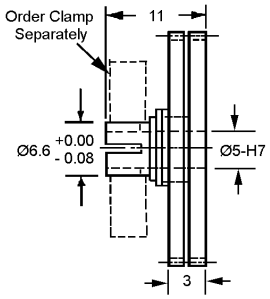
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACHHSM-44	ACHJSM-44	44	13.20	13.80
ACHHSM-56	ACHJSM-56	56	16.80	17.40
ACHHSM-72	ACHJSM-72	72	21.60	22.20

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	CLAMP HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°

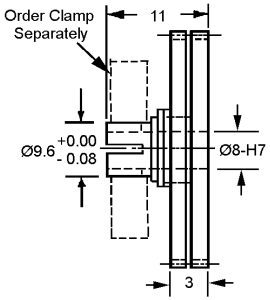


STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACHUM-130	ACHVM-130	130	39.00	39.60
ACHUM-135	ACHVM-135	135	40.50	41.10
ACHUM-140	ACHVM-140	140	42.00	42.60
ACHUM-144	ACHVM-144	144	43.20	43.80
ACHUM-145	ACHVM-145	145	43.50	44.10
ACHUM-150	ACHVM-150	150	45.00	45.60
ACHUM-160	ACHVM-160	160	48.00	48.60
ACHUM-170	ACHVM-170	170	51.00	51.60
ACHUM-180	ACHVM-180	180	54.00	54.60
ACHUM-190	ACHVM-190	190	57.00	57.60
ACHUM-192	ACHVM-192	192	57.60	58.20
ACHUM-200	ACHVM-200	200	60.00	60.60
ACHUM-210	ACHVM-210	210	63.00	63.60
ACHUM-220	ACHVM-220	220	66.00	66.60
ACHUM-230	ACHVM-230	230	69.00	69.60
ACHUM-240	ACHVM-240	240	72.00	72.60
ACHUM-250	ACHVM-250	250	75.00	75.60

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.3	CLAMP HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



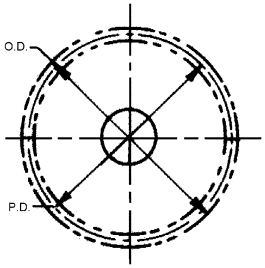
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACHWM-130-X	ACHXM-130-X	130	39.00	39.60
ACHWM-135-X	ACHXM-135-X	135	40.50	41.10
ACHWM-140-X	ACHXM-140-X	140	42.00	42.60
ACHWM-144-X	ACHXM-144-X	144	43.20	43.80
ACHWM-145-X	ACHXM-145-X	145	43.50	44.10
ACHWM-150-X	ACHXM-150-X	150	45.00	45.60
ACHWM-160-X	ACHXM-160-X	160	48.00	48.60
ACHWM-170-X	ACHXM-170-X	170	51.00	51.60
ACHWM-180-X	ACHXM-180-X	180	54.00	54.60
ACHWM-190-X	ACHXM-190-X	190	57.00	57.60
ACHWM-192-X	ACHXM-192-X	192	57.60	58.20
ACHWM-200-X	ACHXM-200-X	200	60.00	60.60
ACHWM-210-X	ACHXM-210-X	210	63.00	63.60
ACHWM-220-X	ACHXM-220-X	220	66.00	66.60
ACHWM-230-X	ACHXM-230-X	230	69.00	69.60
ACHWM-240-X	ACHXM-240-X	240	72.00	72.60
ACHWM-250-X	ACHXM-250-X	250	75.00	75.60

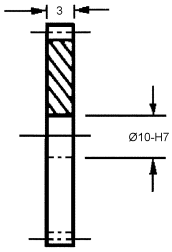
Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.25	HUBLESS	10	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





B

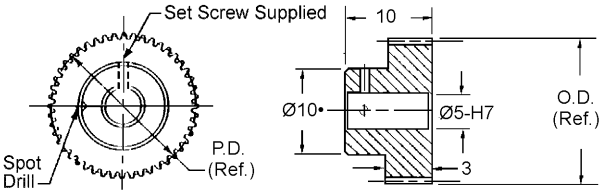
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 ANODIZED STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
FJS103-96	FJA103-96	96	24.00	24.50
FJS103-100	FJA103-100	100	25.00	25.50
FJS103-105	FJA103-105	105	26.25	26.75
FJS103-108	FJA103-108	108	27.00	27.50
FJS103-110	FJA103-110	110	27.50	28.00
FJS103-120	FJA103-120	120	30.00	30.50
FJS103-125	FJA103-125	125	31.25	31.75
FJS103-132	FJA103-132	132	33.00	33.50
FJS103-140	FJA103-140	140	35.00	35.50
FJS103-144	FJA103-144	144	36.00	36.50
FJS103-150	FJA103-150	150	37.50	38.00
FJS103-160	FJA103-160	160	40.00	40.50
FJS103-180	FJA103-180	180	45.00	45.50
FJS103-190	FJA103-190	190	47.50	48.00
FJS103-192	FJA103-192	192	48.00	48.50

Available on request:
Other numbers of teeth;
Quality Class AGMA 12 & 14 / DIN 5 & 3;
14 - 1/2° pressure angle

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.25	PIN HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
PJS82-35	PJA82-35	. 35•	8.75	9.25
PJS82-36	PJA82-36	36•	9.00	9.50
PJS82-38	PJA82-38	38•	9.50	10.00
PJS82-40	PJA82-40	40•	10.00	10.50
PJS82-42	PJA82-42	42•	10.50	11.00
PJS82-44	PJA82-44	44	11.00	11.50
PJS82-45	PJA82-45	45	11.25	11.75
PJS82-48	PJA82-48	48	12.00	12.50
PJS82-50	PJA82-50	50	12.50	13.00
PJS82-52	PJA82-52	52	13.00	13.50
PJS82-54	PJA82-54	54	13.50	14.50
PJS82-60	PJA82-60	60	15.00	15.50
PJS82-64	PJA82-64	64	16.00	16.50
PJS82-66	PJA82-66	66	16.50	17.00
PJS82-70	PJA82-70	70	17.50	18.00
PJS82-72	PJA82-72	72	18.00	18.50
PJS82-75	PJA82-75	75	18.75	19.25
PJS82-77	PJA82-77	77	19.25	19.75
PJS82-80	PJA82-80	80	20.00	20.50
PJS82-85	PJA82-85	85	21.25	21.75
PJS82-90	PJA82-90	90	22.50	23.00
PJS82-95	PJA82-95	95	23.75	24.25
PJS82-96	PJA82-96	96	24.00	24.50
PJS82-100	PJA82-100	100	25.00	25.50
PJS82-105	PJA82-105	105	26.25	26.75
PJS82-110	PJA82-110	110	27.50	28.00
PJS82-120	PJA82-120	120	30.00	30.50
PJS82-130	PJA82-130	130	32.50	33.00
PJS82-140	PJA82-140	140	35.00	35.50
PJS82-160	PJA82-160	160	40.00	40.50
PJS82-180	PJA82-180	180	45.00	45.50
PJS82-192	PJA82-192	192	48.00	48.50

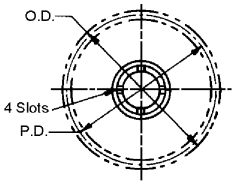
Available on request:
Other numbers of teeth;
14 - 1/2° pressure angle;
Quality Class AGMA 12 and 14 / DIN 5 and 3

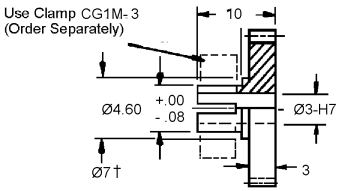
- For 35-42 teeth hub diameter equals 8.0

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

SPUR GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.25	CLAMP HUB	3	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
CJS50-26	CJA50-26	26†	6.50	7.00
CJS50-28	CJA50-28	28†	7.00	7.50
CJS50-30	CJA50-30	30	7.50	8.00
CJS50-32	CJA50-32	32	8.00	8.50
CJS50-33	CJA50-33	33	8.25	8.75
CJS50-34	CJA50-34	34	8.50	9.00
CJS50-35	CJA50-35	35	8.75	9.25
CJS50-36	CJA50-36	36	9.00	9.50
CJS50-38	CJA50-38	38	9.50	10.00
CJS50-40	CJA50-40	40	10.00	10.50
CJS50-42	CJA50-42	42	10.50	11.00
CJS50-44	CJA50-44	44	11.00	11.50
CJS50-48	CJA50-48	48	12.00	12.50
CJS50-50	CJA50-50	50	12.50	13.00
CJS50-52	CJA50-52	52	13.00	13.50
CJS50-54	CJA50-54	54	13.50	14.00
CJS50-56	CJA50-56	56	14.00	14.50
CJS50-58	CJA50-58	58	14.50	15.00
CJS50-60	CJA50-60	60	15.00	15.50
CJS50-64	CJA50-64	64	16.00	16.50
CJS50-70	CJA50-70	70	17.50	18.00
CJS50-72	CJA50-72	72	18.00	18.50
CJS50-76	CJA50-76	76	19.00	19.50
CJS50-78	CJA50-78	78	19.50	20.00
CJS50-80	CJA50-80	80	20.00	20.50
CJS50-84	CJA50-84	84	21.00	21.50
CJS50-90	CJA50-90	90	22.50	23.00
CJS50-95	CJA50-95	95	23.75	24.25
CJS50-96	CJA50-96	96	24.00	24.50
CJS50-100	CJA50-100	100	25.00	25.50
CJS50-105	CJA50-105	105	26.25	26.75
CJS50-108	CJA50-108	108	27.00	27.50
CJS50-110	CJA50-110	110	27.50	28.00
CJS50-115	CJA50-115	115	28.75	29.25
CJS50-120	CJA50-120	120	30.00	30.50
CJS50-127	CJA50-127	127	31.75	32.25
CJS50-132	CJA50-132	132	33.00	33.50
CJS50-144	CJA50-144	144	36.00	36.50
CJS50-168	CJA50-168	168	42.00	42.50
CJS50-180	CJA50-180	180	45.00	45.50

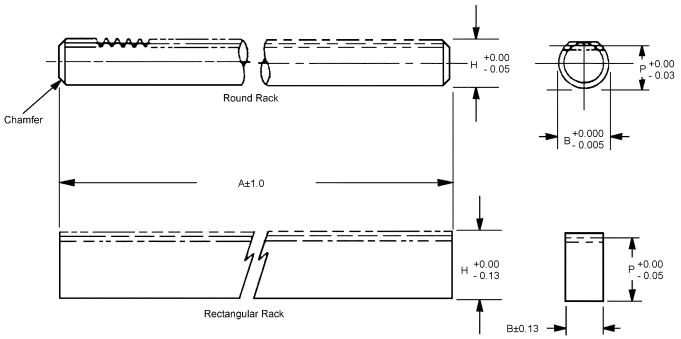
Available on request:
Other bore sizes;
numbers of teeth;
14-12° Pressure Angle;
Quality Class DIN 5/AGMA12

†Teeth may runout on flange diameter.

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

GEAR RACKS

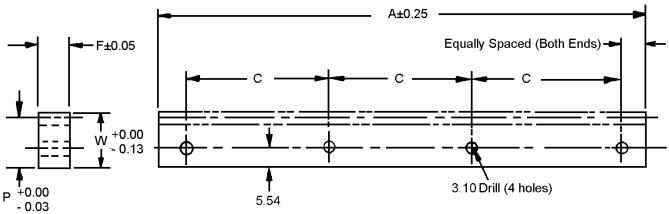
MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.25	ROUND & RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°

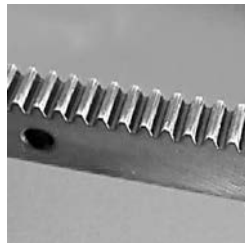


STOCK NO.	RACK STYLE	MOD.	P (Ref.)	B	A	H
R2M-9	ROUND	0.25	3.71	4.755	275	3.96
R3M-9	RECTANGULAR	0.25	8.77	4.24	275	9.02

Available on request: Special, modified and custom racks.

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.25	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





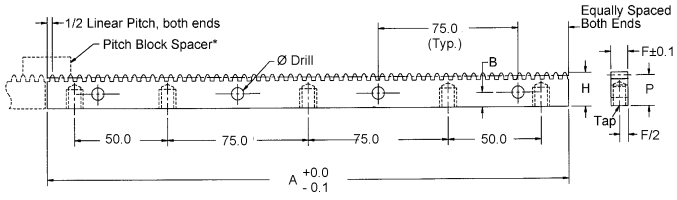
STOCK NO.	A	P (Ref.)	W	F	C
R4M-25	74.6	8.8	9.0	4.2	20.0

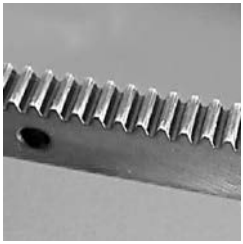
Quality Class AGMA12/DIN 5 available on request.

Available on request: Special, modified and custom racks.

GEAR RACKS

MODULE	STYLE	MATERIAL	QUALITY	PRESSURE ANGLE
0.25	RECTANGULAR	STAINLESS STEEL DIN 1.4005	DIN 7/AGMA 10	20°





B

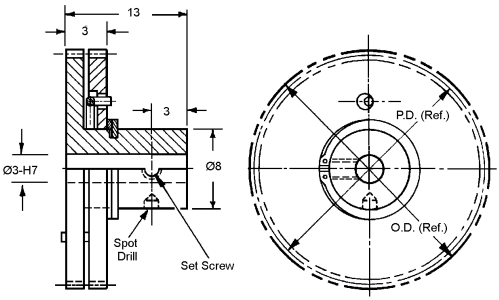
Spacer block is designed for butting to achieve continuous lengths.

RACKS	SPACER BLOCK								
STOCK NO.	STOCK NO.	LINEAR PITCH	A	P (REF.)	H +0.00 -0.13	F	B	Ø DRILL	TAP
R1M-9	R1M-9-SB	0.78	279.6	8.64	8.89	4.2	4.0	3.1	M3.0 X 0.5

Quality Class AGMA 12/Din 5 available on request. Custom racks available on request.

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.25	PIN HUB	3	3	STAINLESS STEE DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°

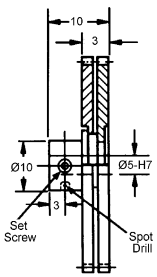


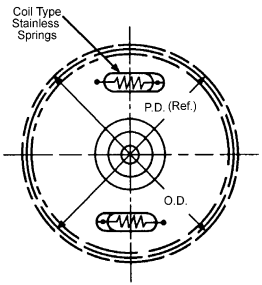
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APJFSM-60	APJGSM-60	60	15.00	15.50
APJFSM-72	APJGSM-72	72	18.00	18.50
APJFSM-96	APJGSM-96	96	24.00	24.50

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.25	PIN HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





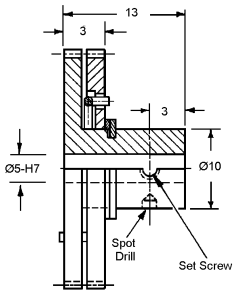
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APJUM-100	APJVM-100	100	25.00	25.50
APJUM-105	APJVM-105	105	26.25	26.75
APJUM-108	APJVM-108	108	27.00	27.50
APJUM-110	APJVM-110	110	27.50	28.00
APJUM-115	APJVM-115	115	28.75	29.25
APJUM-120	APJVM-120	120	30.00	30.50
APJUM-125	APJVM-125	125	31.25	31.75
APJUM-130	APJVM-130	130	32.50	33.00
APJUM-140	APJVM-140	140	35.00	35.50
APJUM-144	APJVM-144	144	36.00	36.50
APJUM-150	APJVM-150	150	37.50	38.00
APJUM-160	APJVM-160	160	40.00	40.50
APJUM-170	APJVM-170	170	42.50	43.00
APJUM-180	APJVM-180	180	45.00	45.50
APJUM-190	APJVM-190	190	47.50	48.00
APJUM-200	APJVM-200	200	50.00	50.50
APJUM-210	APJVM-210	210	52.50	53.00
APJUM-216	APJVM-216	216	54.00	54.50
APJUM-220	APJVM-220	220	55.00	55.50
APJUM-225	APJVM-225	225	56.25	56.75
APJUM-230	APJVM-230	230	57.50	58.00
APJUM-240	APJVM-240	240	60.00	60.50
APJUM-250	APJVM-250	250	62.50	63.00
APJUM-260	APJVM-260	260	65.00	65.50
APJUM-270	APJVM-270	270	67.50	68.00
APJUM-275	APJVM-275	275	68.75	69.25
APJUM-280	APJVM-280	280	70.00	70.50
APJUM-285	APJVM-285	265	71.25	71.75
APJUM-290	APJVM-290	290	72.50	73.00
APJUM-300	APJVM-300	300	75.00	75.50

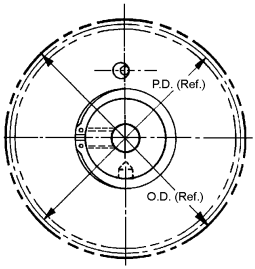
Available on request:
Other numbers of teeth;
Quality Class AGMA12 & 14 / DIN 5 & 3;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.25	PIN HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



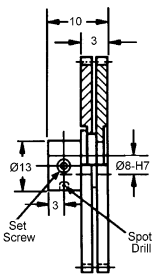


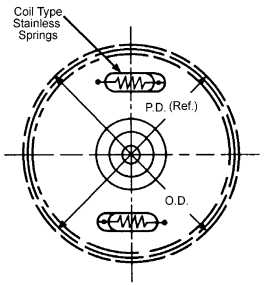
STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APJHSM-60	APJJSM-60	60	15.00	15.50
APJHSM-72	APJJSM-72	72	18.00	18.50
APJHSM-96	APJJSM-96	96	24.00	24.50

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.25	PIN HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°





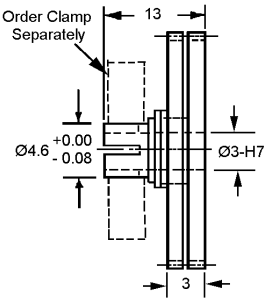
Available on request:
Other numbers of teeth;
Quality Class AGMA12 & 14 / DIN 5 & 3;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
APJWM-100-X	APJXM-100-X	100	25.00	25.50
APJWM-105-X	APJXM-105-X	105	26.25	26.75
APJWM-108-X	APJXM-108-X	108	27.00	27.50
APJWM-110-X	APJXM-110-X	110	27.50	28.00
APJWM-115-X	APJXM-115-X	115	28.75	29.25
APJWM-120-X	APJXM-120-X	120	30.00	30.50
APJWM-125-X	APJXM-125-X	125	31.25	31.75
APJWM-130-X	APJXM-130-X	130	32.50	33.00
APJWM-140-X	APJXM-140-X	140	35.00	35.50
APJWM-144-X	APJXM-144-X	144	36.00	36.50
APJWM-150-X	APJXM-150-X	150	37.50	38.00
APJWM-160-X	APJXM-160-X	160	40.00	40.50
APJWM-170-X	APJXM-170-X	170	42.50	43.00
APJWM-180-X	APJXM-180-X	180	45.00	45.50
APJWM-190-X	APJXM-190-X	190	47.50	48.00
APJWM-200-X	APJXM-200-X	200	50.00	50.50
APJWM-210-X	APJXM-210-X	210	52.50	53.00
APJWM-216-X	APJXM-216-X	216	54.00	54.50
APJWM-220-X	APJXM-220-X	220	55.00	55.50
APJWM-225-X	APJXM-225-X	225	56.25	56.70
APJWM-230-X	APJXM-230-X	230	57.50	58.00
APJWM-240-X	APJXM-240-X	240	60.00	60.50
APJWM-250-X	APJXM-250-X	250	62.50	63.00
APJWM-260-X	APJXM-260-X	260	65.00	65.50
APJWM-270-X	APJXM-270-X	270	67.50	68.00
APJWM-275-X	APJXM-275-X	275	68.75	69.25
APJWM-280-X	APJXM-280-X	280	70.00	70.50
APJWM-285-X	APJXM-285-X	285	71.25	71.75
APJWM-290-X	APJXM-290-X	290	72.50	73.00
APJWM-300-X	APJXM-300-X	300	75.00	75.50

ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.25	CLAMP HUB	3	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°

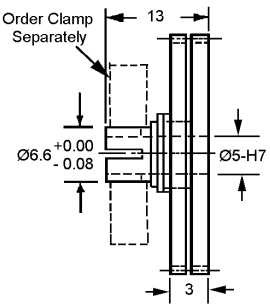


STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACJFSM-60	ACJGSM-60	60	15.00	15.50
ACJFSM-72	ACJGSM-72	72	18.00	18.50
ACJFSM-96	ACJGSM-96	96	24.00	24.50

Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.25	CLAMP HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACJHSM-60	ACJJSM-60	60	15.00	15.50
ACJHSM-72	ACJJSM-72	72	18.00	18.50
ACJHSM-96	ACJJSM-96	96	24.00	24.50

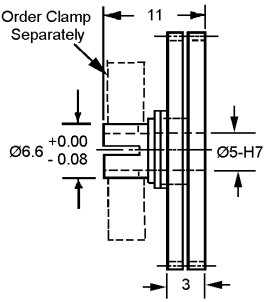
Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

Hub Material: Stainless Steel DIN 1.4305

For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

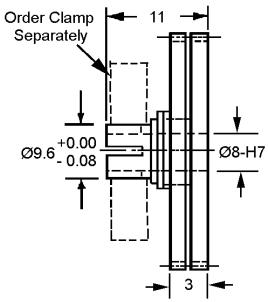
ANTI-BACKLASH GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.25	CLAMP HUB	5	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACJUM-100	ACJVM-100	100	25.00	25.50
ACJUM-105	ACJVM-105	105	26.25	26.75
ACJUM-108	ACJVM-108	108	27.00	27.50
ACJUM-110	ACJVM-110	110	27.50	28.00
ACJUM-115	ACJVM-115	115	28.75	29.25
ACJUM-120	ACJVM-120	120	30.00	30.50
ACJUM-125	ACJVM-125	125	31.25	31.75
ACJUM-130	ACJVM-130	130	32.50	33.00
ACJUM-140	ACJVM-140	140	35.00	35.50
ACJUM-144	ACJVM-144	144	36.00	36.50
ACJUM-150	ACJVM-150	150	37.50	38.00
ACJUM-160	ACJVM-160	160	40.00	40.50
ACJUM-170	ACJVM-170	170	42.50	43.00
ACJUM-180	ACJVM-180	180	45.00	45.50
ACJUM-190	ACJVM-190	190	47.50	48.00
ACJUM-200	ACJVM-200	200	50.00	50.50
ACJUM-210	ACJVM-210	210	52.50	53.00
ACJUM-216	ACJVM-216	216	54.00	54.50
ACJUM-220	ACJVM-220	220	55.00	55.50
ACJUM-225	ACJVM-225	225	56.25	56.75
ACJUM-230	ACJVM-230	230	57.50	58.00
ACJUM-240	ACJVM-240	240	60.00	60.50
ACJUM-250	ACJVM-250	250	62.50	63.00
ACJUM-260	ACJVM-260	260	65.00	65.50
ACJUM-270	ACJVM-270	270	67.50	68.00
ACJUM-275	ACJVM-275	275	68.75	69.25
ACJUM-280	ACJVM-280	280	70.00	70.50
ACJUM-285	ACJVM-285	265	71.25	71.75
ACJUM-290	ACJVM-290	290	72.50	73.00
ACJUM-300	ACJVM-300	300	75.00	75.50

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	PRESSURE ANGLE
0.25	CLAMP HUB	8	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1355 ANODIZED	DIN 7/AGMA 10	20°



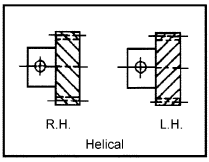
Available on request:
Other numbers of teeth;
Other Quality Classes;
14-1/2° Pressure Angle

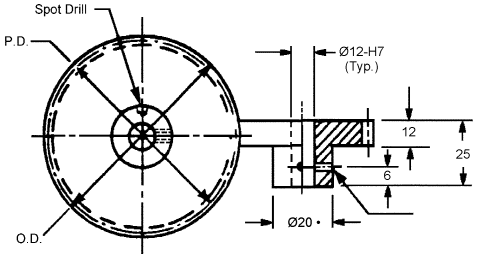
Hub Material: Stainless Steel DIN 1.4305

STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	NO. OF TEETH	PITCH DIA.	OUTSIDE DIA.
ACJWM-100-X	ACJXM-100-X	100	25.00	25.50
ACJWM-105-X	ACJXM-105-X	105	26.25	26.75
ACJWM-108-X	ACJXM-108-X	108	27.00	27.50
ACJWM-110-X	ACJXM-110-X	110	27.50	28.00
ACJWM-115-X	ACJXM-115-X	115	28.75	29.25
ACJWM-120-X	ACJXM-120-X	120	30.00	30.50
ACJWM-125-X	ACJXM-125-X	125	31.25	31.75
ACJWM-130-X	ACJXM-130-X	130	32.50	33.00
ACJWM-140-X	ACJXM-140-X	140	35.00	35.50
ACJWM-144-X	ACJXM-144-X	144	36.00	36.50
ACJWM-150-X	ACJXM-150-X	150	37.50	38.00
ACJWM-160-X	ACJXM-160-X	160	40.00	40.50
ACJWM-170-X	ACJXM-170-X	170	42.50	43.00
ACJWM-180-X	ACJXM-180-X	180	45.00	45.50
ACJWM-190-X	ACJXM-190-X	190	47.50	48.00
ACJWM-200-X	ACJXM-200-X	200	50.00	50.50
ACJWM-210-X	ACJXM-210-X	210	52.50	53.00
ACJWM-216-X	ACJXM-216-X	216	54.00	54.50
ACJWM-220-X	ACJXM-220-X	220	55.00	55.50
ACJWM-225-X	ACJXM-225-X	225	56.25	56.70
ACJWM-230-X	ACJXM-230-X	230	57.50	58.00
ACJWM-240-X	ACJXM-240-X	240	60.00	60.50
ACJWM-250-X	ACJXM-250-X	250	62.50	63.00
ACJWM-260-X	ACJXM-260-X	260	65.00	65.50
ACJWM-270-X	ACJXM-270-X	270	67.50	68.00
ACJWM-275-X	ACJXM-275-X	275	68.75	69.25
ACJWM-280-X	ACJXM-280-X	280	70.00	70.50
ACJWM-285-X	ACJXM-285-X	285	71.25	71.75
ACJWM-290-X	ACJXM-290-X	290	72.50	73.00
ACJWM-300-X	ACJXM-300-X	300	75.00	75.50

HELICAL GEARS

MODULE	STYLE	BORE	MATERIAL	QUALITY	PRES. ANGLE	HELIX ANGLE
1.5	R & L Hand PIN HUB	12	STAINLESS STEEL DIN 1.4305	DIN 8 AGMA 9	20°	45°

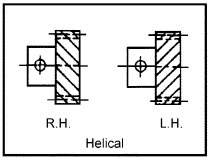


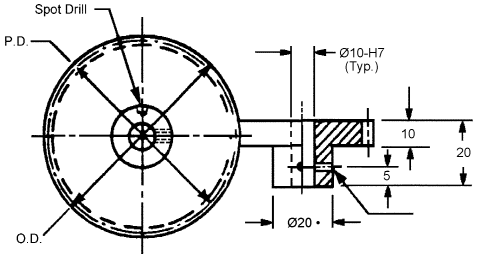


RIGHT HAND STOCK NO.	LEFT HAND STOCK NO.	NO. OF TEETH	P.D.	O.D.
HAS89-R12	HAS89-L12	12	25.46	28.46
HAS89-R16	HAS89-L16	16	33.94	36.94
HAS89-R20	HAS89-L20	20	42.43	45.43
HAS89-R24	HAS89-L24	24	50.91	53.91
HAS89-R32	HAS89-L32	32	67.88	70.88
HAS89-R40	HAS89-L40	40	84.85	87.85
HAS89-R48	HAS89-L48	48	101.82	104.82

Other numbers of teeth are available on request.
- For 11 teeth hub diameter equals 19.6

MODULE	STYLE	BORE	MATERIAL	QUALITY	PRES. ANGLE	HELIX ANGLE
1.25	R & L Hand PIN HUB	10	STAINLESS STEEL DIN 1.4305	DIN 8 AGMA 9	20°	45°



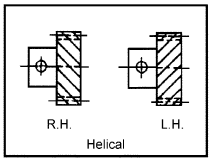


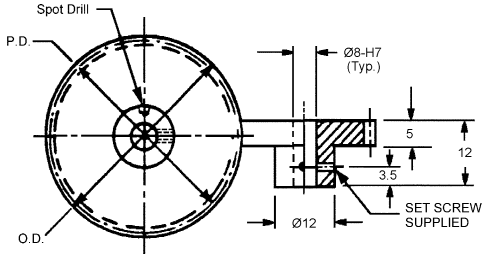
RIGHT HAND STOCK NO.	LEFT HAND STOCK NO.	NO. OF TEETH	P.D.	O.D.
HBS86-R11	HBS86-L11	11	19.44	21.94
HBS86-R15	HBS86-L15	15	26.52	29.02
HBS86-R20	HBS86-L20	20	35.36	37.86
HBS86-R25	HBS86-L25	25	44.19	46.69
HBS86-R30	HBS86-L30	30	53.03	55.53
HBS86-R40	HBS86-L40	40	70.71	73.21
HBS86-R50	HBS86-L50	50	88.39	90.89
HBS86-R60	HBS86-L60	60	106.07	108.57

Other numbers of teeth are available on request.
- For 11 - 13 teeth hub diameter equals 16.3

HELICAL GEARS

MODULE	STYLE	BORE	MATERIAL	QUALITY	PRES. ANGLE	HELIX ANGLE
1.0	R & L Hand PIN HUB	8	STAINLESS STEEL DIN 1.4305	DIN 7 AGMA 10	20°	45°

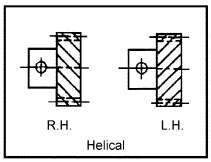


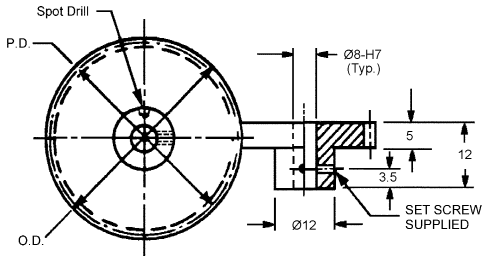


RIGHT HAND STOCK NO.	LEFT HAND STOCK NO.	NO. OF TEETH	P.D.	O.D.
HCS95-R12	HCS95-L12	12	16.94	18.97
HCS95-R18	HCS95-L18	18	25.45	27.45
HCS95-R24	HCS95-L24	24	33.94	35.94
HCS95-R30	HCS95-L30	30	42.42	44.42
HCS95-R36	HCS95-L36	36	50.91	52.91
HCS95-R48	HCS95-L48	48	67.88	69.88
HCS95-R60	HCS95-L60	60	84.85	86.85
HCS95-R72	HCS95-L72	72	101.82	103.82

Other numbers of teeth are available on request.

MODULE	STYLE	BORE	MATERIAL	QUALITY	PRES. ANGLE	HELIX ANGLE
1.0	R & L Hand PIN HUB	8	ALUMINUM DIN 3.1355	DIN 7 AGMA 10	20°	45°



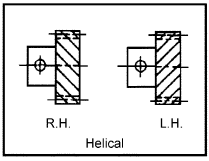


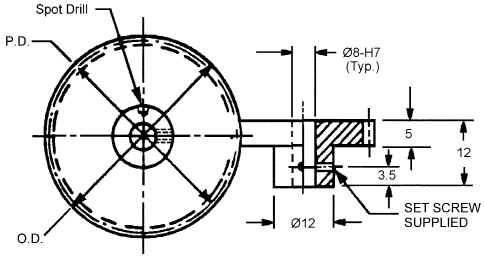
RIGHT HAND STOCK NO.	LEFT HAND STOCK NO.	NO. OF TEETH	P.D.	O.D.
HCA95-R12	HCA95-L12	12	16.94	18.97
HCA95-R18	HCA95-L18	18	25.45	27.45
HCA95-R24	HCA95-L24	24	33.94	35.94
HCA95-R30	HCA95-L30	30	42.42	44.42
HCA95-R36	HCA95-L36	36	50.91	52.91
HCA95-R48	HCA95-L48	48	67.88	69.88
HCA95-R60	HCA95-L60	60	84.85	86.85
HCA95-R72	HCA95-L72	72	101.82	103.82

Other numbers of teeth are available on request.

HELICAL GEARS

MODULE	STYLE	BORE	MATERIAL	QUALITY	PRES. ANGLE	HELIX ANGLE
0.8	R & L Hand PIN HUB	8	STAINLESS STEEL DIN 1.4305	DIN 7 AGMA 10	20°	45°

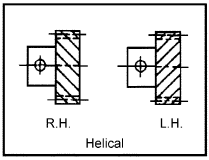


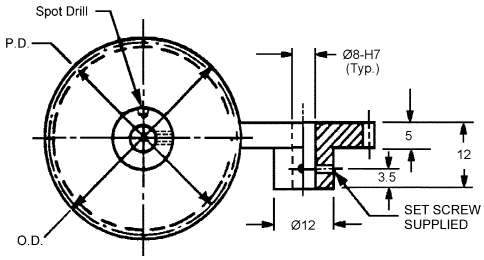


RIGHT HAND STOCK NO.	LEFT HAND STOCK NO.	NO. OF TEETH	P.D.	O.D.
HDS95-R16	HDS95-L16	16	18.10	19.70
HDS95-R24	HDS95-L24	24	27.15	28.75
HDS95-R32	HDS95-L32	32	36.20	37.80
HDS95-R40	HDS95-L40	40	45.25	46.85
HDS95-R48	HDS95-L48	48	54.30	55.90
HDS95-R64	HDS95-L64	64	72.40	74.00
HDS95-R80	HDS95-L80	80	90.50	92.10
HDS95-R96	HDS95-L96	96	108.61	110.21

Other numbers of teeth are available on request.

MODULE	STYLE	BORE	MATERIAL	QUALITY	PRES. ANGLE	HELIX ANGLE
0.8	R & L Hand PIN HUB	8	ALUMINUM DIN 3.1355	DIN 7 AGMA 10	20°	45°





RIGHT HAND STOCK NO.	LEFT HAND STOCK NO.	NO. OF TEETH	P.D.	O.D.
HDA95-R16	HDA95-L16	16	18.10	19.70
HDA95-R24	HDA95-L24	24	27.15	28.75
HDA95-R32	HDA95-L32	32	36.20	37.80
HDA95-R40	HDA95-L40	40	45.25	46.85
HDA95-R48	HDA95-L48	48	54.30	55.90
HDA95-R64	HDA95-L64	64	72.40	74.00
HDA95-R80	HDA95-L80	80	90.50	92.10
HDA95-R96	HDA95-L96	96	108.61	110.21

Other numbers of teeth are available on request.

HELICAL GEARS

MODULE	STYLE	BORES	MATERIAL	QUALITY	PRES. ANGLE	HELIX ANGLE
0.5	RIGHT HAND PIN HUB	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1555	DIN 7 AGMA 10	20°	45°

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	P.D.	O.D.
HFS83-R20	HFA83-R20	20	14.14	15.14
HFS83-R24	HFA83-R24	24	16.97	17.97
HFS83-R25	HFA83-R25	25	17.68	18.68
HFS83-R30	HFA83-R30	30	21.21	22.21
HFS83-R35	HFA83-R35	35	24.75	25.75
HFS83-R36	HFA83-R36	36	25.46	26.46
HFS83-R40	HFA83-R40	40	28.28	29.28
HFS83-R45	HFA83-R45	45	31.82	32.82
HFS83-R48	HFA83-R48	48	33.94	34.94
HFS83-R50	HFA83-R50	50	35.36	36.36
HFS83-R60	HFA83-R60	60	42.43	43.43
HFS83-R70	HFA83-R70	70	49.50	50.50
HFS83-R72	HFA83-R72	72	50.91	51.91
HFS83-R80	HFA83-R80	80	56.57	57.57
HFS83-R90	HFA83-R90	90	63.64	64.64
HFS83-R96	HFA83-R96	96	67.88	68.88
HFS83-R100	HFA83-R100	100	70.71	71.71
HFS83-R120	HFA83-R120	120	84.85	85.85
HFS83-R144	HFA83-R144	144	101.82	102.82

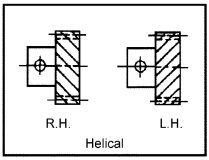
Other numbers of teeth are available on request.
- For 15 teeth hub diameter equals 9.3

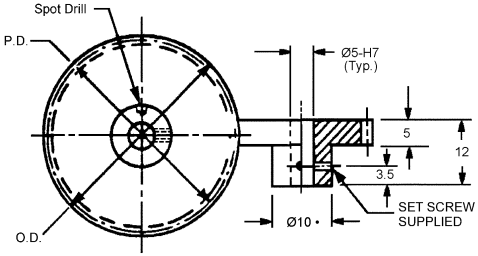
B

MODULE	STYLE	BORES	MATERIAL	QUALITY	PRES. ANGLE	HELIX ANGLE
0.5	LEFT HAND PIN HUB	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1555	DIN 7 AGMA 10	20°	45°

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	P.D.	O.D.
HFS83-L20	HFA83-L20	20	14.14	15.14
HFS83-L24	HFA83-L24	24	16.97	17.97
HFS83-L25	HFA83-L25	25	17.68	18.68
HFS83-L30	HFA83-L30	30	21.21	22.21
HFS83-L35	HFA83-L35	35	24.75	25.75
HFS83-L36	HFA83-L36	36	25.46	26.46
HFS83-L40	HFA83-L40	40	28.28	29.28
HFS83-L45	HFA83-L45	45	31.82	32.82
HFS83-L48	HFA83-L48	48	33.94	34.94
HFS83-L50	HFA83-L50	50	35.36	36.36
HFS83-L60	HFA83-L60	60	42.43	43.43
HFS83-L70	HFA83-L70	70	49.50	50.50
HFS83-L72	HFA83-L72	72	50.91	51.91
HFS83-L80	HFA83-L80	80	56.57	57.57
HFS83-L90	HFA83-L90	90	63.64	64.64
HFS83-L96	HFA83-L96	96	67.88	68.88
HFS83-L100	HFA83-L100	100	70.71	71.71
HFS83-L120	HFA83-L120	120	84.85	85.85
HFS83-L144	HFA83-L144	144	101.82	102.82

Other numbers of teeth are available on request.
- For 15 teeth hub diameter equals 9.3





HELICAL GEARS

MODULE	STYLE	BORES	MATERIAL	QUALITY	PRES. ANGLE	HELIX ANGLE
0.5	RIGHT HAND PIN HUB	8	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1555	DIN 7 AGMA 10	20°	45°

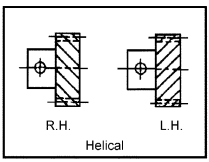
STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	P.D.	O.D.
HFS95-R20	HFA95-R20	20	14.14	15.14
HFS95-R24	HFA95-R24	24	16.97	17.97
HFS95-R25	HFA95-R25	25	17.68	18.68
HFS95-R30	HFA95-R30	30	21.21	22.21
HFS95-R35	HFA95-R35	35	24.75	25.75
HFS95-R36	HFA95-R36	36	25.46	26.46
HFS95-R40	HFA95-R40	40	28.28	29.28
HFS95-R45	HFA95-R45	45	31.82	32.82
HFS95-R48	HFA95-R48	48	33.94	34.94
HFS95-R50	HFA95-R50	50	35.36	36.36
HFS95-R60	HFA95-R60	60	42.43	43.43
HFS95-R70	HFA95-R70	70	49.50	50.50
HFS95-R72	HFA95-R72	72	50.91	51.91
HFS95-R80	HFA95-R80	80	56.57	57.57
HFS95-R90	HFA95-R90	90	63.64	64.64
HFS95-R96	HFA95-R96	96	67.88	68.88
HFS95-R100	HFA95-R100	100	70.71	71.71
HFS95-R120	HFA95-R120	120	84.85	85.85
HFS95-R144	HFA95-R144	144	101.82	102.82

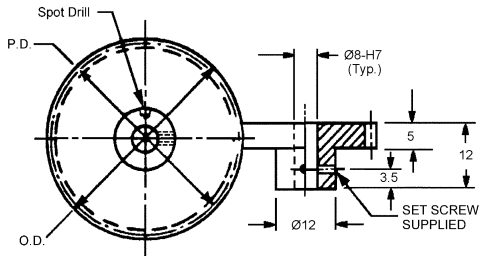
Other numbers of teeth are available on request.

MODULE	STYLE	BORES	MATERIAL	QUALITY	PRES. ANGLE	HELIX ANGLE
0.5	LEFT HAND PIN HUB	8	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1555	DIN 7 AGMA 10	20°	45°

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	P.D.	O.D.
HFS95-L20	HFA95-L20	20	14.14	15.14
HFS95-L24	HFA95-L24	24	16.97	17.97
HFS95-L25	HFA95-L25	25	17.68	18.68
HFS95-L30	HFA95-L30	30	21.21	22.21
HFS95-L35	HFA95-L35	35	24.75	25.75
HFS95-L36	HFA95-L36	36	25.46	26.46
HFS95-L40	HFA95-L40	40	28.28	29.28
HFS95-L45	HFA95-L45	45	31.82	32.82
HFS95-L48	HFA95-L48	48	33.94	34.94
HFS95-L50	HFA95-L50	50	35.36	36.36
HFS95-L60	HFA95-L60	60	42.43	43.43
HFS95-L70	HFA95-L70	70	49.50	50.50
HFS95-L72	HFA95-L72	72	50.91	51.91
HFS95-L80	HFA95-L80	80	56.57	57.57
HFS95-L90	HFA95-L90	90	63.64	64.64
HFS95-L96	HFA95-L96	96	67.88	68.88
HFS95-L100	HFA95-L100	100	70.71	71.71
HFS95-L120	HFA95-L120	120	84.85	85.85
HFS95-L144	HFA95-L144	144	101.82	102.82

Other numbers of teeth are available on request.





HELICAL GEARS

MODULE	STYLE	BORE	MATERIAL	QUALITY	PRES. ANGLE	HELIX ANGLE
0.4	RIGHT HAND PIN HUB	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1555	DIN 7 AGMA 10	20°	45°

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	P.D.	O.D.
HGS80-R20	HGA80-R20	20	11.31	12.11
HGS80-R25	HGA80-R25	25	14.14	14.94
HGS80-R30	HGA80-R30	30	16.97	17.77
HGS80-R32	HGA80-R32	32	18.10	18.90
HGS80-R35	HGA80-R35	35	19.80	20.60
HGS80-R40	HGA80-R40	40	22.63	23.43
HGS80-R45	HGA80-R45	45	54.46	26.26
HGS80-R48	HGA80-R48	48	27.15	27.95
HGS80-R50	HGA80-R50	50	28.28	29.08
HGS80-R60	HGA80-R60	60	33.94	34.74
HGS80-R64	HGA80-R64	64	36.20	37.00
HGS80-R70	HGA80-R70	70	39.60	40.40
HGS80-R80	HGA80-R80	80	45.25	46.05
HGS80-R90	HGA80-R90	90	50.91	51.71
HGS80-R96	HGA80-R96	96	54.31	55.11
HGS80-R100	HGA80-R100	100	56.57	57.37
HGS80-R128	HGA80-R128	128	72.41	73.21
HGS80-R160	HGA80-R160	160	90.51	91.31

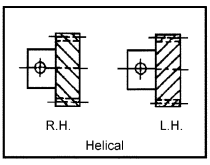
Other numbers of teeth are available on request.
- For 12 - 19 teeth hub diameter equals 5.7

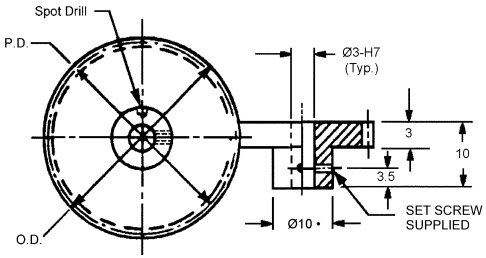
B

MODULE	STYLE	BORE	MATERIAL	QUALITY	PRES. ANGLE	HELIX ANGLE
0.4	LEFT HAND PIN HUB	3	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1555	DIN 7 AGMA 10	20°	45°

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	P.D.	O.D.
HGS80-L20	HGA80-L20	20	11.31	12.11
HGS80-L25	HGA80-L25	25	14.14	14.94
HGS80-L30	HGA80-L30	30	16.97	17.77
HGS80-L32	HGA80-L32	32	18.10	18.90
HGS80-L35	HGA80-L35	35	19.80	20.60
HGS80-L40	HGA80-L40	40	22.63	23.43
HGS80-L45	HGA80-L45	45	54.46	26.26
HGS80-L48	HGA80-L48	48	27.15	27.95
HGS80-L50	HGA80-L50	50	28.28	29.08
HGS80-L60	HGA80-L60	60	33.94	34.74
HGS80-L64	HGA80-L64	64	36.20	37.00
HGS80-L70	HGA80-L70	70	39.60	40.40
HGS80-L80	HGA80-L80	80	45.25	46.05
HGS80-L90	HGA80-L90	90	50.91	51.71
HGS80-L96	HGA80-L96	96	54.31	55.11
HGS80-L100	HGA80-L100	100	56.57	57.37
HGS80-L128	HGA80-L128	128	72.41	73.21
HGS80-L160	HGA80-L160	160	90.51	91.31

Other numbers of teeth are available on request.
- For 12 - 19 teeth hub diameter equals 5.7





HELICAL GEARS

MODULE	STYLE	BORES	MATERIAL	QUALITY	PRES. ANGLE	HELIX ANGLE
0.4	RIGHT HAND PIN HUB	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1555	DIN 7 AGMA 10	20°	45°

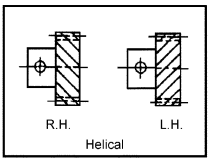
STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	P.D.	O.D.
HGS83-R20	HGA83-R20	20	11.31	12.11
HGS83-R25	HGA83-R25	25	14.14	14.94
HGS83-R30	HGA83-R30	30	16.97	17.77
HGS83-R32	HGA83-R32	32	18.10	18.90
HGS83-R35	HGA83-R35	35	19.80	20.60
HGS83-R40	HGA83-R40	40	22.63	23.43
HGS83-R45	HGA83-R45	45	25.46	26.26
HGS83-R48	HGA83-R48	48	27.15	27.95
HGS83-R50	HGA83-R50	50	28.28	29.08
HGS83-R60	HGA83-R60	60	33.94	34.74
HGS83-R64	HGA83-R64	64	36.20	37.00
HGS83-R70	HGA83-R70	70	39.60	40.40
HGS83-R80	HGA83-R80	80	45.25	46.05
HGS83-R90	HGA83-R90	90	50.91	51.71
HGS83-R96	HGA83-R96	96	54.31	55.11
HGS83-R100	HGA83-R100	100	56.57	57.37
HGS83-R128	HGA83-R128	128	72.41	73.21
HGS83-R160	HGA83-R160	160	90.51	91.31

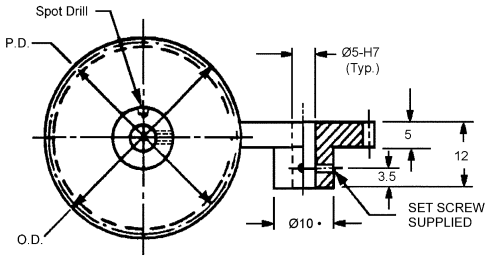
Other numbers of teeth are available on request.
- For 15 - 19 teeth hub diameter equals 7.5

MODULE	STYLE	BORES	MATERIAL	QUALITY	PRES. ANGLE	HELIX ANGLE
0.4	LEFT HAND PIN HUB	5	STAINLESS STEEL DIN 1.4305 OR ALUMINUM DIN 3.1555	DIN 7 AGMA 10	20°	45°

STAINLESS STEEL STOCK NO.	ALUMINUM STOCK NO.	NO. OF TEETH	P.D.	O.D.
HGS83-L20	HGA83-L20	20	11.31	12.11
HGS83-L25	HGA83-L25	25	14.14	14.94
HGS83-L30	HGA83-L30	30	16.97	17.77
HGS83-L32	HGA83-L32	32	18.10	18.90
HGS83-L35	HGA83-L35	35	19.80	20.60
HGS83-L40	HGA83-L40	40	22.63	23.43
HGS83-L45	HGA83-L45	45	25.46	26.26
HGS83-L48	HGA83-L48	48	27.15	27.95
HGS83-L50	HGA83-L50	50	28.28	29.08
HGS83-L60	HGA83-L60	60	33.94	34.74
HGS83-L64	HGA83-L64	64	36.20	37.00
HGS83-L70	HGA83-L70	70	39.60	40.40
HGS83-L80	HGA83-L80	80	45.25	46.05
HGS83-L90	HGA83-L90	90	50.91	51.71
HGS83-L96	HGA83-L96	96	54.31	55.11
HGS83-L100	HGA83-L100	100	56.57	57.37
HGS83-L128	HGA83-L128	128	72.41	73.21
HGS83-L160	HGA83-L160	160	90.51	91.31

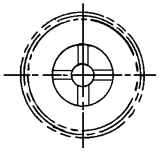
Other numbers of teeth are available on request.
- For 15 - 19 teeth hub diameter equals 7.5

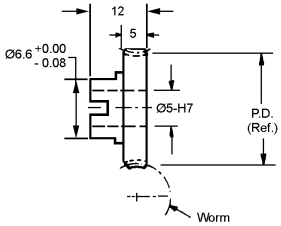




PRECISION WORM GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	SINGLE, DOUBLE OR FOUR THREAD CLAMP HUB	5	5	464 BRASS ALLOY	DIN 7/AGMA 10	RIGHT HAND





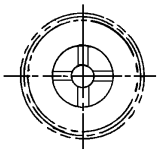
B

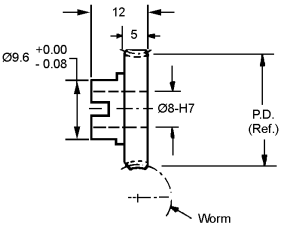
May be two piece construction. Hub diameter never exceeds O.D.
Other number of teeth AGMA 12 ir 14 / DIN 5 or 3 available on request.

SINGLE THREAD WORM	DOUBLE THREAD WORM	FOUR THREAD WORM	NO. OF TEETH	PITCH DIA.
Circular Pitch 1.257 Helix Angle 1° 44' Pressure Angle 14-1/2°	Circular Pitch 2.513 Helix Angle 3° 28' Pressure Angle 14-1/2°	Circular Pitch 5.027 Helix Angle 6° 54' Pressure Angle 14-1/2°		
STOCK NO.	STOCK NO.	STOCK NO..		
WGB83-S40C	WGB83-D40C	WGB83-F40C	40	16.00
WGB83-S50C	WGB83-D50C	WGB83-F50C	50	20.00
WGB83-S60C	WGB83-D60C	WGB83-F60C	60	24.00
WGB83-S70C	WGB83-D70C	WGB83-F70C	70	28.00
WGB83-S80C	WGB83-D80C	WGB83-F80C	80	32.00
WGB83-S90C	WGB83-D90C	WGB83-F90C	90	36.00
WGB83-S100C	WGB83-D100C	WGB83-F100C	100	40.00
WGB83-S110C	WGB83-D110C	WGB83-F110C	110	44.00
WGB83-S120C	WGB83-D120C	WGB83-F120C	120	48.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	SINGLE, DOUBLE OR FOUR THREAD CLAMP HUB	8	5	464 BRASS ALLOY	DIN 7/AGMA 10	RIGHT HAND





May be two piece construction. Hub diameter never exceeds O.D.
Other number of teeth AGMA 12 ir 14 / DIN 5 or 3 available on request.

SINGLE THREAD WORM	DOUBLE THREAD WORM	FOUR THREAD WORM	NO. OF TEETH	PITCH DIA.
Circular Pitch 1.257 Helix Angle 1° 44' Pressure Angle 14-1/2°	Circular Pitch 2.513 Helix Angle 3° 28' Pressure Angle 14-1/2°	Circular Pitch 5.027 Helix Angle 6° 54' Pressure Angle 14-1/2°		
STOCK NO.	STOCK NO.	STOCK NO..		
WGB95-S40C	WGB95-D40C	WGB95-F40C	40	16.00
WGB95-S50C	WGB95-D50C	WGB95-F50C	50	20.00
WGB95-S60C	WGB95-D60C	WGB95-F60C	60	24.00
WGB95-S70C	WGB95-D70C	WGB95-F70C	70	28.00
WGB95-S80C	WGB95-D80C	WGB95-F80C	80	32.00
WGB95-S90C	WGB95-D90C	WGB95-F90C	90	36.00
WGB95-S100C	WGB95-D100C	WGB95-F100C	100	40.00
WGB95-S110C	WGB95-D110C	WGB95-F110C	110	44.00
WGB95-S120C	WGB95-D120C	WGB95-F120C	120	48.00
WGB95-S180C	WGB95-D180C	WGB95-F180C	180	72.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

ANTI-BACKLASH WORM GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.5	SINGLE THREAD PIN HUB	5	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWFB83-S40	40	20.00
AWFB83-S50	50	25.00
AWFB83-S60	60	30.00
AWFB83-S70	70	35.00
AWFB83-S80	80	40.00
AWFB83-S90	90	45.00
AWFB83-S100	100	50.00
AWFB83-S120	120	60.00
AWFB83-S180	180	90.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 1.571
Helix Angle 3° 10'
Pressure Angle 14-1/2°

Runs with worm # WFS-5S

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.5	DOUBLE THREAD PIN HUB	5	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWFB83-D40	40	20.00
AWFB83-D50	50	25.00
AWFB83-D60	60	30.00
AWFB83-D70	70	35.00
AWFB83-D80	80	40.00
AWFB83-D90	90	45.00
AWFB83-D100	100	50.00
AWFB83-D120	120	60.00
AWFB83-D180	180	90.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 3.142
Helix Angle 6° 20'
Pressure Angle 20°

Runs with worm # WFS-5D

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.5	FOUR THREAD PIN HUB	5	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

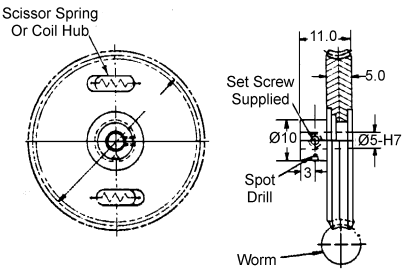
STOCK NO.	NO. OF TEETH	PITCH DIA.
AWFB83-F40	40	20.00
AWFB83-F50	50	25.00
AWFB83-F60	60	30.00
AWFB83-F70	70	35.00
AWFB83-F80	80	40.00
AWFB83-F90	90	45.00
AWFB83-F100	100	50.00
AWFB83-F120	120	60.00
AWFB83-F180	180	90.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 6.283
Helix Angle 12° 31'
Pressure Angle 25°

Runs with worm # WFS-5F

Other numbers of teeth are available on request.



For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH WORM GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.5	SINGLE THREAD PIN HUB	8	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWFB95-S40	40	20.00
AWFB95-S50	50	25.00
AWFB95-S60	60	30.00
AWFB95-S70	70	35.00
AWFB95-S80	80	40.00
AWFB95-S90	90	45.00
AWFB95-S100	100	50.00
AWFB95-S120	120	60.00
AWFB95-S180	180	90.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 1.571
Helix Angle 3° 10'
Pressure Angle 14-1/2°

Runs with worm # WFS-3S

B

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.5	DOUBLE THREAD PIN HUB	8	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWFB95-D40	40	20.00
AWFB95-D50	50	25.00
AWFB95-D60	60	30.00
AWFB95-D70	70	35.00
AWFB95-D80	80	40.00
AWFB95-D90	90	45.00
AWFB95-D100	100	50.00
AWFB95-D120	120	60.00
AWFB95-D180	180	90.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 3.142
Helix Angle 6° 20'
Pressure Angle 20°

Runs with worm # WFS-3D

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.5	FOUR THREAD PIN HUB	8	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

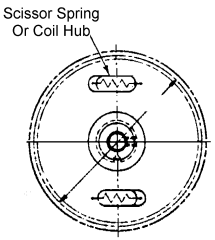
STOCK NO.	NO. OF TEETH	PITCH DIA.
AWFB95-F40	40	20.00
AWFB95-F50	50	25.00
AWFB95-F60	60	30.00
AWFB95-F70	70	35.00
AWFB95-F80	80	40.00
AWFB95-F90	90	45.00
AWFB95-F100	100	50.00
AWFB95-F120	120	60.00
AWFB95-F180	180	90.00

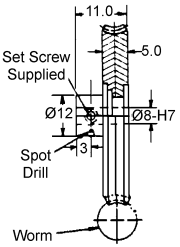
$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 6.283
Helix Angle 12° 31'
Pressure Angle 25°

Runs with worm # WFS-3F

Other numbers of teeth are available on request.





ANTI-BACKLASH WORM GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	SINGLE THREAD PIN HUB	5	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWGB83-S50	50	20.00
AWGB83-S60	60	24.00
AWGB83-S70	70	28.00
AWGB83-S80	80	32.00
AWGB83-S90	90	36.00
AWGB83-S100	100	40.00
AWGB83-S110	110	44.00
AWGB83-S120	120	48.00
AWGB83-S180	180	72.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 1.257
Helix Angle 1° 44'
Pressure Angle 14-1/2°

Runs with worm # WGS-5S

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	DOUBLE THREAD PIN HUB	5	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWGB83-D50	50	20.00
AWGB83-D60	60	24.00
AWGB83-D70	70	28.00
AWGB83-D80	80	32.00
AWGB83-D90	90	36.00
AWGB83-D100	100	40.00
AWGB83-D110	110	44.00
AWGB83-D120	120	48.00
AWGB83-D180	180	72.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 2.513
Helix Angle 3° 28'
Pressure Angle 14-1/2°

Runs with worm # WGS-5D

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	FOUR THREAD PIN HUB	5	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

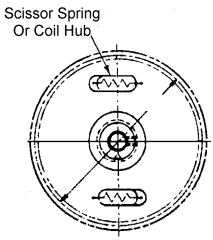
STOCK NO.	NO. OF TEETH	PITCH DIA.
AWGB83-F50	50	20.00
AWGB83-F60	60	24.00
AWGB83-F70	70	28.00
AWGB83-F80	80	32.00
AWGB83-F90	90	36.00
AWGB83-F100	100	40.00
AWGB83-F110	110	44.00
AWGB83-F120	120	48.00
AWGB83-F180	180	72.00

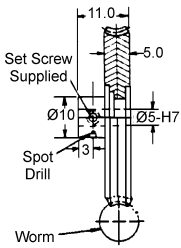
$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 5.027
Helix Angle 6° 54'
Pressure Angle 14-1/2°

Runs with worm # WGS-5F

Other numbers of teeth are available on request.





ANTI-BACKLASH WORM GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	SINGLE THREAD PIN HUB	8	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWGB95-S50	50	20.00
AWGB95-S60	60	24.00
AWGB95-S70	70	28.00
AWGB95-S80	80	32.00
AWGB95-S90	90	36.00
AWGB95-S100	100	40.00
AWGB95-S110	110	44.00
AWGB95-S120	120	48.00
AWGB95-S180	180	72.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 1.257
Helix Angle 1° 44'
Pressure Angle 14-1/2°

Runs with worm # WGS-3S
WGS-5S
WGS-7S

B

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	DOUBLE THREAD PIN HUB	8	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWGB95-D50	50	20.00
AWGB95-D60	60	24.00
AWGB95-D70	70	28.00
AWGB95-D80	80	32.00
AWGB95-D90	90	36.00
AWGB95-D100	100	40.00
AWGB95-D110	110	44.00
AWGB95-D120	120	48.00
AWGB95-D180	180	72.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 2.513
Helix Angle 3° 28'
Pressure Angle 14-1/2°

Runs with worm # WGS-3D
WGS-5D
WGS-7D

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	FOUR THREAD PIN HUB	8	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

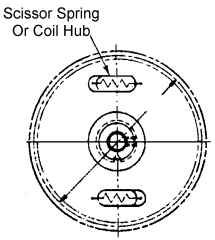
STOCK NO.	NO. OF TEETH	PITCH DIA.
AWGB95-F50	50	20.00
AWGB95-F60	60	24.00
AWGB95-F70	70	28.00
AWGB95-F80	80	32.00
AWGB95-F90	90	36.00
AWGB95-F100	100	40.00
AWGB95-F110	110	44.00
AWGB95-F120	120	48.00
AWGB95-F180	180	72.00

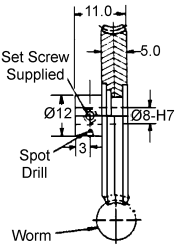
$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 5.027
Helix Angle 6° 54'
Pressure Angle 14-1/2°

Runs with worm # WFG-3D
WFG-5D
WFG-7DF

Other numbers of teeth are available on request.





For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH WORM GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.5	SINGLE THREAD CLAMP HUB	5	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWFB83-S40-C	40	20.00
AWFB83-S50-C	50	25.00
AWFB83-S60-C	60	30.00
AWFB83-S70-C	70	35.00
AWFB83-S80-C	80	40.00
AWFB83-S90-C	90	45.00
AWFB83-S100-C	100	50.00
AWFB83-S120-C	120	60.00
AWFB83-S180-C	180	90.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 1.571
Helix Angle 3° 10'
Pressure Angle 14/1/2°

Runs with worm # WFS-5S

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.5	DOUBLE THREAD CLAMP HUB	5	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWFB83-D40-C	40	20.00
AWFB83-D50-C	50	25.00
AWFB83-D60-C	60	30.00
AWFB83-D70-C	70	35.00
AWFB83-D80-C	80	40.00
AWFB83-D90-C	90	45.00
AWFB83-D100-C	100	50.00
AWFB83-D120-C	120	60.00
AWFB83-D180-C	180	90.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 3.142
Helix Angle 6° 20'
Pressure Angle 20°

Runs with worm # WFS-5D

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.5	FOUR THREAD CLAMP HUB	5	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

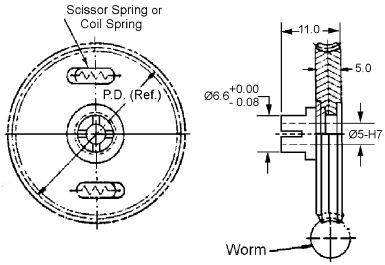
STOCK NO.	NO. OF TEETH	PITCH DIA.
AWFB83-F40-C	40	20.00
AWFB83-F50-C	50	25.00
AWFB83-F60-C	60	30.00
AWFB83-F70-C	70	35.00
AWFB83-F80-C	80	40.00
AWFB83-F90-C	90	45.00
AWFB83-F100-C	100	50.00
AWFB83-F120-C	120	60.00
AWFB83-F180-C	180	90.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 6.283
Helix Angle 12° 31'
Pressure Angle 25°

Runs with worm # WFS-5F

Other numbers of teeth are available on request.



ANTI-BACKLASH WORM GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.5	SINGLE THREAD CLAMP HUB	8	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWFB95-S40-C	40	20.00
AWFB95-S50-C	50	25.00
AWFB95-S60-C	60	30.00
AWFB95-S70-C	70	35.00
AWFB95-S80-C	80	40.00
AWFB95-S90-C	90	45.00
AWFB95-S100-C	100	50.00
AWFB95-S120-C	120	60.00
AWFB95-S180-C	180	90.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 1.571
Helix Angle 3° 10'
Pressure Angle 14/1/2°

Runs with worm # WFS-3S

B

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.5	DOUBLE THREAD CLAMP HUB	8	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWFB95-D40-C	40	20.00
AWFB95-D50-C	50	25.00
AWFB95-D60-C	60	30.00
AWFB95-D70-C	70	35.00
AWFB95-D80-C	80	40.00
AWFB95-D90-C	90	45.00
AWFB95-D100-C	100	50.00
AWFB95-D120-C	120	60.00
AWFB95-D180-C	180	90.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 3.142
Helix Angle 6° 20'
Pressure Angle 20°

Runs with worm # WFS-3D

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.5	FOUR THREAD CLAMP HUB	8	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

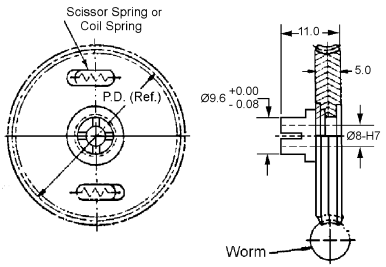
STOCK NO.	NO. OF TEETH	PITCH DIA.
AWFB95-F40-C	40	20.00
AWFB95-F50-C	50	25.00
AWFB95-F60-C	60	30.00
AWFB95-F70-C	70	35.00
AWFB95-F80-C	80	40.00
AWFB95-F90-C	90	45.00
AWFB95-F100-C	100	50.00
AWFB95-F120-C	120	60.00
AWFB95-F180-C	180	90.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 6.283
Helix Angle 12° 31'
Pressure Angle 25°

Runs with worm # WFS-3F

Other numbers of teeth are available on request.



For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH WORM GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	SINGLE THREAD CLAMP HUB	5	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWGB83-S50-C	50	20.00
AWGB83-S60-C	60	24.00
AWGB83-S70-C	70	28.00
AWGB83-S80-C	80	32.00
AWGB83-S90-C	90	36.00
AWGB83-S100-C	100	40.00
AWGB83-S110-C	110	44.00
AWGB83-S120-C	120	48.00
AWGB83-S180-C	180	72.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 1.257
Helix Angle 1° 44'
Pressure Angle 14/1/2°

Runs with worm # WGS-3S
WGS-5S
WGS-7S

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	DOUBLE THREAD CLAMP HUB	5	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWGB83-D50-C	50	20.00
AWGB83-D60-C	60	24.00
AWGB83-D70-C	70	28.00
AWGB83-D80-C	80	32.00
AWGB83-D90-C	90	36.00
AWGB83-D100-C	100	40.00
AWGB83-D110-C	110	44.00
AWGB83-D120-C	120	48.00
AWGB83-D180-C	180	72.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 2.513
Helix Angle 3° 28'
Pressure Angle 14-1/2°

Runs with worm # WGS-3D
WGS-5D
WGS-7D

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	FOUR THREAD CLAMP HUB	5	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

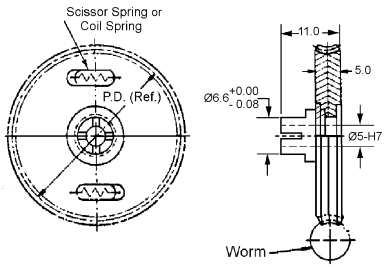
STOCK NO.	NO. OF TEETH	PITCH DIA.
AWGB83-F50-C	50	20.00
AWGB83-F60-C	60	24.00
AWGB83-F70-C	70	28.00
AWGB83-F80-C	80	32.00
AWGB83-F90-C	90	36.00
AWGB83-F100-C	100	40.00
AWGB83-F110-C	110	44.00
AWGB83-F120-C	120	48.00
AWGB83-F180-C	180	72.00

$$\text{Ratio} = \frac{\text{\# of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 5.027
Helix Angle 6° 54'
Pressure Angle 14-1/2°

Runs with worm # WGS-3F
WGS-5F
WGS-7F

Other numbers of teeth are available on request.



For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

ANTI-BACKLASH WORM GEARS

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	SINGLE THREAD CLAMP HUB	8	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWGB95-S50-C	50	20.00
AWGB95-S60-C	60	24.00
AWGB95-S70-C	70	28.00
AWGB95-S80-C	80	32.00
AWGB95-S90-C	90	36.00
AWGB95-S100-C	100	40.00
AWGB95-S110-C	110	44.00
AWGB95-S120-C	120	48.00
AWGB95-S180-C	180	72.00

$$\text{Ratio} = \frac{\#\text{ of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 1.257
Helix Angle 1° 44'
Pressure Angle 14/1/2°

Runs with worm # WGS-3S
WGS-5S
WGS-7S

B

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	DOUBLE THREAD CLAMP HUB	8	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

STOCK NO.	NO. OF TEETH	PITCH DIA.
AWGB95-D50-C	50	20.00
AWGB95-D60-C	60	24.00
AWGB95-D70-C	70	28.00
AWGB95-D80-C	80	32.00
AWGB95-D90-C	90	36.00
AWGB95-D100-C	100	40.00
AWGB95-D110-C	110	44.00
AWGB95-D120-C	120	48.00
AWGB95-D180-C	180	72.00

$$\text{Ratio} = \frac{\#\text{ of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 2.513
Helix Angle 3° 28'
Pressure Angle 14-1/2°

Runs with worm # WGS-3D
WGS-5D
WGS-7D

MODULE	STYLE	BORE	FACE	MATERIAL	QUALITY	TYPE
0.4	FOUR THREAD CLAMP HUB	8	5	GEARS 464 BRASS ALLOY HUBS STAINLESS DIN 1.4305	DIN 7/AGMA 10	RIGHT HAND

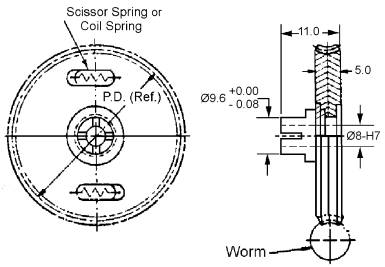
STOCK NO.	NO. OF TEETH	PITCH DIA.
AWGB95-F50-C	50	20.00
AWGB95-F60-C	60	24.00
AWGB95-F70-C	70	28.00
AWGB95-F80-C	80	32.00
AWGB95-F90-C	90	36.00
AWGB95-F100-C	100	40.00
AWGB95-F110-C	110	44.00
AWGB95-F120-C	120	48.00
AWGB95-F180-C	180	72.00

$$\text{Ratio} = \frac{\#\text{ of Teeth}}{\text{Worm Threads}}$$

Circular Pitch 5.027
Helix Angle 6° 54'
Pressure Angle 14-1/2°

Runs with worm # WGS-3F
WGS-5F
WGS-7F

Other numbers of teeth are available on request.



For Couplings See Section MG.
For Shafts, Bearings and Collars See Section MI.

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C

GEARBOXES - WORM WHEEL & HELICAL GEARS

SPEED REDUCER TECHNICAL DATA
SHAFT SIZE 3MM, 4MM AND 6MM

Materials

Housing	Cast Aluminum (Anodized)
Worm Wheel	Bronze
Worm	Stainless Steel
Helical Gear	Aluminum
Helical Pinion	Stainless Steel
Bearings	Stainless Steel or Bronze
Shafts	Stainless Steel
Lubrication	Grease
Housing Cover	Aluminum
All other parts	Stainless Steel

Backlash @ Output Shaft

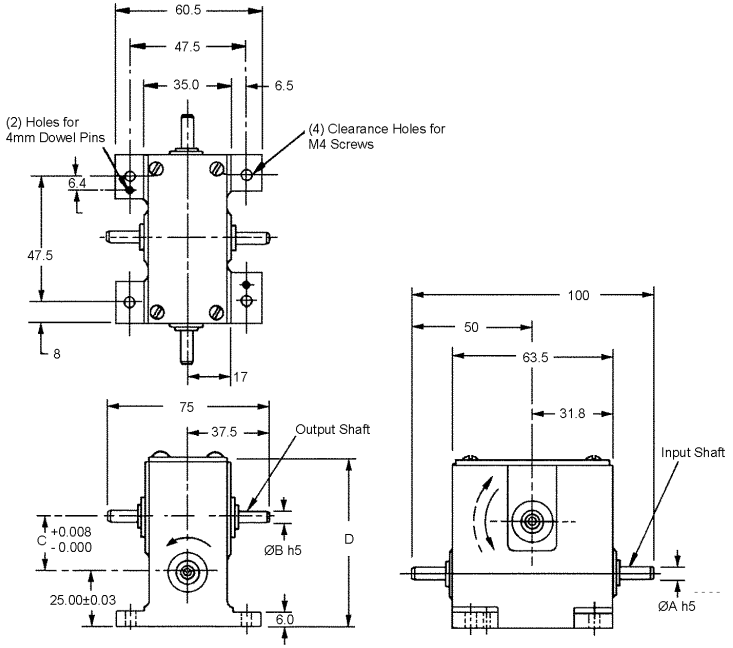
Ball Bearing Unit	20 Minutes Max.
Bronze Bearing Unit	30 Minutes Max.

Maximum Output

3mm Shaft Series - 177N•cm
4mm Shaft Series - 247N•cm
6mm Shaft Series - 353N•cm

Maximum Input Speed

2000 RPM



Worm and Wheel units can only be driven from input shaft and will only operate as a Speed Reducer.
Helical Gear units can be driven from input shaft as a Speed Reducer or from output shaft as a Speed Increaser.
Other ratios available on request.
Anti-Backlash unit available on request.

WORM & WORM WHEEL GEARBOXES

SHAFT SIZE 3MM, 4MM AND 6MM

SHAFT SIZE	TYPE
ØA= 3MM ØB= 3MM	**BALL BEARING OR BRONZE BEARING**

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	UNIT TYPE	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (N•cm.)
STOCK NO.	STOCK NO.		ØA	ØB				
WX64B2-1M	WX64P2-1M	WORM & WHEEL	3.00	3.00	15:1	18.263	59	79
WX64B2-2M	WX64P2-2M				20:1	22.233	66	112
WX64B2-3M	WX64P2-3M				25:1	26.200	75	135
WX64B2-4M	WX64P2-4M				30:1	30.170	82	169
WX64B2-5M	WX64P2-5M				30:1	18.263	59	101
WX64B2-6M	WX64P2-6M				40:1	22.233	66	135
WX64B2-7M	WX64P2-7M				50:1	26.200	75	169
WX64B2-8M	WX64P2-8M				60:1	30.170	72	203
WX64B2-9M	WX64P2-9M				60:1	18.263	59	101
WX64B2-10M	WX64P2-10M				80:1	22.233	66	135
WX64B2-11M	WX64P2-11M				100:1	26.200	75	169
WX64B2-12M	WX64P2-12M				120:1	30.170	82	203

C

SHAFT SIZE	TYPE
ØA= 4MM ØB= 4MM	**BALL BEARING OR BRONZE BEARING**

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	UNIT TYPE	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (N•cm.)
STOCK NO.	STOCK NO.		ØA	ØB				
WX64B3-1M	WX64P3-1M	WORM & WHEEL	4.00	4.00	15:1	18.263	59	79
WX64B3-2M	WX64P3-2M				20:1	22.233	66	112
WX64B3-3M	WX64P3-3M				25:1	26.200	75	135
WX64B3-4M	WX64P3-4M				30:1	30.170	82	169
WX64B3-5M	WX64P3-5M				30:1	18.263	59	101
WX64B3-6M	WX64P3-6M				40:1	22.233	66	135
WX64B3-7M	WX64P3-7M				50:1	26.200	75	169
WX64B3-8M	WX64P3-8M				60:1	30.170	72	203
WX64B3-9M	WX64P3-9M				60:1	18.263	59	101
WX64B3-10M	WX64P3-10M				80:1	22.233	66	135
WX64B3-11M	WX64P3-11M				100:1	26.200	75	169
WX64B3-12M	WX64P3-12M				120:1	30.170	82	203

SHAFT SIZE	TYPE
ØA= 6MM ØB= 6MM	**BALL BEARING OR BRONZE BEARING**

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	UNIT TYPE	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (N•cm.)
STOCK NO.	STOCK NO.		ØA	ØB				
WX64B4-1M	WX64P4-1M	WORM & WHEEL	6.00	6.00	15:1	18.263	59	79
WX64B4-2M	WX64P4-2M				20:1	22.233	66	112
WX64B4-3M	WX64P4-3M				25:1	26.200	75	135
WX64B4-4M	WX64P4-4M				30:1	30.170	82	169
WX64B4-5M	WX64P4-5M				30:1	18.263	59	101
WX64B4-6M	WX64P4-6M				40:1	22.233	66	135
WX64B4-7M	WX64P4-7M				50:1	26.200	75	169
WX64B4-8M	WX64P4-8M				60:1	30.170	72	203
WX64B4-9M	WX64P4-9M				60:1	18.263	59	101
WX64B4-10M	WX64P4-10M				80:1	22.233	66	135
WX64B4-11M	WX64P4-11M				100:1	26.200	75	169
WX64B4-12M	WX64P4-12M				120:1	30.170	82	203

WORM & WORM WHEEL GEARBOXES

SHAFT SIZE 3MM, 4MM AND 6MM

SHAFT SIZE	TYPE
ØA= 3MM ØB= 3MM	**BALL BEARING OR BRONZE BEARING**

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	UNIT TYPE	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (N•cm.)
STOCK NO.	STOCK NO.		ØA	ØB				
WX48B2-1M	WX48P2-1M	WORM & WHEEL	3.00	3.00	12.5:1	17.470	59	101
WX48B2-2M	WX48P2-2M				15:1	20.117	64	124
WX48B2-3M	WX48P2-3M				20:1	25.408	75	164
WX48B2-4M	WX48P2-4M				22.5:1	28.054	80	192
WX48B2-5M	WX48P2-5M				25:1	17.470	59	124
WX48B2-6M	WX48P2-6M				30:1	20.117	64	146
WX48B2-7M	WX48P2-7M				40:1	25.408	75	203
WX48B2-8M	WX48P2-8M				45:1	28.054	80	225
WX48B2-9M	WX48P2-9M				50:1	17.470	59	124
WX48B2-10M	WX48P2-10M				60:1	20.117	64	146
WX48B2-11M	WX48P2-11M				80:1	25.408	75	203
WX48B2-12M	WX48P2-12M				90:1	28.054	80	225

SHAFT SIZE	TYPE
ØA= 4MM ØB= 4MM	**BALL BEARING OR BRONZE BEARING**

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	UNIT TYPE	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (N•cm.)
STOCK NO.	STOCK NO.		ØA	ØB				
WX48B3-1M	WX48P3-1M	WORM & WHEEL	4.00	4.00	12.5:1	17.470	59	101
WX48B3-2M	WX48P3-2M				15:1	20.117	64	124
WX48B3-3M	WX48P3-3M				20:1	25.408	75	164
WX48B3-4M	WX48P3-4M				22.5:1	28.054	80	192
WX48B3-5M	WX48P3-5M				25:1	17.470	59	124
WX48B3-6M	WX48P3-6M				30:1	20.117	64	146
WX48B3-7M	WX48P3-7M				40:1	25.408	75	203
WX48B3-8M	WX48P3-8M				45:1	28.054	80	225
WX48B3-9M	WX48P3-9M				50:1	17.470	59	124
WX48B3-10M	WX48P3-10M				60:1	20.117	64	146
WX48B3-11M	WX48P3-11M				80:1	25.408	75	203
WX48B3-12M	WX48P3-12M				90:1	28.054	80	225

SHAFT SIZE	TYPE
ØA= 6MM ØB= 6MM	**BALL BEARING OR BRONZE BEARING**

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	UNIT TYPE	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (N•cm.)
STOCK NO.	STOCK NO.		ØA	ØB				
WX48B4-1M	WX48P4-1M	WORM & WHEEL	6.00	6.00	12.5:1	17.470	59	101
WX48B4-2M	WX48P4-2M				15:1	20.117	64	124
WX48B4-3M	WX48P4-3M				20:1	25.408	75	164
WX48B4-4M	WX48P4-4M				22.5:1	28.054	80	192
WX48B4-5M	WX48P4-5M				25:1	17.470	59	124
WX48B4-6M	WX48P4-6M				30:1	20.117	64	146
WX48B4-7M	WX48P4-7M				40:1	25.408	75	203
WX48B4-8M	WX48P4-8M				45:1	28.054	80	225
WX48B4-9M	WX48P4-9M				50:1	17.470	59	124
WX48B4-10M	WX48P4-10M				60:1	20.117	64	146
WX48B4-11M	WX48P4-11M				80:1	25.408	75	203
WX48B4-12M	WX48P4-12M				90:1	28.054	80	225

HELICAL GEARBOXES

SHAFT SIZE 3MM, 4MM AND 6MM

SHAFT SIZE	TYPE
ØA= 3MM ØB= 3MM	**BALL BEARING OR BRONZE BEARING**

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	UNIT TYPE	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (N•cm.)
STOCK NO.	STOCK NO.		ØA	ØB				
HX64B2-1M HX64B2-2M HX64B2-3M HX64B2-4M	HX64P2-1M HX64P2-2M HX64P2-3M HX64P2-4M	HELICAL	3.00	3.00	1:1 2:1 3:1 4:1	11.232 16.845 22.456 28.070	45 56 68 79	34

C

SHAFT SIZE	TYPE
ØA= 4MM ØB= 4MM	**BALL BEARING OR BRONZE BEARING**

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	UNIT TYPE	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (N•cm.)
STOCK NO.	STOCK NO.		ØA	ØB				
HX64B3-1M HX64B3-2M HX64B3-3M HX64B3-4M	HX64P3-1M HX64P3-2M HX64P3-3M HX64P3-4M	HELICAL	4.00	4.00	1:1 2:1 3:1 4:1	11.232 16.845 22.456 28.070	45 56 68 79	51

SHAFT SIZE	TYPE
ØA= 4MM ØB= 4MM	**BALL BEARING OR BRONZE BEARING**

BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	UNIT TYPE	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (N•cm.)
STOCK NO.	STOCK NO.		ØA	ØB				
HX48B3-1M HX48B3-2M HX48B3-3M	HX48P3-1M HX48P3-2M HX48P3-3M	HELICAL	4.00	4.00	1:1 2:1 3:1	14.973 22.456 29.939	51 65 55	51

SHAFT SIZE	TYPE
ØA= 6MM ØB= 6MM	**BALL BEARING OR BRONZE BEARING**

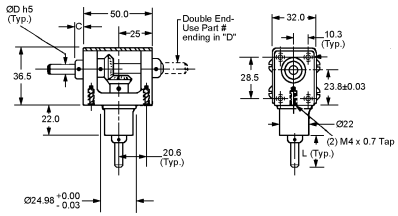
BALL BEARINGS UNITS	BRONZE BEARINGS UNITS	UNIT TYPE	SHAFT SIZE		NOMINAL RATIO	C CENTER	D HEIGHT	MAXIMUM OUTPUT TORQUE (N•cm.)
STOCK NO.	STOCK NO.		ØA	ØB				
HX48B4-1M HX48B4-2M HX48B4-3M	HX48P4-1M HX48P4-2M HX48P4-3M	HELICAL	6.00	6.00	1:1 2:1 3:1	14.973 22.456 29.939	51 65 55	91

MITER GEARBOXES

SHAFT SIZE 3MM, 4MM AND 6MM

SHAFT SIZE	RATIO	TYPE
3MM	1:1	BALL BEARING OR BRONZE BEARING

Consult Berg's Engineering Department for higher torque units.



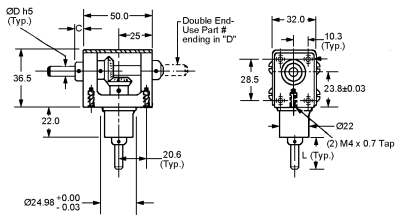
MATERIAL:

Housing	Aluminum
Shafts and Hardware	Stainless Steel
Bearings	Stainless Steel or Bronze
Gears	Stainless Steel and Aluminum
Lubrication	MIL. Spec. Oil and Grease

ABEC 7 BALL BEARING	OIL-LESS BRONZE BEARING UNIT						
STOCK NO.	STOCK NO.	SHAFT ØD	C	L	SHAFT END STYLE	R.P.M. (MAX.)	TORQUE (MAX.)
MX-101 MX-101-D	MX-101B MX-101B-D	2.993	4.76	18.0	SINGLE DOUBLE	1000	140N•cm

SHAFT SIZE	RATIO	TYPE
4MM	1:1	BALL BEARING OR BRONZE BEARING

Consult Berg's Engineering Department for higher torque units.



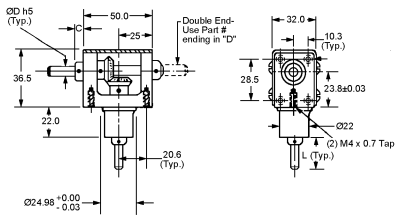
MATERIAL:

Housing	Aluminum
Shafts and Hardware	Stainless Steel
Bearings	Stainless Steel or Bronze
Gears	Stainless Steel and Aluminum
Lubrication	MIL. Spec. Oil and Grease

ABEC 7 BALL BEARING	OIL-LESS BRONZE BEARING UNIT						
STOCK NO.	STOCK NO.	SHAFT ØD	C	L	SHAFT END STYLE	R.P.M. (MAX.)	TORQUE (MAX.)
MX-102 MX-102-D	MX-102B MX-102B-D	3.993	5.59	22.0	SINGLE DOUBLE	2000	210N•cm

SHAFT SIZE	RATIO	TYPE
6MM	1:1	BALL BEARING OR BRONZE BEARING

Consult Berg's Engineering Department for higher torque units.



MATERIAL:

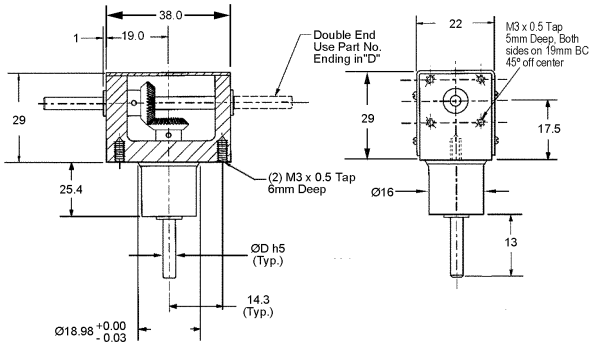
Housing	Aluminum
Shafts and Hardware	Stainless Steel
Bearings	Stainless Steel or Bronze
Gears	Stainless Steel and Aluminum
Lubrication	MIL. Spec. Oil and Grease

ABEC 7 BALL BEARING	OIL-LESS BRONZE BEARING UNIT						
STOCK NO.	STOCK NO.	SHAFT ØD	C	L	SHAFT END STYLE	R.P.M. (MAX.)	TORQUE (MAX.)
MX-103 MX-103-D	MX-103B MX-103B-D	5.993	6.35	26.0	SINGLE DOUBLE	2500	350N•cm

MINIATURE MITER GEARBOXES

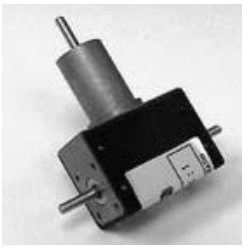
SHAFT SIZE 3MM

SHAFT SIZE	RATIO	TYPE
3MM	**1:1**	**BALL BEARING OR BRONZE BEARING**



MATERIAL:

Housing	Aluminum
Shafts and Hardware	Stainless Steel
Bearings	Stainless Steel or Bronze
Gears	Stainless Steel
Lubrication	Grease



ABEC 7 BALL BEARING	OIL-LESS BRONZE BEARING UNIT				
STOCK NO.	STOCK NO.	ØD	SHAFT END STYLE	R.P.M. (MAX.)	TORQUE (MAX.)
MX-4M MX-4M-D	MX-4BM MX-4BM-D	3.00	SINGLE DOUBLE	1000	70N•cm

Consult Berg's Engineering Department for higher torque units.
Anti-Backlash units available on request.

BEVEL GEARBOXES

SHAFT SIZE 3MM, 4MM AND 6MM

SHAFT SIZE	RATIO	TYPE
3MM	**FROM 1:1 TO 1:3**	**BALL BEARING OR BRONZE BEARING**

ABEC 7 BALL BEARING	OIL-LESS BRONZE BEARING UNIT											
STOCK NO.	STOCK NO.	NOMINAL RATIO	ØD	B	C	E	F	G	H	A	RPM (MAX.)	STATIC TORQUE (MAX.)
MX-5M MX-6M MX-7M	MX-5BM MX-6BM MX-7BM	1:1 1:2 1:3	3.00	70	48	41	48	21	37 43 49	25	1000	42N•cm

- Maximum backlash 10 minutes
- Units can be driven in either direction from any shaft

MATERIAL:

Housing	Aluminum
Shafts and Hardware	Stainless Steel
Bearings	Stainless Steel or Bronze
Gears	Stainless Steel and Aluminum
Lubrication	Grease

SHAFT SIZE	RATIO	TYPE
4MM	**FROM 1:1 TO 1:3**	**BALL BEARING OR BRONZE BEARING**

ABEC 7 BALL BEARING	OIL-LESS BRONZE BEARING UNIT											
STOCK NO.	STOCK NO.	NOMINAL RATIO	ØD	B	C	E	F	G	H	A	RPM (MAX.)	STATIC TORQUE (MAX.)
MX-8M MX-9M MX-10M	MX-8BM MX-9BM MX-10BM	1:1 1:2 1:3	4.00	70	48	41	48	21	37 43 49	25	2000	57N•cm

- Maximum backlash 10 minutes
- Units can be driven in either direction from any shaft

MATERIAL:

Housing	Aluminum
Shafts and Hardware	Stainless Steel
Bearings	Stainless Steel or Bronze
Gears	Stainless Steel and Aluminum
Lubrication	Grease

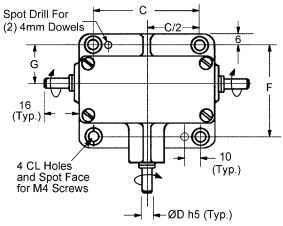
SHAFT SIZE	RATIO	TYPE
6MM	**FROM 1:1 TO 1:3**	**BALL BEARING OR BRONZE BEARING**

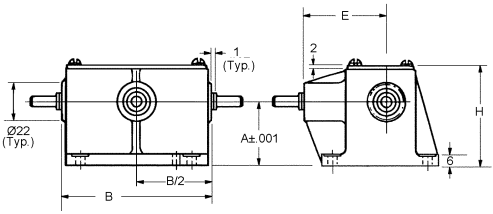
ABEC 7 BALL BEARING	OIL-LESS BRONZE BEARING UNIT											
STOCK NO.	STOCK NO.	NOMINAL RATIO	ØD	B	C	E	F	G	H	A	RPM (MAX.)	STATIC TORQUE (MAX.)
MX-11M MX-12M MX-13M	MX-11BM MX-12BM MX-13BM	1:1 1:2 1:3	6.00	89	67	51	57	24	51 59 65	38	2500	71N•cm.

- Maximum backlash 10 minutes
- Units can be driven in either direction from any shaft

MATERIAL:

Housing	Aluminum
Shafts and Hardware	Stainless Steel
Bearings	Stainless Steel or Bronze
Gears	Stainless Steel and Aluminum
Lubrication	Grease

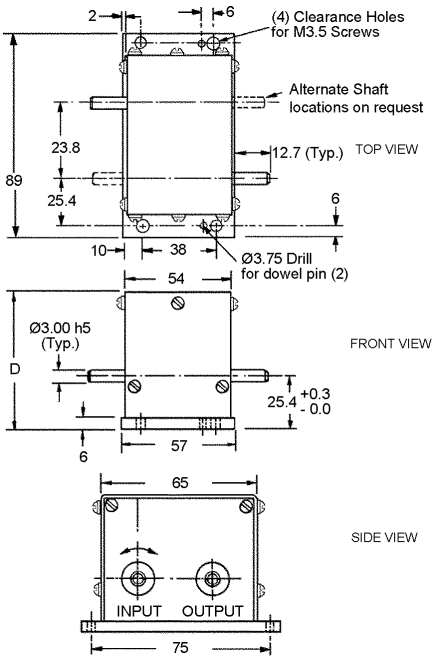




SERVO GEARBOXES

SHAFT SIZE 3MM

SHAFT SIZE	TYPE
3MM	BALL BEARING OR BRONZE BEARING



Alternate Shaft Locations

Add **Style Letter** to complete stock number, if different from that shown.

Style:

O = Opposite of as shown
R = In and Out on R.H. side only
L = In and Out on L.H. side only
A = In and Out on all sides

Send drawing if other than listed above.

Backlash

At Output Shaft
Ball Bearing - 15 Minutes Max.
Bronze Bearing - 30 Minutes Max.

Materials

Housing and Cover	Aluminum Anodized
Gears	Stainless Steel and Aluminum
Shafts and Hardware	Stainless Steel
Bearings	Stainless Steel or Bronze
Lubrication	Grease

Maximum Speed

5000 RPM

Maximum Output Torque

212N•cm

Special units available on request.
Anti-Backlash gear - Output End
Slip Clutch included - Input End
Contact Berg's Engineering Department for recommendations for use as a Speed Increaser.

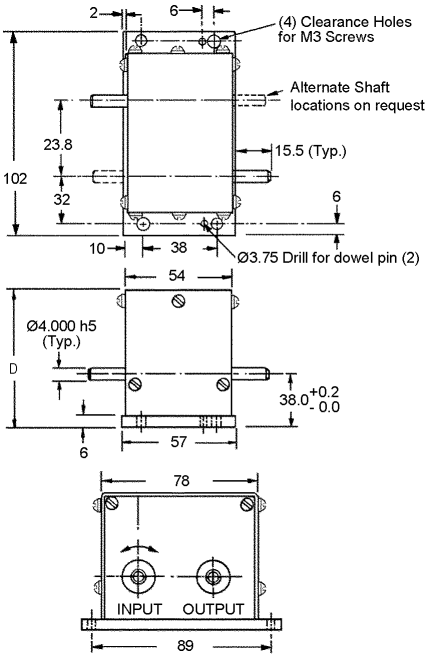
- See instructions below to order alternate shaft locations.

ABEC 7 BALL BEARINGS UNITS STOCK NO.	BRONZE BEARINGS UNITS STOCK NO.	NOMINAL RATIO	D HEIGHT	DIRECTION ROTATION
SX-B2-1M	SX-P2-1M	2:1	63.5	SAME
SX-B2-2M	SX-P2-2M	3:1		
SX-B2-3M	SX-P2-3M	4:1		
SX-B2-4M	SX-P2-4M	5:1		
SX-B2-5M	SX-P2-5M	6:1		
SX-B2-6M	SX-P2-6M	7:1		
SX-B2-7M	SX-P2-7M	8:1		
SX-B2-8M	SX-P2-8M	9:1		
SX-B2-9M	SX-P2-9M	10:1		
SX-B2-10M	SX-P2-10M	12:1		
SX-B2-11M	SX-P2-11M	15:1		
SX-B2-12M	SX-P2-12M	16:1		
SX-B2-13M	SX-P2-13M	20:1		
SX-B2-14M	SX-P2-14M	25:1		
SX-B2-15M	SX-P2-15M	30:1	67.0	OPPOSITE
SX-B2-16M	SX-P2-16M	32:1		
SX-B2-17M	SX-P2-17M	36:1		
SX-B2-18M	SX-P2-18M	40:1		
SX-B2-19M	SX-P2-19M	45:1		
SX-B2-20M	SX-P2-20M	48:1		
SX-B2-21M	SX-P2-21M	50:1		
SX-B2-22M	SX-P2-22M	60:1		
SX-B2-23M	SX-P2-23M	64:1		
SX-B2-24M	SX-P2-24M	75:1		
SX-B2-25M	SX-P2-25M	80:1		
SX-B2-26M	SX-P2-26M	100:1		
SX-B2-27M	SX-P2-27M	125:1		
SX-B2-28M	SX-P2-28M	72:1	84.0	SAME
SX-B2-29M	SX-P2-29M	90:1		
SX-B2-30M	SX-P2-30M	96:1		
SX-B2-31M	SX-P2-31M	128:1		
SX-B2-32M	SX-P2-32M	150:1		
SX-B2-33M	SX-P2-33M	180:1		
SX-B2-34M	SX-P2-34M	200:1		
SX-B2-35M	SX-P2-35M	250:1		
SX-B2-36M	SX-P2-36M	256:1		
SX-B2-37M	SX-P2-37M	300:1		
SX-B2-38M	SX-P2-38M	375:1		
SX-B2-39M	SX-P2-39M	400:1		
SX-B2-40M	SX-P2-40M	500:1		
SX-B2-41M	SX-P2-41M	625:1		

SERVO GEARBOXES

SHAFT SIZE 4MM

SHAFT SIZE	TYPE
4MM	BALL BEARING OR BRONZE BEARING



Alternate Shaft Locations

Add **Style Letter** to complete stock number, if different from that shown.

Style:

O = Opposite of as shown
R = In and Out on R.H. side only
L = In and Out on L.H. side only
A = In and Out on all sides

Send drawing if other than listed above.

Backlash

At Output Shaft
Ball Bearing - 15 Minutes Max.
Bronze Bearing - 30 Minutes Max.

Materials

Housing and Cover	Aluminum Anodized
Gears	Stainless Steel and Aluminum
Shafts and Hardware	Stainless Steel
Bearings	Stainless Steel or Bronze
Lubrication	Grease

Maximum Speed

5000 RPM

Maximum Output Torque

280N•cm

Special units available on request.
Anti-Backlash gear - Output End
Slip Clutch included - Input End
Contact Berg's Engineering Department for recommendations for use as a Speed Increaser.

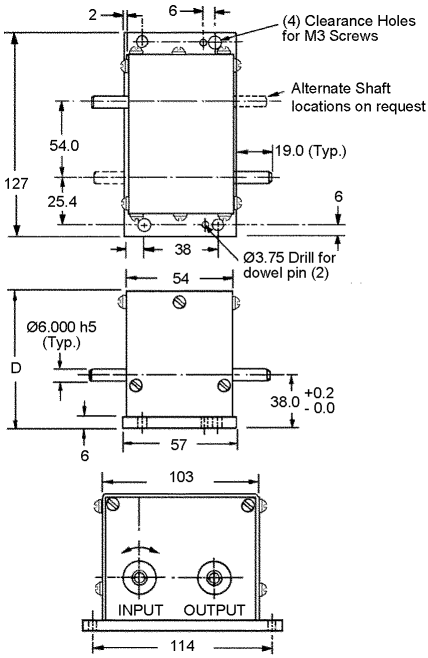
- See instructions below to order alternate shaft locations.

ABEC 7 BALL BEARINGS UNITS	BRONZE BEARINGS UNITS			
STOCK NO.	STOCK NO.	NOMINAL RATIO	D HEIGHT	DIRECTION ROTATION
SX-B3-1M	SX-P3-1	2:1	86.0	SAME
SX-B3-2M	SX-P3-2	3:1		
SX-B3-3M	SX-P3-3	4:1		
SX-B3-4M	SX-P3-4	5:1		
SX-B3-5M	SX-P3-5	6:1		
SX-B3-6M	SX-P3-6	7:1		
SX-B3-7M	SX-P3-7	8:1		
SX-B3-8M	SX-P3-8	9:1		
SX-B3-9M	SX-P3-9	10:1		
SX-B3-10M	SX-P3-10	12:1		
SX-B3-11M	SX-P3-11	15:1		
SX-B3-12M	SX-P3-12	16:1		
SX-B3-13M	SX-P3-13	20:1		
SX-B3-14M	SX-P3-14	25:1		
SX-B3-15M	SX-P3-15	30:1	86.0	OPPOSITE
SX-B3-16M	SX-P3-16	32:1		
SX-B3-17M	SX-P3-17	36:1		
SX-B3-18M	SX-P3-18	40:1		
SX-B3-19M	SX-P3-19	45:1		
SX-B3-20M	SX-P3-20	48:1		
SX-B3-21M	SX-P3-21	50:1		
SX-B3-22M	SX-P3-22	60:1		
SX-B3-23M	SX-P3-23	64:1		
SX-B3-24M	SX-P3-24	75:1		
SX-B3-25M	SX-P3-25	80:1		
SX-B3-26M	SX-P3-26	100:1		
SX-B3-27M	SX-P3-27	125:1		
SX-B3-28M	SX-P3-28	72:1	109.0	SAME
SX-B3-29M	SX-P3-29	90:1		
SX-B3-30M	SX-P3-30	96:1		
SX-B3-31M	SX-P3-31	128:1		
SX-B3-32M	SX-P3-32	150:1		
SX-B3-33M	SX-P3-33	180:1		
SX-B3-34M	SX-P3-34	200:1		
SX-B3-35M	SX-P3-35	250:1		
SX-B3-36M	SX-P3-36	256:1		
SX-B3-37M	SX-P3-37	300:1		
SX-B3-38M	SX-P3-38	375:1		
SX-B3-39M	SX-P3-39	400:1		
SX-B3-40M	SX-P3-40	500:1		
SX-B3-41M	SX-P3-41	625:1		

SERVO GEARBOXES

SHAFT SIZE 6MM

SHAFT SIZE	TYPE
6MM	BALL BEARING OR BRONZE BEARING



Alternate Shaft Locations

Add **Style Letter** to complete stock number, if different from that shown.

Style:

O = Opposite of as shown
R = In and Out on R.H. side only
L = In and Out on L.H. side only
A = In and Out on all sides

Send drawing if other than listed above.

Backlash

At Output Shaft
Ball Bearing - 15 Minutes Max.
Bronze Bearing - 30 Minutes Max.

Materials

Housing and Cover	Aluminum Anodized
Gears	Stainless Steel and Aluminum
Shafts and Hardware	Stainless Steel
Bearings	Stainless Steel or Bronze
Lubrication	Grease

Maximum Speed

5000 RPM

Maximum Output Torque

423N•cm

Special units available on request.
Anti-Backlash gear - Output End
Slip Clutch included - Input End
Contact Berg's Engineering Department for recommendations for use as a Speed Increaser.

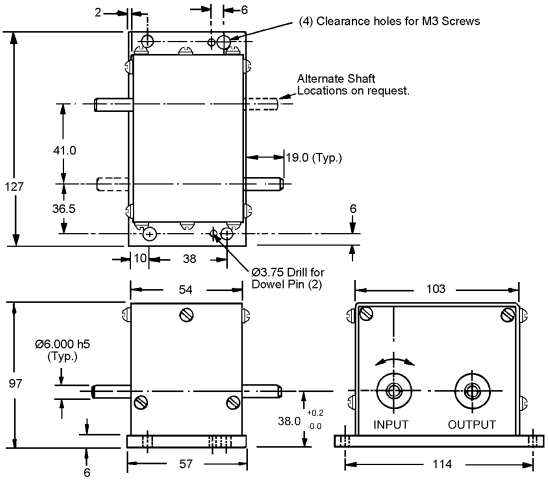
- See instructions below to order alternate shaft locations.

ABEC 7 BALL BEARINGS UNITS	BRONZE BEARINGS UNITS			
STOCK NO.	STOCK NO.	NOMINAL RATIO	D HEIGHT	DIRECTION ROTATION
SX-B4-1M	SX-P4-1M	2:1	83.5	SAME
SX-B4-2M	SX-P4-2M	3:1		
SX-B4-3M	SX-P4-3M	4:1		
SX-B4-4M	SX-P4-4M	5:1		
SX-B4-5M	SX-P4-5M	6:1		
SX-B4-6M	SX-P4-6M	7:1		
SX-B4-7M	SX-P4-7M	8:1		
SX-B4-8M	SX-P4-8M	9:1		
SX-B4-9M	SX-P4-9M	10:1		
SX-B4-10M	SX-P4-10M	12:1		
SX-B4-11M	SX-P4-11M	15:1		
SX-B4-12M	SX-P4-12M	16:1		
SX-B4-13M	SX-P4-13M	20:1		
SX-B4-14M	SX-P4-14M	25:1		
SX-B4-15M	SX-P4-15M	30:1	97.0	OPPOSITE
SX-B4-16M	SX-P4-16M	32:1		
SX-B4-17M	SX-P4-17M	36:1		
SX-B4-18M	SX-P4-18M	40:1		
SX-B4-19M	SX-P4-19M	45:1		
SX-B4-20M	SX-P4-20M	48:1		
SX-B4-21M	SX-P4-21M	50:1		
SX-B4-22M	SX-P4-22M	60:1		
SX-B4-23M	SX-P4-23M	64:1		
SX-B4-24M	SX-P4-24M	75:1		
SX-B4-25M	SX-P4-25M	80:1		
SX-B4-26M	SX-P4-26M	100:1		
SX-B4-27M	SX-P4-27M	125:1		
SX-B4-28M	SX-P4-28M	72:1	122.5	SAME
SX-B4-29M	SX-P4-29M	90:1		
SX-B4-30M	SX-P4-30M	96:1		
SX-B4-31M	SX-P4-31M	128:1		
SX-B4-32M	SX-P4-32M	150:1		
SX-B4-33M	SX-P4-33M	180:1		
SX-B4-34M	SX-P4-34M	200:1		
SX-B4-35M	SX-P4-35M	250:1		
SX-B4-36M	SX-P4-36M	256:1		
SX-B4-37M	SX-P4-37M	300:1		
SX-B4-38M	SX-P4-38M	375:1		
SX-B4-39M	SX-P4-39M	400:1		
SX-B4-40M	SX-P4-40M	500:1		
SX-B4-41M	SX-P4-41M	625:1		

INTERMITTENT MOTION ASSEMBLIES

SHAFT SIZE 6MM

SHAFT	TYPE
6MM	BALL BEARING



Precision Geneva Mechanism

Materials:
Housing and Cover - Anodized Aluminum
Geneva - Stainless Steel
Gears - Stainless Steel and Aluminum
Shafts and Hardware - Stainless Steel
Bearings - Stainless Steel - ABEC 7
Lubrication - Grease

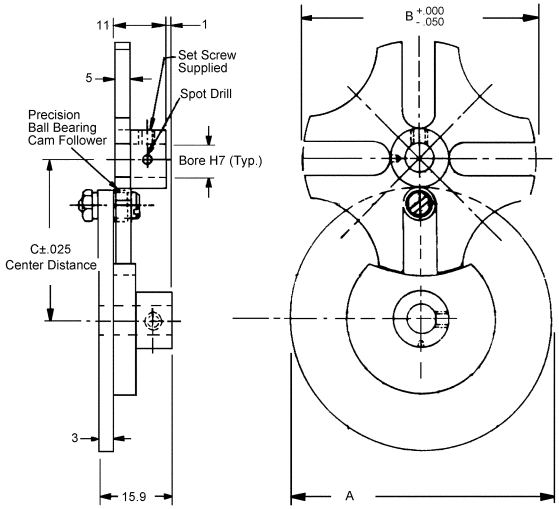
Max. Input Speed - 300 RPM
Backlash at Output Shaft - 30 Minutes Max.

PRECISION BALL BEARING UNIT STOCK NUMBER	ROTATION OF OUTPUT SHAFT PER EACH 360° REV. OF INPUT
GX-1M	90 DEGREES
GX-2M	60 DEGREES
GX-3M	45 DEGREES
GX-4M	30 DEGREES
GX-5M	22.5 DEGREES
GX-6M	10 DEGREES

PRECISION BALL BEARING UNIT STOCK NUMBER	ROTATION OF OUTPUT SHAFT PER EACH 180° REV. OF INPUT
GX-7M	180 DEGREES
GX-8M	120 DEGREES
GX-9M	90 DEGREES
GX-10M	60 DEGREES
GX-11M	45 DEGREES
GX-12M	20 DEGREES

GENEVA MECHANISMS

BORE	POINTS	MATERIAL
6 AND 7	4, 5, 6 AND 8	STAINLESS STEEL



4 POINT DRIVE ILLUSTRATED

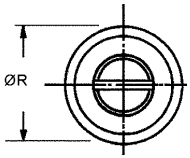
STOCK NO.	NO. ROLLERS ON DRIVER	RELATIVE ROTATION DRIVER TO DRIVEN		POINTS ON DRIVEN	MAX. TORQUE (N•cm)	MAX OPER. TORQUE (N•cm)	A	B	C	BORE
GM-1-M GM-1A-M	ONE TWO	360° 180°	90°	4	50	25	57	50	35.11	7
GM-2-M GM-2A-M	ONE TWO	360° 180°	72°	5	78	39	57	63	38.57	7
GM-3-M GM-3A-M	ONE TWO	360° 180°	60°	6	124	62	64	88	50.72	7
GM-4-M GM-4A-M	ONE TWO	360° 180°	45°	8	170	85	51	104	56.02	6

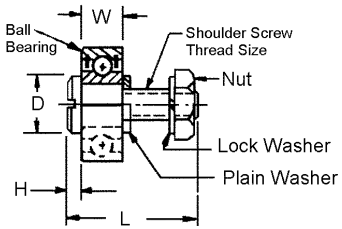
STOCK NO.	DESCRIPTION
JE-1-PH	REPLACEMENT CAM FOLLOWER

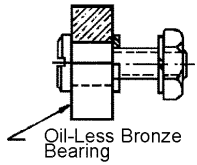
Other Bore sizes available on request.

CAM FOLLOWERS

TYPE	MATERIAL	ABEC
BALL BEARING OR OIL-LESS BRONZE BEARING	**STAINLESS STEEL**	**5**





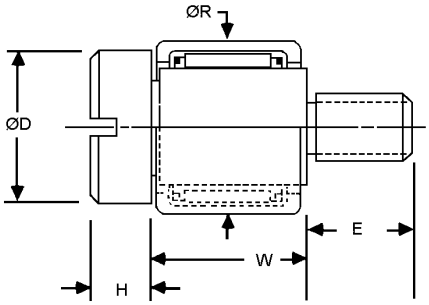


STOCK NO.	ØR	W	L	D	H	SCREW THREAD	BEARING
JEM-10	7.00	3.0	12.0	5	3	M3.0 X 0.5	
JEM-11	9.00	4.0	11.0	6	3	M3.0 X 0.5	
JEM-12	11.00	5.0	13.0	8	4	M4.0 X 0.7	BALL
JEM-13	13.00	4.0	14.0	8	4	M4.0 X 0.7	BEARING
JEM-14	16.00	5.0	13.0	8	4	M4.0 X 0.7	
JEM-15	19.00	6.0	17.0	10	5	M5.0 X 0.8	
JEM-B-11	8.00	4.0	11.0	6	3	M3.0 X 0.5	
JEM-B-12	10.00	5.0	14.0	8	4	M4.0 X 0.7	BRONZE
JEM-B-13	13.00	5.0	14.0	8	4	M4.0 X 0.7	BEARING
JEM-B-14	16.00	5.0	16.0	10	5	M5.0 X 0.8	

MATERIALS
Bearings - Stainless Steel or Bronze
Screw - Stainless Steel DIN 1.4005
Hardware - Stainless Steel

ROLLER BEARING CAM FOLLOWERS

TYPE
HEAVY DUTY



C

Materials:
Screw - Stainless Steel DIN 1.4005
Roller Cup - Case Hardened Steel
Needle Bearings - Hardened Steel
Bearing Cage - Low Carbon Steel

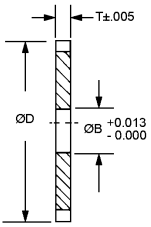
See the Bearings Section of this book for Bearings Specifications.

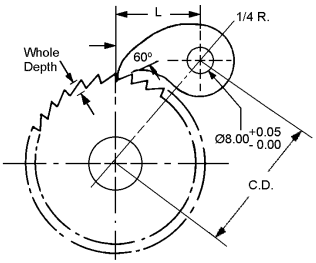
STOCK NO.	ØR	W	ØD	H	E	SCREW THREAD
JEM-R-1	8.00	8.00	6.0	2.7	4	M3 X 0.5
JEM-R-3	9.00	9.00	8.0	4.0	5	M4 X 0.7
JEM-R-4	10.00	9.00	8.5	5.0	6	M5 X 0.8
JEM-R-5	12.00	10.00	10.5	5.7	11	M6 X 1.0
JEM-R-6	14.00	10.00	12.5	6.7	12	M8 X 1.25
JEM-R-8	16.00	12.00	14.5	7.7	16	M10 X 1.50

- High Load
- Low Profile
- Low Friction

RATCHETS & PAWLS

PITCH	STYLE	MATERIAL
16 to 48	RIGHT HAND OPERATION	STAINLESS STEEL





17-4 PH STAINLESS STEEL HARDENED RC 32-38			416 STAINLESS STEEL
STOCK PAWLS			MOUNTING SHOULDER SCREW (Order Separately)
STOCK NO.	T THICKNESS	L LENGTH	
RP-2M	6.2	19	PLM-28
RP-375M	9.4	33	PLM-30

- For Shoulder Screw Dimensions - See Index
- Ratchets Material - 303 Stainless Steel
- Last number in Stock No. indicate the total number of teeth. Special ratchets and pawls made to order, contact us.

RATCHET STOCK NO.	PITCH	OUTSIDE DIA.	BORE	T	C.D. +.06 -.00	WHOLE DEPTH	PAWL STOCK NO
R16S120-20	16	31.7	16	9.5	38.9	3.1	RP-375M
R16S120-24		38.1			40.6		
R16S120-32		50.8			44.5		
R16S120-48		76.2			53.3		
R16S120-56		88.9			58.4		
R16S120-65		101.6			63.5		
R24S106-24	24	25.4	10	6.4	28.2	1.8	RP-2M
R24S106-30		31.7			30.0		
R24S106-36		38.1			32.0		
R24S106-48		50.8			36.8		
R24S106-72		76.2			47.2		
R32S103-24	32	19.0	10	3.0	26.4	1.5	
R32S103-32		25.4			28.2		
R32S103-40		31.7			30.0		
R32S103-48		38.1			32.0		
R32S103-64		50.8			36.8		
R32S103-96		76.2			47.2		
R48S103-36	48	19.0	10	3.0	26.2	0.9	
R48S103-48		25.4			28.4		
R48S103-60		31.7			30.5		
R48S103-72		38.1			32.5		
R48S103-96		50.8			37.3		
R48S103-144		76.2			47.8		

BREADBOARD COMPONENTS

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KNURLED HAND CRANKS . . . . . MD 9, MD 11

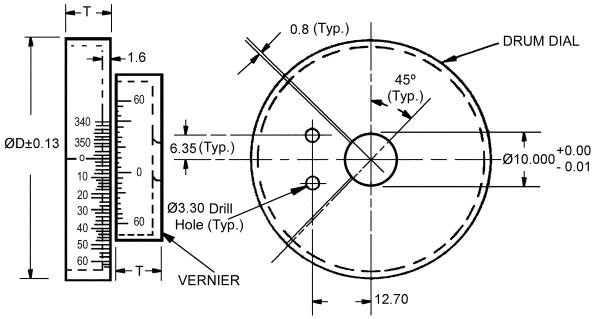
KNOBS. . . . . MD 12

SYNCRO MOUNT CLAMPS . . . . . MD 13 - MD 16

D

DRUM DIALS

DIAMETER	TYPE	MATERIAL
38 TO 76	SETS, DIALS OR VERNIERS	ALUMINUM BLACK ANODIZED



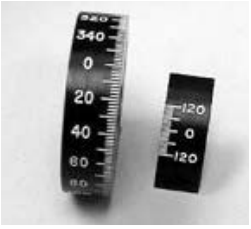
SET STOCK NO.	DIAL STOCK NO.	VERNIER STOCK NO.	ØD DIAL DIA.	T WIDTH	VERNIER READING	GRADUATIONS
A1M-1*	A1M-1-D	A1M-1-V	37.84	9.5	12 MIN.	180 IN 2° STEPS
A1M-2*	A1M-2-D	A1M-2-V	50.54	9.5	12 MIN.	180 IN 2° STEPS
A1M-3	A1M-3-D	A1M-3-V	63.25	12.7	6 MIN.	360 IN 1° STEPS
A1M-4	A1M-4-D	A1M-4-V	75.95	12.7	6 MIN.	360 IN 1° STEPS

* Dials and Verniers are numbered every 20°.

Engraving filled with white.
Range of Graduations - 0 to 360°

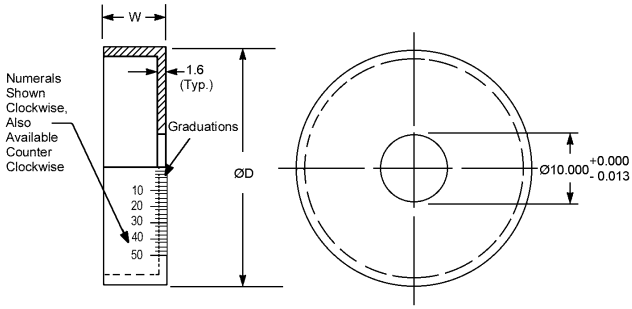
Available on request:
- Pin or Clamp Hubs assembled to drum
- Counter Clockwise numbering
- Special Engraving

For Pin and Clamp Hubs see index.



DRUM DIALS

DIAMETER	MATERIAL
25 TO 76	ALUMINUM BLACK ANODIZED



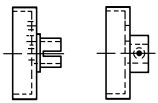
STOCK NO.	W WIDTH	ØD DIAL DIA.	DIRECTION OF NUMBERING	GRADUATIONS RANGE	NO. OF GRAD.S	STEPS IN DEGREES
A3M-1	9.5	25.0	BLANK	-	-	-
A3M-2•			CW	0 TO 360	180	2°
A3M-3			CW	0 TO 100	100	3°-36'
A4M-1	9.5	38.0	BLANK	-	-	-
A4M-2•			CW	0 TO 360	180	2°
A4M-3			CW	0 TO 100	100	3°-36'
A4M-4			CW	0 TO 60	60	6°
A5M-1	9.5	50.5	BLANK	-	-	-
A5M-2•			CW	0 TO 360	180	2°
A5M-3			CW	0 TO 50	50	7°-12'
A5M-4			CW	0 TO 25	25	14°-24'
A6M-1	12.5	63.0	BLANK	-	-	-
A6M-2•			CW	0 TO 360	360	1°
A6M-3			CW	0 TO 100	100	3°-36'
A6M-4			CCW	0 TO 360	360	1°
A7M-1	12.5	76.0	BLANK	-	-	-
A7M-2•			CW	0 TO 360	360	1°
A7M-3			CW	0 TO 360	180	2°
A7M-4			CW	0 TO 100	100	3°-36'
A7M-5			CCW	0 TO 360	360	1°

* Dials are numbered every 20°.

Engraving filled with white.
Range of Graduations - 0 to 360°

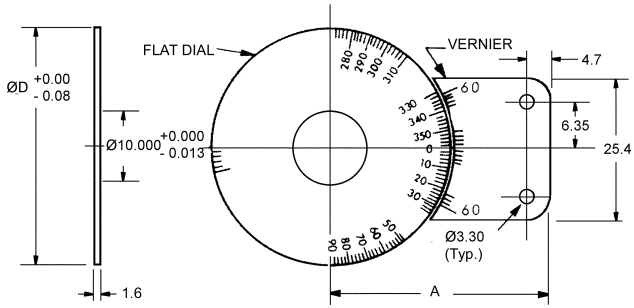
Available on request:
- Pin or Clamp Hubs assembled to drum
- Special Engraving

For Pin and Clamp Hubs see index.



FLAT DIALS

DIAMETER	TYPE	MATERIAL
38 TO 101	SETS, DIALS OR VERNIERS	ALUMINUM BLACK ANODIZED



SET STOCK NO.	DIAL STOCK NO.	VERNIER STOCK NO.	A	ØD DIAL DIA.	VERNIER READING	GRADUATIONS
A2M-1*	A2M-1-D	A2M-1-V	44.70	38.10	12 MIN.	180 IN 2° STEPS
A2M-2*	A2M-2-D	A2M-2-V	51.40	50.80	12 MIN.	180 IN 2° STEPS
A2M-3	A2M-3-D	A2M-3-V	63.75	76.20	6 MIN.	360 IN 1° STEPS
A2M-4	A2M-4-D	A2M-4-V	76.46	101.60	6 MIN.	360 IN 1° STEPS

* Dials and Verniers are numbered every 20°.

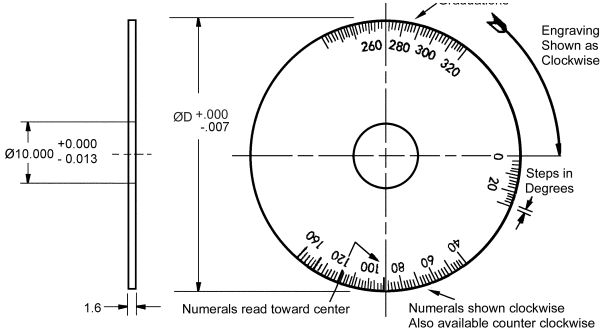
Engraving filled with white.
Range of Graduations - 0 to 360°

Available on request:
- Pin or Clamp Hubs assembled to drum
- Read at 12 o'clock
- Counter Clockwise numbering
- Special Engraving

For Pin and Clamp Hubs see index.

ENGRAVED FLAT DISKS

DIAMETER	MATERIAL
38 TO 101	ALUMINUM BLACK ANODIZED



STOCK NO.	ØD DIAL DIA.	DIRECTION OF NUMBERING	GRADUATIONS RANGE	NO. OF GRADS.	STEPS IN DEGREES
A8M-1	38.0	BLANK	-	-	-
A8M-2•		CW	0 TO 360	180	2°
A8M-3		CW	0 TO 100	100	3°-36'
A8M-4		CW	0 TO 50	50	7°-12'
A8M-5		CW	0 TO 10	10	36°
A9M-1	51.0	BLANK	-	-	-
A9M-2•		CW	0 TO 360	180	2°
A9M-3•		CCW	0 TO 360	180	2°
A9M-4		CW	0 TO 100	100	3°-36'
A9M-5		CCW	0 TO 100	100	3°-36'
A9M-6		CW	0 TO 72	72	5°
A9M-7		CW	0 TO 60	60	6°
A9M-8		CW	0 TO 50	50	7°-12'
A10M-1	76.0	BLANK	-	-	-
A10M-2		CW	0 TO 360	360	1°
A10M-3•		CW	0 TO 360	180	2°
A10M-4		CW	0 TO 200	200	1°-48'
A10M-5		CW	0 TO 120	120	3°
A10M-6		CW	0 TO 100	100	3°-36'
A10M-7		CW	0 TO 72	72	5°
A10M-8		CCW	0 TO 360	360	1°
A10M-9		CCW	0 TO 100	100	3°-36'
A11M-1	101.5	BLANK	-	-	-
A11M-2		CW	0 TO 360	360	1°
A11M-3•		CW	0 TO 360	180	2°
A11M-4		CW	0 TO 200	200	1°-48'
A11M-5		CW	0 TO 100	100	3°-36'
A11M-6		CW	0 TO 1000	500	43'-12'
A11M-7		CCW	0 TO 360	360	1°
A11M-8•		CCW	0 TO 360	180	2°

* Dials are numbered every 20°.

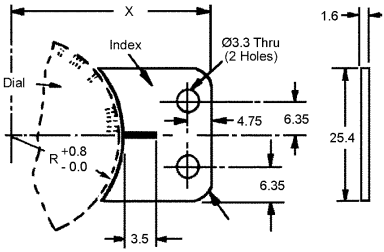
Engraving filled with white.
Range of Graduations - 0 to 1000°

Available on request:
- Pin or Clamp Hubs assembled to drum
- Special Engraving

For Pin and Clamp Hubs see index.

FLAT DIAL INDEX

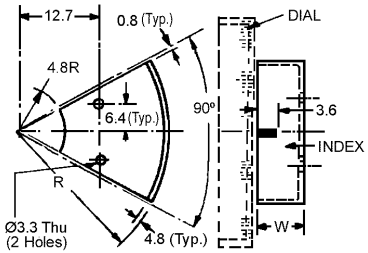
MATERIAL
ALUMINUM BLACK ANODIZED



STOCK NO.	X	R
A13-1	44	18.9
A13-2	51	25.4
A13-3	64	38.1
A13-4	76	50.8

DRUM DIAL INDEX

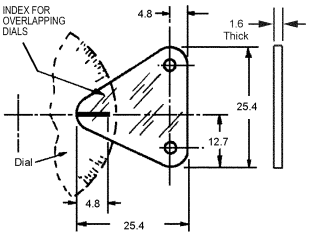
MATERIAL
ALUMINUM BLACK ANODIZED



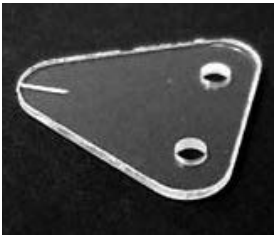
STOCK NO.	X	R
A14-1	18.9	9.5
A14-2	25.3	9.5
A14-3	31.6	12.7
A14-4	38.0	12.7

ENGRAVED INDEX

MATERIAL
PLEXIGLASS

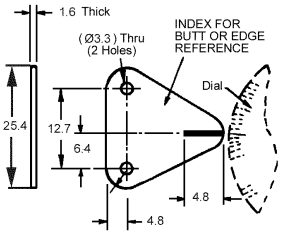


STOCK NO.	MATERIAL & FINISH
A12-1	PLEXIGLASS (CLEAR) MIL-P-5425



D

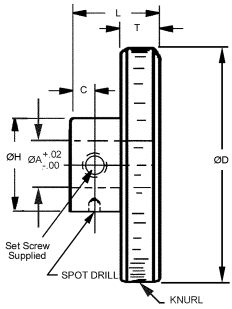
MATERIAL
ALUMINUM BLACK ANODIZED



STOCK NO.	MATERIAL & FINISH
A12-2	DIN 3.1355 ALUMINUM, BLACK ANODIZED

KNURLED HANDWHEELS

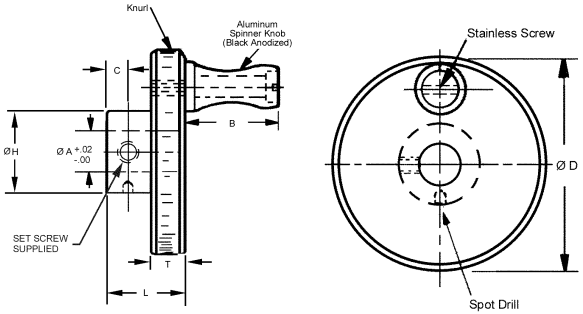
MATERIAL
STAINLESS STEEL DIN 1.4305



STOCK NO.	ØA	ØD	ØH	T	L	C	B
CN1M-1 CN1M-2 CN1M-3	3.00	25 38 50	10	3	10	3	19
CN1M-4 CN1M-5 CN1M-6	5.00	25 38 50	10	5	12	3	19
CN1M-7 CN1M-8 CN1M-9	8.00	25 38 50	12	5	12	3	19
CN1M-10 CN1M-11 CN1M-12	10.00	50 62 75	20	10	20	5	25
CN1M-13 CN1M-14 CN1M-15	12.00	62 75 100	20	10	20	5	25

KNURLED HAND CRANKS

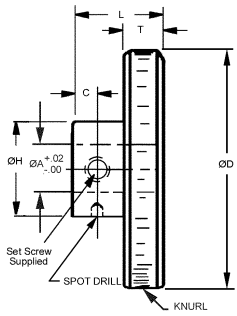
MATERIAL
STAINLESS STEEL DIN 1.4305



STOCK NO.	ØA	ØD	ØH	T	L	C	B
CN2M-1 CN2M-2 CN2M-3	3.000	25 38 50	10	3	10	3	19
CN2M-4 CN2M-5 CN2M-6	5.000	25 38 50	10	5	12	3	19
CN2M-7 CN2M-8 CN2M-9	8.000	25 38 50	12	5	12	3	19
CN2M-10 CN2M-11 CN2M-12	10.000	50 62 75	20	10	20	5	25
CN2M-13 CN2M-14 CN2M-15	12.000	62 75 100	20	10	20	5	25

KNURLED HANDWHEELS

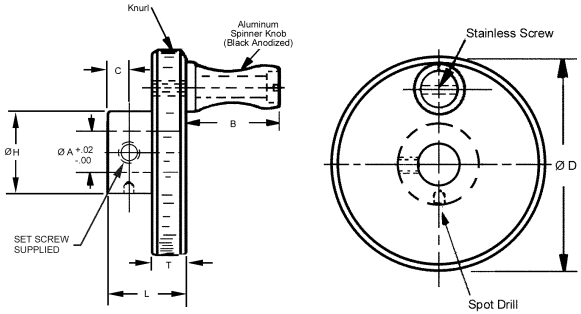
MATERIAL
ALUMINUM BLACK ANODIZED



STOCK NO.	ØA	ØD	ØH	T	L	C	B
CN1M-1A CN1M-2A CN1M-3A	3.00	25 38 50	10	3	10	3	19
CN1M-4A CN1M-5A CN1M-6A	5.00	25 38 50	10	5	12	3	19
CN1M-7A CN1M-8A CN1M-9A	8.00	25 38 50	12	5	12	3	19
CN1M-10A CN1M-11A CN1M-12A	10.00	50 62 75	20	10	20	5	25
CN1M-13A CN1M-14A CN1M-15A	12.00	62 75 100	20	10	20	.5	25

KNURLED HAND CRANKS

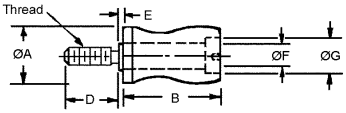
MATERIAL
ALUMINUM BLACK ANODIZED



STOCK NO.	ØA	ØD	ØH	T	L	C	B
CN2M-1A CN2M-2A CN2M-3A	3.000	25 38 50	10	3	10	3	19
CN2M-4A CN2M-5A CN2M-6A	5.000	25 38 50	10	5	12	3	19
CN2M-7A CN2M-8A CN2M-9A	8.000	25 38 50	12	5	12	3	19
CN2M-10A CN2M-11A CN2M-12A	10.000	50 62 75	20	10	20	5	25
CN2M-13A CN2M-14A CN2M-15A	12.000	62 75 100	20	10	20	5	25

KNOBS

TYPE	MATERIAL
SPINNER KNOB AND SCREW	ALUMINUM BLACK ANODIZED WITH STAINLESS STEEL SCREW



STOCK NO.	ØA	B	THREAD	D	E	ØF	G
CN8-1M	13	19	M4 X 0.7	5	0.4	5	8
CN8-2M	18	25	M6 X 1.0	11	0.4	8	13
CN8-3M	24	32	M10 X 1.5	16	0.8	13	19

SYNCRO MOUNT CLAMPS

MATERIAL

STAINLESS STEEL DIN 1.4005

STOCK NO.	T	C	F
SM-11	1.57	1.32	2.54
SM-12	2.36	2.08	3.33
SM-13	3.18	2.77	4.60
SM-14	6.35	6.05	7.32
SM-15	1.83	1.60	2.87
SM-16	3.18	2.84	4.11
SM-17	3.96	3.63	4.90
SM-18	5.72	5.41	6.68

MATERIAL

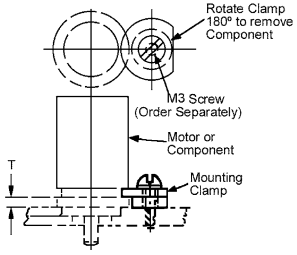
STAINLESS STEEL DIN 1.4305

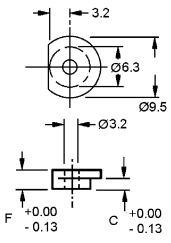
STOCK NO.	T	C	F
SM-1	1.57	1.32	2.54
SM-2	2.36	2.08	3.33
SM-3	3.18	2.77	4.60
SM-4	6.35	6.05	7.32
SM-5	1.83	1.60	2.87
SM-6	3.18	2.84	4.11
SM-7	3.96	3.63	4.90
SM-8	5.72	5.41	6.68

MATERIAL

ALUMINUM

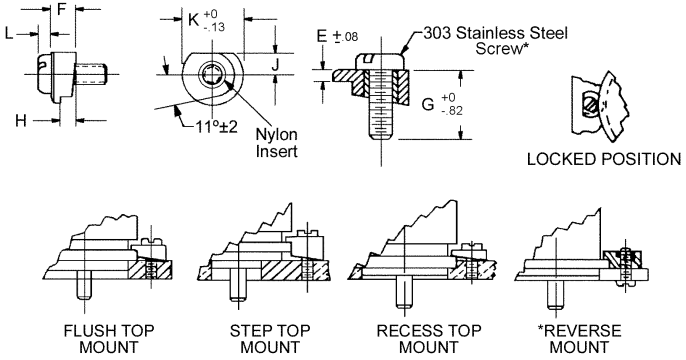
STOCK NO.	T	C	F
SM-1A	1.57	1.32	2.54
SM-2A	2.36	2.08	3.33
SM-3A	3.18	2.77	4.60
SM-4A	6.35	6.05	7.32





SYNCRO MOUNT CLAMPS

MOUNT STYLES	MATERIAL
TOP AND REVERSE	3 STAINLESS STEEL DIN 1.4401 (SINTERED) WITH NYLON INSERTS



STOCK NO.	MOUNT STYLE	H ±0.08	REF J	E	REF F	G	SCREW SIZE	ØK	L MAX
SQM-6	TOP	0.79	3.18	1.02	1.80	8.0	M3 X 0.5	9.90	1.73
SQM-7		1.57		1.02	2.59	8.0			
SQM-8		1.57		1.27	2.84	10.0			
SQM-9		1.57		1.60	3.18	10.0			
SQM-10		1.98		1.60	3.58	10.0			
SQM-11		2.36		1.02	3.38	10.0			
SQM-12		2.36		1.27	3.63	10.0			
SQM-13		2.36		1.60	3.96	10.0			
SQM-14		3.18		1.27	4.45	10.0			
SQM-15		3.96		1.02	4.98	10.0			
SQM-16		5.72		1.60	7.32	12.0			
SQM-17		6.35		1.60	7.92	16.0			

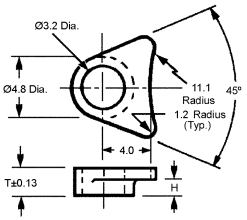
- Quick Releasing
- Faster Nulling of Clamped Component
- Self Locking

BOLT CIRCLE FOR CLEATS
Use the larger of the following two bolt circles
Add 6.89 to maximum flange diameter or add 10.16 to maximum groove base diameter.

SYNCRO MOUNT CLAMPS

MATERIAL

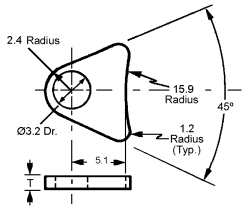
STAINLESS STEEL DIN 1.4305 AND ALUMINUM DIN 3.1355



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM STOCK NO.	H	T
SM-20	SM-20-A	1.2	2.36
SM-21	SM-21-A	2.8	3.96
SM-22	SM-22-A	5.3	6.91

MATERIAL

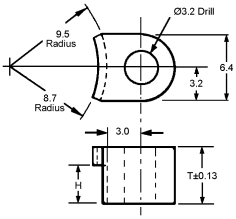
STAINLESS STEEL DIN 1.4305 AND ALUMINUM DIN 3.1355



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM STOCK NO.	T
SM-23	SM-23-A	1.02

MATERIAL

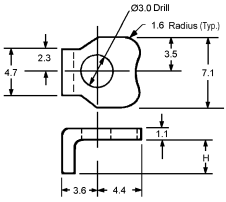
STAINLESS STEEL DIN 1.4305 AND ALUMINUM DIN 3.1355



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM STOCK NO.	H	T
SM-24	SM-24-A	0.5	1.65
SM-25	SM-25-A	1.3	2.41
SM-26	SM-26-A	2.9	4.06
SM-27	SM-27-A	4.5	5.59

MATERIAL

STAINLESS STEEL DIN 1.4300



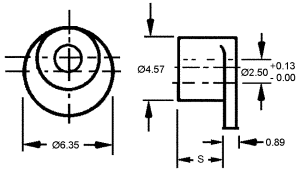
STOCK NO.	H
SM-28	FLAT
SM-29	1.2
SM-30	2.0
SM-31	2.8
SM-32	3.6

D

SYNCRO MOUNT CLAMPS

MATERIAL

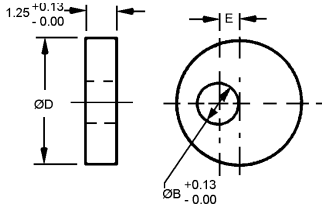
STAINLESS STEEL DIN 1.4305



STOCK NO.	S
SM-47	1.45
SM-48	2.24
SM-49	2.64
SM-50	2.97

MATERIAL

STAINLESS STEEL DIN 1.4305 AND ALUMINUM DIN 3.1355



STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM STOCK NO.	E	ØD	ØB
SM-43	SM-43-A	0.28	4.75	2.62
SM-44	SM-44-A	0.79	6.35	3.22
SM-45	SM-45-A	1.57	7.87	3.22
SM-46	SM-46-A	1.57	9.40	3.22

LINEAR COMPONENTS

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E

HIGH PRECISION & PRECISION LEAD SCREWS

TECHNICAL DATA

Critical Speed - The critical speed of a lead screw shaft is the maximum speed (rpm) before the screw will become dynamically unstable. This results when the forced frequency of the rotating screw corresponds to its natural frequency. It's value is dependent on the length of the screw, the diameter of the thread, and the support configuration. The critical speed value is governed by the following equation.

Critical Screw Speed (N) = $K \times C \times 10^6 \times d/D^2$

Where:

K = End support factor

- 0.36 one end fixed, other free (Figure 9.1)
- 1.00 simple supports both ends (Figure 9.2)
- 1.47 one end fixed, one simple (Figure 9.3)
- 2.23 both ends fixed (Figure 9.4)

C = Material factor

- 4.5 for Stainless Steel screws
- 1.6 for Aluminum screws

d = Root diameter of the screw

D = Distance between the nut and the support bearing

Load - In order to properly incorporate a lead screw into a design, load requirements must be taken into account. Maximum load values for the nuts are listed in the tables on the following pages. These numbers are based on the shear of the nuts and does not take shaft buckling into account (see Max. Column Load formula below). Wherever possible, nuts should be positioned so as to be put in tension, pulling the load. This eliminates the need for buckling considerations. Listed below are some helpful formulas to assist in proper lead screw selection.

Max. Critical Column Load (F) = $K \times C \times 10^6 \times d^4/D^2$

Where:

K = End support factor

- 0.25 one end fixed, other free (Figure 9.1)
- 1.00 simple supports both ends (Figure 9.2)
- 2.00 one end fixed, one simple (Figure 9.3)
- 4.00 both ends fixed (Figure 9.4)

C = Material factor

- 13.4 for Stainless Steel screws
- 4.8 for Aluminum screws

d = Root diameter of the screw

D = Distance between the nut and the support bearing

Torque to Move a Load (T) = $F \times L/2 \times \check{s} \times E$

Where:

F = Load

L = Lead

š = Coefficient of friction of the thread interface

E = Efficiency (consult Berg Engineering Department for efficiency values)

Figure 9.1

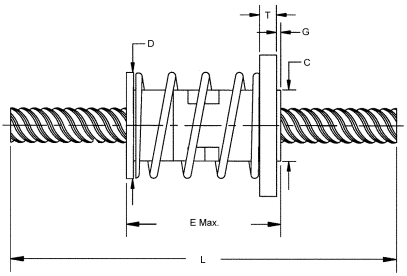
Figure 9.2

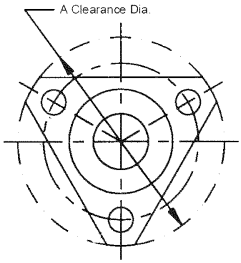
Figure 9.3

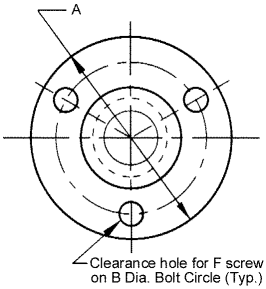
Figure 9.4

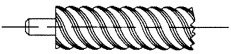
ANTI-BACKLASH LEAD SCREW ASSEMBLIES

SERIES	MATERIAL
HIGH PRECISION	NUT - ACETAL, SPRING - STEEL PLATED ZINC, SCREW - STAINLESS STEEL (400 SERIES)









Special end configurations available on request.

E

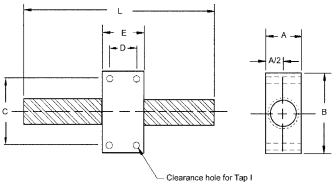
Helitronic Thread

STOCK NO.	PITCH DIA.	LEAD	ØA	ØB	ØC	ØD	E	G	T	F	L
TTMS4ABS1-300	4	1	25.5	19	11	15	29	1.5	5	M3	300
TTMS6ABS2-300	6	2									
TTMS8ABS4-300	8	4									
TTMS10ABS2-500	10	2	38	32	16	19	38	1.5	5	M3	500
TTMS10ABS20-500	10	20									
TTMS12ABS5-500	12	5									
TTMS12ABS10-500	12	10									
TTMS16ABS4-1000	16	4	44.5	35	22.5	26	53	2	6.5	M4	1000
TTMS16ABS10-1000	16	10									
TTMS20ABS4-1000	20	4	55.5	45.50	30	40	63.5	2	6.5	M5	1000
TTMS20ABS10-1000	20	10									
TTMS20ABS20-1000	20	20									
TTMS25ABS5-1000	25	5									
TTMS25ABS10-1000	25	10									
TTMS25ABS20-1000	25	20									

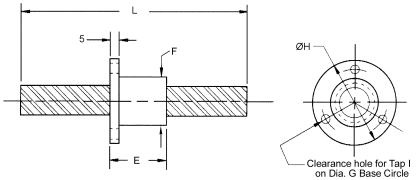
Additional nuts, other lengths and materials are available, call for quotes.

LEAD SCREWS

MATERIAL
NUT - ACETAL SCREW - HIGH HELIX THREAD, ALUMINUM ANODIZED HELITRONIC THREAD, STAINLESS STEEL (400 SERIES)



LEAD SCREW WITH RECTANGULAR NUT



LEAD SCREW WITH ROUND NUT

Rectangular Nut

HELITRONIC THREAD STOCK NO.	HELIX THREAD STOCK NO.	PITCH DIA.	LEAD	A	B	C	D	E	ØF	ØG[1]	ØH	I[1]	L
TTM4KS1-300	-	4	1										
-	HTM5KA10-300	5	10										
-	HTM5KA15-300	5	15	12.5	33	25	*	19	12	20	28	M3	300
TTM6KS2-300	-	6	2										
TTM8KS4-300	-	8	4										
TTM10KS2-500	-	10	2										
TTM10KS20-500	HTM10KA20-500	10	20	16	44.5	35	*	19	16	25	35	M4	500
-	HTM10KA30-500	10	30										
TTM12K-500	-	12	5	19	50	40	15.5	25	20	30[1]	40	M[1]	500
TTM12KS10-500	-	12	10										
TTM16KS4-1000	-	16	4	25	50	40	15.5	25	25	35	45	M4	1000
TTM16KS10-1000	-	16	10										
TTM20K-1000	-	20	4										
TTM20KS10-1000	-	20	10										
TTM20KS20-1000	-	20	20	35	60	50	20	30	30	40	50	M5	1000
-	HTM20KA40-1000	20	40										
-	HTM20KA60-1000	20	60										
TTM25KS5-1000	-	25	5										
TTM25KS10-1000	-	25	10										
TTM25KS20-1000	-	25	20	35	60	50	20	30	35	45	55	M5	1000
-	HTM25KA50-1000	25	50										
-	HTM25KA75-1000	25	75										

Round Nut

HELITRONIC THREAD STOCK NO.	HELIX THREAD STOCK NO.	PITCH DIA.	LEAD	A	B	C	D	E	ØF	ØG[1]	ØH	I[1]	L
TTM4LS1-300	-	4	1										
-	HTM5LA10-300	5	10										
-	HTM5LA15-300	5	15	12.5	33	25	*	19	12	20	28	M3	300
TTM6LS2-300	-	6	2										
TTM8LS4-300	-	8	4										
TTM10LS2-500	-	10	2										
TTM10LS20-500	HTM10LA20-500	10	20	16	44.5	35	*	19	16	25	35	M4	500
-	HTM10LA30-500	10	30										
TTM12K-500	-	12	5	19	50	40	15.5	25	20	30[1]	40	M4[1]	500
TTM12LS10-500	-	12	10										
TTM16LS4-1000	-	16	4	25	50	40	15.5	25	25	35	45	M4	1000
TTM16LS10-1000	-	16	10										
TTM20K-1000	-	20	4										
TTM20LS10-1000	-	20	10										
TTM20LS20-1000	-	20	20	35	60	50	20	30	30	40	50	M5	1000
-	HTM20LA40-1000	20	40										
-	HTM20LA60-1000	20	60										
TTM25LS5-1000	-	25	5										
TTM25LS10-1000	-	25	10										
TTM25LS20-1000	-	25	20	35	60	50	20	30	35	45	55	M5	1000
-	HTM25LA50-1000	25	50										
-	HTM25LA75-1000	25	75										

NOTE:
Special lengths, ends or diameters and additional nuts available on request.
* These items are supplied with one mounting hole at E/2, on each side.
[1] These holes / bolt circles may be slotted to accept a range of sizes.

LINEAR SLIDES

TECHNICAL DATA

W. M. Berg, Inc. manufactures a complete line of off the shelf linear ball slides and linear crossed roller slide bearings. Made to the highest quality standards, components must pass strict inspection requirements at each stage of manufacturing. These Quality Control steps ensure precise, uniform, linear movement with low friction and minimum side-play.

Available in inch or metric sizes, and in travel lengths ranging from 12mm to 600mm, slides have flat, parallel, and smooth mounting surfaces. Equipped with mounting holes, they are shipped ready to install, with no need for modifications or adjustments.

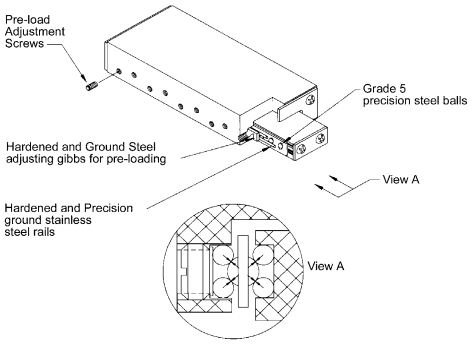


FIGURE 1

Linear Ball Slides

W. M. Berg Inc. Linear Ball Slides are designed to provide precise linear movement for **light to medium loads**. Their construction, as shown in Figure 1, consists of precision Grade 5 balls rolling along ground wire ways. Since the rolling contact surface is a point, the bearing ways are self cleaning, expelling matter which may deposit on their surfaces.

E

Linear Crossed Roller Slides

W. M. Berg Inc. Linear Crossed Roller Slides are designed to provide precise linear movement for medium to heavy loads. Their improved stiffness and rigidity mean long term reliability under the punishment of vibration and shock conditions. Their construction as shown in Figure 2 consists of precision rollers rolling along ground flat ways. Since the rolling contact surface is a line, they can support greater loads than the ball slides.

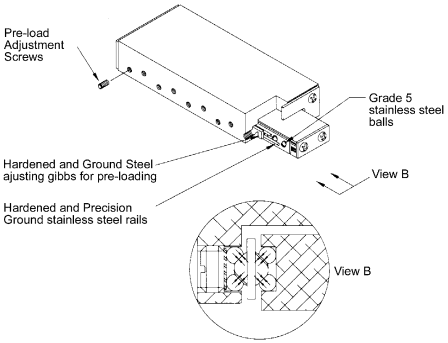


FIGURE 2

Straightness of Travel = Precision Series - 0.0127mm/mm
* Ultra-precision Series - 0.0101mm/mm

Repeatability of Travel = Precision Series - 0.254 mm
Ultra-precision Series - 0.00127 mm

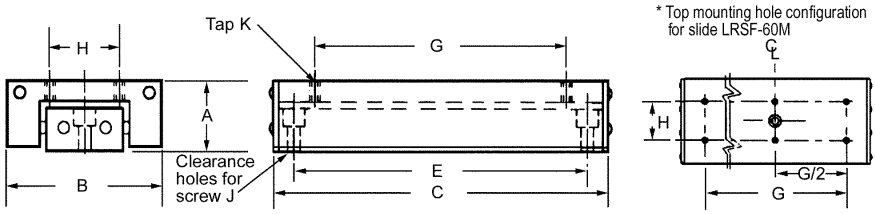
Life = 2.5 x 10^8mm of Travel at Safe Load Capacity
= 2.5 x 10^9mm of Travel at 1/2 Safe Load Capacity
Coefficient of Friction = .003

$$\text{Safe Load Capacity} = \frac{\text{Rated Load Capacity}}{\text{Safety Factor (SF)}}$$

* Inspection Report Available for This Accuracy

CROSS ROLLER SLIDES

TRAVEL	MATERIAL
13.0mm TO 152.4mm	ALUMINUM BLACK ANODIZED

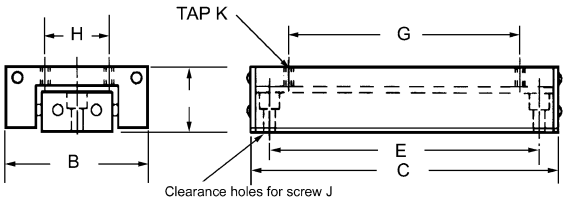


STOCK NO.	TRAVEL	A	B	C	E	G	H	J	RATED CAPACITY (kg)
LRSA-5M	13.0	8.0	14.0	26.9	19.0	16.0	5.5	M2.0 X 0 4	15
LRSA-10M	25.5			52.3	35.0	41.5			25
LRSA-20M	51.0			77.7	60.5	66.5			31
LRSB-5M	13.0	10.0	19.0	26.9	19.0	16.0	9.5	M3.0 X 0.5	23
LRSB-10M	25.5			52.3	35.0	41.5			36
LRSB-20M	51.0			77.7	60.5	66.5			45
LRSC-15M	38.1	13.5	27.0	65.0	54.0	57.0	11.0	M4.0 X 0.7	61
LRSC-20M	50.8			90.4	79.5	82.5			102
LRSC-30M	76.2			115.8	82.5	101.5			120
LRSD-10M	25.4	16.0	38.0	50.8	36.0	35.0	16.0	M4.0 X 0.7	61
LRSD 20M	50.8			76.2	63.5	60.5			82
LSRD 30M	76.2			101.6	89.0	85.5			82
LRSD-40M	101.6			152.4	101.5	136.5			141
LRSE-10M	25.4	19.1	44.5	50.8	41.5	35.0	22.0	M4.0 X 0.7	82
LRSE-20M	50.8			82.6	70.0	66.5			82
LRSE 30M	76 2			101.6	89.0	85.5			109
LRSE-40M	101.6			152.4	101.5	139.5			141
LRSF-15M	38.1	25.5	66.5	66.5	47.5	41.5	32.0	M5.0 X 0.8	150
LRSF-20M	50.8			101.5	85.5	76.0			190
LRSF-30M	76.2			127.0	111.0	101.6			204
LRSF-40M	101.6			152.5	136.5	127.0			227
LRSF-60M*	152.4			228.5	178.0	152.4			320

Other sizes and load capacities available.

LINEAR BALL SLIDES

TRAVEL	MATERIAL
12.0mm TO 200mm	ALUMINUM BLACK ANODIZED

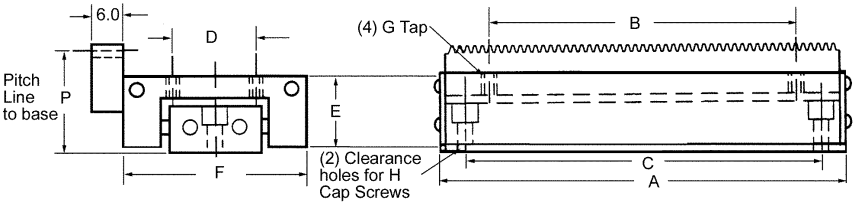


STOCK NO.	TRAVEL	A	B	C	E	G	H	J	K	RATED CAPACITY (kg)
LBSGM-12	12	6.0	9.5	20	10	10	4	M2 X 0.4*	M2 X 0.4	1
LBSGM-25	25			32	20	20				1
LBSGM-35	35			45	30	30				1
LBSKM-12	12	8.0	14.0	28	20	15	5	M2	M2 x 0.4	2
LBSKM-25	25			51	30	40				4
LBSKM-50	50			102	80	65				5
LBSKM-100	100			127	90	115				7
LBSKM-125	125			152	100	140				8
LBSEM-12	12	10.0	19.0	27	19	15	10	M3	M3 x 0.5	2
LBSEM-25	25			52	35	40				4
LBSEM-50	50			78	60	65				5
LBSEM-75	75			103	86	90				6
LBSEM-100	100			129	89	115				7
LBSEM-125	125			154	114	140				8
LBSFM-25	25	13.5	27.0	52	40	40	10	M4	M4 x 0.7	8
LBSFM-50	50			90	75	75				9
LBSFM-75	75			116	75	100				11
LBSFM-100	100			152	100	130				14
LBSFM-150	150			203	125	190				16
LBSFM-200	200			254	175	240				18
LBSHM-25	25	15.5	38.0	51	30	30	15	M4	M4 x 0.7	7
LBSHM-50	50			78	55	60				9
LBSHM-75	75			102	80	80				11
LBSHM-100	100			152	100	130				16
LBSHM-150	150			203	125	180				20
LBSHM-200	200			254	175	225				25
LBSAM-25	25	20.0	44.0	50	35	35	20	M5	M5 x 0.8	14
LBSAM-35	35			65	50	50				15
LBSAM-50	50			80	65	65				16
LBSAM-75	75			100	85	85				18
LBSBM-50	50	25.0	66.0	100	75	75	35	M5	M5 x 0.8	48
LBSBM-75	75			125	100	100				52
LBSBM-100	100			150	125	125				58

* Tapped hole in this series only.

RACK DRIVEN BALL SLIDES

TRAVEL	MATERIAL	PRESSURE ANGLE
13mm TO 100mm	RACK - 416 STAINLESS STEEL BALL SLIDE - ANODIZED ALUMINUM	20º



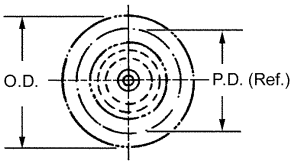
- Low starting and running friction
- Zero sideplay and wobble
- High accuracy and repeatability
- No lubrication required
- Heavy load carrying capacity
- Operates in any position
- Factory aligned and preloaded
- Easy replacement

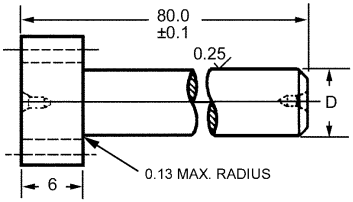
STOCK NO.	MAX TRAVEL	MAX LOAD (kg)	A	B	C	D	E	F	G	H	P	MODULE
LRDB-5M	13	2.3	39.5	31.5	31.5	11.0	12.7	25.5	M3x0.5	M3	14.0	0.4
LRDB-10M	25	4.5	65.0	57.0	57.0							
LRDB-15M	38	6.8	77.5	70.0	69.8							
LRDB-20M	50	9.0	90.5	82.5	82.5							
LRDB-30M	75	13.6	116.0	108.0	108.0							
LRDD-10M	25	18.0	66.5	54.0	54.0	31.5	25.4	66.5	M4X0.7	M4	28.0	0.8
LRDD-20M	50	27.0	101.6	76.2	85.5							
LRDD-30M	75	40.7	127.0	101.6	111.0							
LRDD-40M	100	52.5	152.4	127.0	136.5							

Other sizes available on request.

RACK DRIVEN BALL SLIDE PINIONS

MODULE	MATERIAL	PRESSURE ANGLE
0.4 AND 0.8	STAINLESS STEEL 1.4305	20°



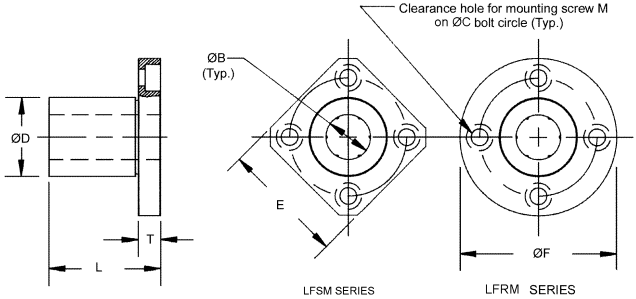


STOCK NO.	MODULE	NO. OF TEETH	P.D.	OD	D	USE FOR SLIDES
PSGS6M-20H	0.4	20	8.00	8.80	6.000	LRDB
PSDS6M-10H	0.8	10	8.00	9.60	6.000	LRDD

E

FLANGED TYPE LINEAR BEARINGS

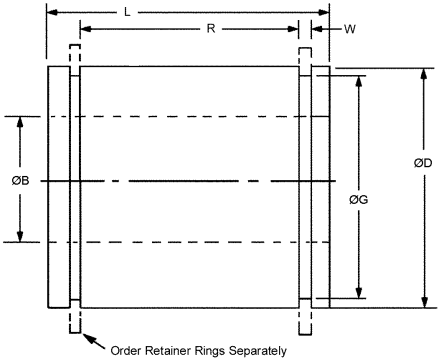
STYLE	MATERIAL
SQUARE OR ROUND FLANGE	HOUSING & BALLS - 52100 CHROME STEEL RETAINER - DELRIN



SQUARE FLANGE STOCK NO.	ROUND FLANGE STOCK NO.	WORKING BORE ØB	OUTSIDE DIA. ØC	L MAX.	T	ØF	E	ØC	M	LOAD RATING (kg)
LFSM-1	LFRM-1	6.000-0.009	12.000-0.011	19	5	28	22	20	M3	21
LFSM-2	LFRM-2	8.000-0.009	15.000-0.011	24	5	32	25	24	M3	28
LFSM-3	LFRM-3	10.000-0.009	19.000-0.013	29	6	40	30	29	M4	38
LFSM 4	LFRM-4	12.000-0.009	21.000-0.013	30	6	42	32	32	M4	42
LFSM-5	LFRM-5	13.000-0.009	23.000-0.013	32	6	43	34	33	M4	52
LFSM-6	LFRM-6	16.000-0.009	28.000-0.013	37	6	48	37	38	M4	79
LFSM-7	LFRM-7	20.000-0.010	32.000-0.019	42	8	54	42	43	M5	90
LFSM-8	LFRM-8	25.000-0.010	40.000-0.019	59	8	62	50	51	M5	100
LFSM-9	LFRM-9	30.000-0.010	45.000-0.019	64	10	74	58	69	M6	100

LINEAR BALL BEARINGS

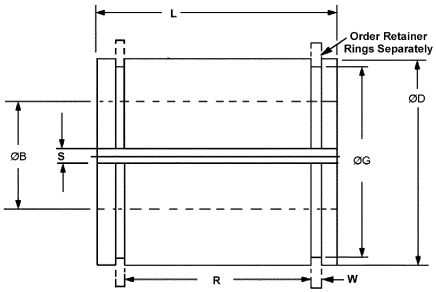
SHAFT SIZE	MATERIAL
6mm TO 30mm	HOUSING AND BALLS - STAINLESS STEEL OR 52100 CHROME STEEL BALL RETAINER - PLASTIC



STAINLESS STEEL STOCK NO.	CHROME STEEL STOCK NO.	WORKING BORE ØB	OUTSIDE DIA. ØD	L ±0.3	R	W	ØG	RATED LOAD (kg)	RECOMMENDED FITS		SHAFT STOCK NO.	RETAINER RING STOCK NO.
									NORMAL ±0.013	PRESS ±0.013		
LMBM-1SS	LMBM-1	6.000-0.009	12-11um	19.0	11.3	1.1	11.5	21	12.000	11.975	S416-6M-900	Q2M-12
LMBM-2SS	LMBM-2	10.000-0.009	19-13um	29.0	19.4	1.3	18.0	38	19.000	18.975	S416-10M-900	Q2M-19
LMBM-3SS	LMBM-3	13.000-0.009	23-13um	32.0	20.4	1.3	22.0	52	23.000	22.975	S416-13M-900	Q2M-23
LMBM-4SS	LMBM-4	20.000-0.009	32-16um	42.0	27.3	1.6	30.5	90	32.000	31.975	S416-20M-900	Q2M-32
LMBM-5SS	LMBM-5	25.000-0.010	40-16um	59.0	37.3	1.8	38.0	100	40.000	39.975	S416-25M-900	Q2M-40
LMBM-6SS	LMBM-6	30.000-0.010	45-16um	64.0	40.8	1.8	43.0	160	45.000	44.975	S416-30M-900	Q2M-45

LINEAR BALL BEARINGS

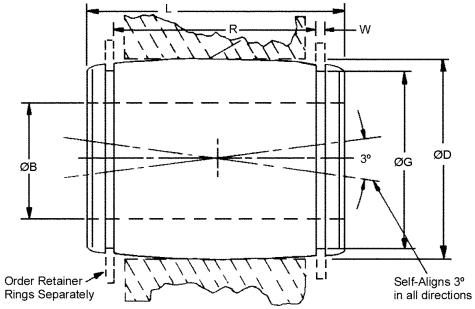
STYLE	SHAFT SIZE	MATERIAL
ADJUSTABLE DIAMETER SERIES	13mm TO 30mm	HOUSING AND BALLS - CHROME STEEL BALL RETAINER - PLASTIC



STOCK NO.	WORKING BORE (Before Adjust. ØB)	HOUSING BORE (Before Adj. ØD Ref.)	L	R ±0.3	W	ØG	RATED LOAD (kg)	MINIMUM SLOT WIDTHS	SHAFT STOCK NO.	RETAINER RING STOCK NO.
LMCM-3	13.000-0.009	23-13um	32.0	20.4	1.3	22.0	52	1.5	S416-13M-900	Q2M-23
LMCM-4	20.000-0.010	32-16um	42.0	27.3	1.6	30.5	90	1.5	S416-20M-900	Q2M-32
LMCM-5	25.000-0.010	40-16um	59.0	37.3	1.8	38.0	100	2.0	S416-25M-900	Q2M-40
LMCM-6	30.000-0.010	45-16um	64.0	40.8	1.8	43.0	160	2.5	S416-30M-900	Q2M-45

LINEAR BALL BEARINGS SELF-ALIGNING-BARREL STYLE

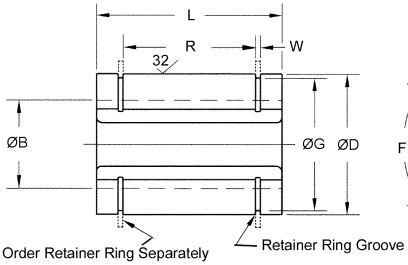
SHAFT SIZE	MATERIAL
6mm TO 30mm	HOUSING AND BALLS - CHROME STEEL BALL RETAINER - PLASTIC



STOCK NO.	WORKING BORE ØB	HOUSING BORE ØD	L	R ±0.3	W	ØG	RATED LOAD (kg)	SHAFT STOCK NO.	RETAINER RING STOCK NO.
LMBM-1-B	6.000-0.009	12-11um	19.0	11.3	1.1	11.5	21	S416-6M-900	Q2M-12
LMBM-2-B	10.000-0.009	19-13um	29.0	19.4	1.3	18.0	38	S416-10M-900	Q2M-19
LMBM-3-B	13.000-0.009	23-13um	32.0	20.4	1.3	22.0	52	S416-13M-900	Q2M-23
LMBM-4-B	20.000-0.010	32-16um	42.0	27.3	1.6	30.5	90	S416-20M-900	Q2M-32
LMBM-5-B	25.000-0.010	40-16um	59.0	37.3	1.8	38.0	100	S416-25M-900	Q2M-40
LMBM-6-B	30.000-0.010	45-16um	64.0	40.8	1.8	43.0	160	S416-30M-900	Q2M-45

LINEAR BALL BEARINGS

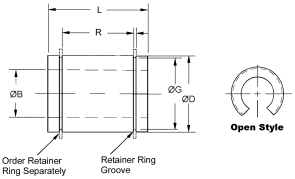
STYLE	SHAFT SIZE	MATERIAL
OPEN SERIES	13mm TO 30mm	HOUSING AND BALLS - CHROME STEEL BALL RETAINER - PLASTIC



STOCK NO.	BORE (Before Adjust. ØB)	HOUSING BORE ØD (Ref.)	L	R ±0.3	W	ØG	RATED LOAD (kg)	MINIMUM SLOT		SHAFT STOCK NO.	RETAINER RING STOCK NO.
								WIDTH E	ANGLE F		
LMDM-3	13.000-0.009	23-13um	32.0	20.4	1.3	22.0	52	9	80º	S416-13M-900	Q5M-23
LMDM-4	20.000-0.010	32-16um	42.0	27.3	1.6	30.5	90	11	60º	S416-20M-900	Q5M-32
LMDM-5	25.000-0.010	40-16um	59.0	37.3	1.8	38.0	100	12	50º	S416-25M-900	Q5M-40
LMDM-6	30.000-0.010	45-16um	64.0	40.8	1.8	43.0	160	15	50º	S416-30M-900	Q5M-45

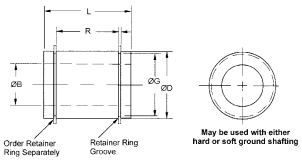
LINEAR “NO LUBE” BEARINGS

STYLE	SHAFT SIZE	MATERIAL
OPEN	6mm TO 30mm	MOLYBDENUM DISULFIDE FILLED NYLATRON



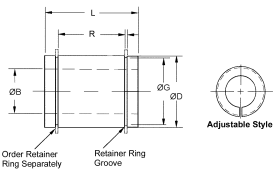
STOCK NO.	WORKING BORE ØB	OUTSIDE DIA. ØD	L	R ±0.3	W	ØG	HARDENED SHAFT STOCK NO.	SOFT ST/ST SHAFT STOCK NO.	RETAINER RING STOCK NO.
LMNM-1-OPN	6.00+0.08	12.00/-0.08	19.0	11.3	1.1	11.5	S416-6M-900	S1-106	Q2M-12
LMNM-2-OPN	10.00+0.08	19.00/-0.08	29.0	19.4	1.3	18.0	S416-10M-900	S1-110	Q2M-19
LMNM-3-OPN	13.00+0.11	23.00/-0.11	32.0	20.4	1.3	22.0	S416-13M-900	S1-113	Q2M-23
LMNM-4-OPN	20.00+0.11	32.00/-0.11	42.0	27.3	1.6	30.5	S416-20M-900	S1-120	Q2M-32
LMNM-5-OPN	25.00+0.11	40.00/-0.15	59.0	37.3	1.8	38.0	S416-25M-900	S1-125	Q2M-40
LMNM-6-OPN	30.00+0.15	45.00/-0.15	64.0	40.8	1.8	43.0	S416-30M-900	S1-130	Q2M-45

STYLE	SHAFT SIZE	MATERIAL
CLOSED	6mm TO 30mm	MOLYBDENUM DISULFIDE FILLED NYLATRON



STOCK NO.	WORKING BORE ØB	OUTSIDE DIA. ØD	L	R ±0.3	W	ØG	HARDENED SHAFT STOCK NO.	SOFT ST/ST SHAFT STOCK NO.	RETAINER RING STOCK NO.
LMNM-1	6.00+0.08	12.00/-0.08	19.0	11.3	1.1	11.5	S416-6M-900	S1-106	Q2M-12
LMNM-2	10.00+0.08	19.00/-0.08	29.0	19.4	1.3	18.0	S416-10M-900	S1-110	Q2M-19
LMNM-3	13.00+0.11	23.00/-0.11	32.0	20.4	1.3	22.0	S416-13M-900	S1-113	Q2M-23
LMNM-4	20.00+0.11	32.00/-0.11	42.0	27.3	1.6	30.5	S416-20M-900	S1-120	Q2M-32
LMNM-5	25.00+0.11	40.00/-0.15	59.0	37.3	1.8	38.0	S416-25M-900	S1-125	Q2M-40
LMNM-6	30.00+0.15	45.00/-0.15	64.0	40.8	1.8	43.0	S416-30M-900	S1-130	Q2M-45

STYLE	SHAFT SIZE	MATERIAL
ADJUSTABLE	6mm TO 30mm	MOLYBDENUM DISULFIDE FILLED NYLATRON



STOCK NO.	WORKING BORE ØB	OUTSIDE DIA. ØD	L	R ±0.3	W	ØG	HARDENED SHAFT STOCK NO.	SOFT ST/ST SHAFT STOCK NO.	RETAINER RING STOCK NO.
LMNM-1-ADJ	6.00+0.08	12.00/-0.08	19.0	11.3	1.1	11.5	S416-6M-900	S1-106	Q2M-12
LMNM-2-ADJ	10.00+0.08	19.00/-0.08	29.0	19.4	1.3	18.0	S416-10M-900	S1-110	Q2M-19
LMNM-3-ADJ	13.00+0.11	23.00/-0.11	32.0	20.4	1.3	22.0	S416-13M-900	S1-113	Q2M-23
LMNM-4-ADJ	20.00+0.11	32.00/-0.11	42.0	27.3	1.6	30.5	S416-20M-900	S1-120	Q2M-32
LMNM-5-ADJ	25.00+0.11	40.00/-0.15	59.0	37.3	1.8	38.0	S416-25M-900	S1-125	Q2M-40
LMNM-6-ADJ	30.00+0.15	45.00/-0.15	64.0	40.8	1.8	43.0	S416-30M-900	S1-130	Q2M-45

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F

STAINLESS STEEL MACHINE SCREWS

THREAD	STYLE	MATERIAL
M1.6 X 0.35	**FLAT, CHEESE, SOCKET AND BUTTON**	**STAINLESS STEEL DIN 1.4300**

STOCK NUMBERS				THREAD Tol=6g	LENGTH A
STYLES					
FLAT	CHEESE	SOCKET	BUTTON		
Y6-M1-A4	Y8-M1-A4	Y9-M1-A4	Y19-M1-A4	M1.6 x 0.35	4.0
Y6-M1-A5	Y8-M1-A5	Y9-M1-A5	Y19-M1-A5		5.0
Y6-M1-A6	Y8-M1-A6	Y9-M1-A6	Y19-M1-A6		6.0
Y6-M1-A8	Y8-M1-A8	Y9-M1-A8	Y19-M1-A8		8.0
Y6-M1-A10	Y8-M1-A10	Y9-M1-A10	Y19-M1-A10		10.0

THREAD	STYLE	MATERIAL
M2 X 0.4	**FLAT, CHEESE, SOCKET AND BUTTON**	**STAINLESS STEEL DIN 1.4300**

STOCK NUMBERS				THREAD Tol=6g	LENGTH A
STYLES					
FLAT	CHEESE	SOCKET	BUTTON		
Y6-M2-A3	Y8-M2-A3	Y9-M2-A3	Y19-M2-A3	M2 x 0.4	3.0
Y6-M2-A4	Y8-M2-A4	Y9-M2-A4	Y19-M2-A4		4.0
Y6-M2-A5	Y8-M2-A5	Y9-M2-A5	Y19-M2-A5		5.0
Y6-M2-A6	Y8-M2-A6	Y9-M2-A6	Y19-M2-A6		6.0
Y6-M2-A8	Y8-M2-A8	Y9-M2-A8	Y19-M2-A8		8.0
Y6-M2-A10	Y8-M2-A10	Y9-M2-A10	Y19-M2-A10		10.0
Y6-M2-A13	Y8-M2-A13	Y9-M2-A13	Y19-M2-A13		12.0
Y6-M2-A16	Y8-M2-A16	Y9-M2-A16	Y19-M2-A16		16.0
Y6-M2-A20	Y8-M2-A20	Y9-M2-A20	Y19-M2-A20		20.0

THREAD	STYLE	MATERIAL
M3 X 0.5	**FLAT, CHEESE, SOCKET AND BUTTON**	**STAINLESS STEEL DIN 1.4300**

STOCK NUMBERS				THREAD Tol=6g	LENGTH A
STYLES					
FLAT	CHEESE	SOCKET	BUTTON		
Y6-M3-A5	Y8-M3-A5	Y9-M3-A5	Y19-M3-A5	M3 x 0.5	5.0
Y6-M3-A6	Y8-M3-A6	Y9-M3-A6	Y19-M3-A6		6.0
Y6-M3-A8	Y8-M3-A8	Y9-M3-A8	Y19-M3-A8		8.0
Y6-M3-A10	Y8-M3-A10	Y9-M3-A10	Y19-M3-A10		10.0
Y6-M3-A13	Y8-M3-A13	Y9-M3-A13	Y19-M3-A13		12.0
Y6-M3-A16	Y8-M3-A16	Y9-M3-A16	Y19-M3-A16		16.0
Y6-M3-A20	Y8-M3-A20	Y9-M3-A20	Y19-M3-A20		20.0
Y6-M3-A25	Y8-M3-A25	Y9-M3-A25	Y19-M3-A25		25.0
Y6-M3-A30	Y8-M3-A30	Y9-M3-A30	Y19-M3-A30		30.0

THREAD	STYLE	MATERIAL
M4 X 0.7	**FLAT, CHEESE, SOCKET AND BUTTON**	**STAINLESS STEEL DIN 1.4300**

STOCK NUMBERS				THREAD Tol=6g	LENGTH A
STYLES					
FLAT	CHEESE	SOCKET	BUTTON		
Y6-M4-A6	Y8-M4-A6	Y9-M4-A6	Y19-M4-A6	M4 x 0.7	6.0
Y6-M4-A8	Y8-M4-A8	Y9-M4-A8	Y19-M4-A8		8.0
Y6-M4-A10	Y8-M4-A10	Y9-M4-A10	Y19-M4-A10		10.0
Y6-M4-A13	Y8-M4-A13	Y9-M4-A13	Y19-M4-A13		12.0
Y6-M4-A16	Y8-M4-A16	Y9-M4-A16	Y19-M4-A16		16.0
Y6-M4-A20	Y8-M4-A20	Y9-M4-A20	Y19-M4-A20		20.0
Y6-M4-A25	Y8-M4-A25	Y9-M4-A25	Y19-M4-A25		25.0
Y6-M4-A30	Y8-M4-A30	Y9-M4-A30	Y19-M4-A30		30.0
Y6-M4-A35	Y8-M4-A35	Y9-M4-A35	Y19-M4-A35		35.0
Y6-M4-A40	Y8-M4-A40	Y9-M4-A40	Y19-M4-A40		40.0

STAINLESS STEEL MACHINE SCREWS

THREAD	STYLE	MATERIAL
M5 X 0.8	**FLAT, CHEESE, SOCKET AND BUTTON**	**STAINLESS STEEL DIN 1.4300**

STOCK NUMBERS				THREAD Tol=6g	LENGTH A
STYLES					
FLAT	CHEESE	SOCKET	BUTTON		
Y6-M5-A4	Y8-M5-A4	Y9-M5-A4	Y19-M5-A4	M5 x 0.8	4.0
Y6-M5-A8	Y8-M5-A8	Y9-M5-A8	Y19-M5-A8		8.0
Y6-M5-A10	Y8-M5-A10	Y9-M5-A10	Y19-M5-A10		10.0
Y6-M5-A13	Y8-M5-A13	Y9-M5-A13	Y19-M5-A13		12.0
Y6-M5-A16	Y8-M5-A16	Y9-M5-A16	Y19-M5-A16		16.0
Y6-M5-A20	Y8-M5-A20	Y9-M5-A20	Y19-M5-A20		20.0
Y6-M5-A25	Y8-M5-A25	Y9-M5-A25	Y19-M5-A25		25.0
Y6-M5-A30	Y8-M5-A30	Y9-M5-A30	Y19-M5-A30		30.0
Y6-M5-A35	Y8-M5-A35	Y9-M5-A35	Y19-M5-A35		35.0
Y6-M5-A40	Y8-M5-A40	Y9-M5-A40	Y19-M5-A40		40.0
Y6-M5-A45	Y8-M5-A45	Y9-M5-A45	Y19-M5-A45		45.0
Y6-M5-A50	Y8-M5-A50	Y9-M5-A50	Y19-M5-A50		50.0

THREAD	STYLE	MATERIAL
M6 X 1.0	**FLAT, CHEESE, SOCKET AND BUTTON**	**STAINLESS STEEL DIN 1.4300**

STOCK NUMBERS				THREAD Tol=6g	LENGTH A
STYLES					
FLAT	CHEESE	SOCKET	BUTTON		
Y6-M6-A8	Y8-M6-A8	Y9-M6-A8	Y19-M6-A8	M6 x 1.0	8.0
Y6-M6-A10	Y8-M6-A10	Y9-M6-A10	Y19-M6-A10		10.0
Y6-M6-A12	Y8-M6-A12	Y9-M6-A12	Y19-M6-A12		12.0
Y6-M6-A16	Y8-M6-A16	Y9-M6-A16	Y19-M6-A16		16.0
Y6-M6-A20	Y8-M6-A20	Y9-M6-A20	Y19-M6-A20		20.0
Y6-M6-A25	Y8-M6-A25	Y9-M6-A25	Y19-M6-A25		25.0
Y6-M6-A30	Y8-M6-A30	Y9-M6-A30	Y19-M6-A30		30.0

F

THREAD	STYLE	MATERIAL
M8 X 1.25	**FLAT, CHEESE, SOCKET AND BUTTON**	**STAINLESS STEEL DIN 1.4300**

STOCK NUMBERS				THREAD Tol=6g	LENGTH A
STYLES					
FLAT	CHEESE	SOCKET	BUTTON		
Y6-M8-A10	Y8-M8-A10	Y9-M8-A10	Y19-M8-A10	M8 X 1.25	10.0
Y6-M8-A13	Y8-M8-A13	Y9-M8-A13	Y19-M8-A13		12.0
Y6-M8-A16	Y8-M8-A16	Y9-M8-A16	Y19-M8-A16		16.0
Y6-M8-A25	Y8-M8-A25	Y9-M8-A25	Y19-M8-A25		25.0
Y6-M8-A30	Y8-M8-A30	Y9-M8-A30	Y19-M8-A30		30.0
Y6-M8-A35	Y8-M8-A35	Y9-M8-A35	Y19-M8-A35		35.0
Y6-M8-A40	Y8-M8-A40	Y9-M8-A40	Y19-M8-A40		40.0
Y6-M8-A45	Y8-M8-A45	Y9-M8-A45	Y19-M8-A45		45.0

THREAD	STYLE	MATERIAL
M10 X 1.5	**FLAT, CHEESE, SOCKET AND BUTTON**	**STAINLESS STEEL DIN 1.4300**

STOCK NUMBERS				THREAD Tol=6g	LENGTH A
STYLES					
FLAT	CHEESE	SOCKET	BUTTON		
Y6-M10-A13	Y8-M10-A13	Y9-M10-A13	Y19-M10-A13	M10 X 1.5	12.0
Y6-M10-A16	Y8-M10-A16	Y9-M10-A16	Y19-M10-A16		16.0
Y6-M10-A20	Y8-M10-A20	Y9-M10-A20	Y19-M10-A20		20.0
Y6-M10-A25	Y8-M10-A25	Y9-M10-A25	Y19-M10-A25		25.0
Y6-M10-A30	Y8-M10-A30	Y9-M10-A30	Y19-M10-A30		30.0
Y6-M10-A35	Y8-M10-A35	Y9-M10-A35	Y19-M10-A35		35.0
Y6-M10-A40	Y8-M10-A40	Y9-M10-A40	Y19-M10-A40		40.0

LONG-LOK® & NYLOC® MACHINE SCREWS

THREAD	STYLE	MATERIAL
M1.6 x 0.35	SELF LOCKING - VIBRATION PROOF FLAT, CHEESE, AND SOCKET	STAINLESS STEEL DIN 1.4300 WITH NYLON STRIP/PELLET

LONG-LOCK®		NYLOC®		
FLAT STYLE STOCK NO.	CHEESE STYLE STOCK NO.	SOCKET STYLE* STOCK NO.	THREAD TOL=6g	LENGTH A
Y6-M1-A4-L	Y8-M1-A4-L	Y9-M1-A4-N	M1.6 x 0.35	4.0
Y6-M1-A5-L	Y8-M1-A5-L	Y9-M1-A5-N		5.0
Y6-M1-A6-L	Y8-M1-A6-L	Y9-M1-A6-N		6.0
Y6-M1-A8-L	Y8-M1-A8-L	Y9-M1-A8-N		8.0
Y6-M1-A10-L	Y8-M1-A10-L	Y9-M1-A10-N		10.0

THREAD	STYLE	MATERIAL
M2 x 0.4	SELF LOCKING - VIBRATION PROOF FLAT, CHEESE, AND SOCKET	STAINLESS STEEL DIN 1.4300 WITH NYLON STRIP/PELLET

LONG-LOCK®		NYLOC®		
FLAT STYLE STOCK NO.	CHEESE STYLE STOCK NO.	SOCKET STYLE* STOCK NO.	THREAD TOL=6g	LENGTH A
Y6-M2-A3-L	Y8-M2-A3-L	Y9-M2-A3-N	M2 x 0.4	3.0
Y6-M2-A4-L	Y8-M2-A4-L	Y9-M2-A4-N		4.0
Y6-M2-A5-L	Y8-M2-A5-L	Y9-M2-A5-N		5.0
Y6-M2-A6-L	Y8-M2-A6-L	Y9-M2-A6-N		6.0
Y6-M2-A8-L	Y8-M2-A8-L	Y9-M2-A8-N		8.0
Y6-M2-A10-L	Y8-M2-A10-L	Y9-M2-A10-N		10.0
Y6-M2-A13-L	Y8-M2-A13-L	Y9-M2-A13-N		12.0
Y6-M2-A16-L	Y8-M2-A16-L	Y9-M2-A16-N		16.0
Y6-M2-A20-L	Y8-M2-A20-L	Y9-M2-A20-N		20.0

THREAD	STYLE	MATERIAL
M3 x 0.5	SELF LOCKING - VIBRATION PROOF FLAT, CHEESE, AND SOCKET	STAINLESS STEEL DIN 1.4300 WITH NYLON STRIP/PELLET

LONG-LOCK®		NYLOC®		
FLAT STYLE STOCK NO.	CHEESE STYLE STOCK NO.	SOCKET STYLE* STOCK NO.	THREAD TOL=6g	LENGTH A
Y6-M3-A5-L	Y8-M3-A5-L	Y9-M3-A5-N	M3 x 0.5	5.0
Y6-M3-A6-L	Y8-M3-A6-L	Y9-M3-A6-N		6.0
Y6-M3-A8-L	Y8-M3-A8-L	Y9-M3-A8-N		8.0
Y6-M3-A10-L	Y8-M3-A10-L	Y9-M3-A10-N		10.0
Y6-M3-A13-L	Y8-M3-A13-L	Y9-M3-A13-N		12.0
Y6-M3-A16-L	Y8-M3-A16-L	Y9-M3-A16-N		16.0
Y6-M3-A20-L	Y8-M3-A20-L	Y9-M3-A20-N		20.0
Y6-M3-A25-L	Y8-M3-A25-L	Y9-M3-A25-N		25 0
Y6-M3-A30-L	Y8-M3-A30-L	Y9-M3-A30-N		30.0

*Y9 Series Socket Cap screws are available only with Nyloc® insert.
Long-Lok® registered Long Lok Corporation. Nyloc® registered Nyloc Corporation.

LONG-LOK® & NYLOC® MACHINE SCREWS

THREAD	STYLE	MATERIAL
M4 x 0.7	SELF LOCKING - VIBRATION PROOF FLAT, CHEESE, AND SOCKET	STAINLESS STEEL DIN 1.4300 WITH NYLON STRIP/PELLET

LONG-LOCK®		NYLOC®		
FLAT STYLE STOCK NO.	CHEESE STYLE STOCK NO.	SOCKET STYLE* STOCK NO.	THREAD TOL=6g	LENGTH A
Y6-M4-A6-L	Y8-M4-A6-L	Y9-M4-A6-N	M4 X 0.7	6.0
Y6-M4-A8-L	Y8-M4-A8-L	Y9-M4-A8-N		8.0
Y6-M4-A10-L	Y8-M4-A10-L	Y9-M4-A10-N		10.0
Y6-M4-A13-L	Y8-M4-A13-L	Y9-M4-A13-N		12.0
Y6-M4-A16-L	Y8-M4-A16-L	Y9-M4-A16-N		16.0
Y6-M4-A20-L	Y8-M4-A20-L	Y9-M4-A20-N		20.0
Y6-M4-A25-L	Y8-M4-A25-L	Y9-M4-A25-N		25.0
Y6-M4-A30-L	Y8-M4-A30-L	Y9-M4-A30-N		30.0
Y6-M4-A35-L	Y8-M4-A35-L	Y9-M4-A35-N		35.0
Y6-M4-A40-L	Y8-M4-A40-L	Y9-M4-A40-N		40.0

THREAD	STYLE	MATERIAL
M5 X 0.8	SELF LOCKING - VIBRATION PROOF FLAT, CHEESE, AND SOCKET	STAINLESS STEEL DIN 1.4300 WITH NYLON STRIP/PELLET

LONG-LOCK®		NYLOC®		
FLAT STYLE STOCK NO.	CHEESE STYLE STOCK NO.	SOCKET STYLE* STOCK NO.	THREAD TOL=6g	LENGTH A
Y6-M5-A8-L	Y8-M5-A8-L	Y9-M5-A8-N	M5 X 0.8	8.0
Y6-M5-A10-L	Y8-M5-A10-L	Y9-M5-A10-N		10.0
Y6-M5-A13-L	Y8-M5-A13-L	Y9-M5-A13-N		12.0
Y6-M5-A16-L	Y8-M5-A16-L	Y9-M5-A16-N		16.0
Y6-M5-A20-L	Y8-M5-A20-L	Y9-M5-A20-N		20.0
Y6-M5-A25-L	Y8-M5-A25-L	Y9-M5-A25-N		25.0
Y6-M5-A30-L	Y8-M5-A30-L	Y9-M5-A30-N		30.0
Y6-M5-A35-L	Y8-M5-A35-L	Y9-M5-A35-N		35.0
Y6-M5-A40-L	Y8-M5-A40-L	Y9-M5-A40-N		40.0
Y6-M5 A50-L	Y8-M5 A50-L	Y9-M5 A50-N		50.0

THREAD	STYLE	MATERIAL
M6 x 1.0	SELF LOCKING - VIBRATION PROOF FLAT, CHEESE, AND SOCKET	STAINLESS STEEL DIN 1.4300 WITH NYLON STRIP/PELLET

LONG-LOCK®		NYLOC®		
FLAT STYLE STOCK NO.	CHEESE STYLE STOCK NO.	SOCKET STYLE* STOCK NO.	THREAD TOL=6g	LENGTH A
Y6-M6-A8-L	Y8-M6-A8-L	Y9-M6-A8-N	M6 X 1.0	8.0
Y6-M6-A10-L	Y8-M6-A10-L	Y9-M6-A10-N		10.0
Y6-M6-A12-L	Y8-M6-A12-L	Y9-M6-A12-N		12.0
Y6-M6-A16-L	Y8-M6-A16-L	Y9-M6-A16-N		16.0
Y6-M6-A20-L	Y8-M6-A20-L	Y9-M6-A20-N		20.0
Y6-M6-A25-L	Y8-M6-A25-L	Y9-M6-A25-N		25.0
Y6-M6-A30-L	Y8-M6-A30-L	Y9-M6-A30-N		30.0

*Y9 Series Socket Cap screws are available only with Nyloc® insert.
Long-Lok® registered Long Lok Corporation. Nyloc® registered Nyloc Corporation.

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LONG-LOK® & NYLOC® MACHINE SCREWS

THREAD	STYLE	MATERIAL
M8 X 1.25	SELF LOCKING - VIBRATION PROOF FLAT, CHEESE, AND SOCKET	STAINLESS STEEL DIN 1.4300 WITH NYLON STRIP/PELLET

LONG-LOCK®		NYLOC®		
FLAT STYLE STOCK NO.	CHEESE STYLE STOCK NO.	SOCKET STYLE* STOCK NO.	THREAD TOL=6g	LENGTH A
Y6-M8-A10-L	Y8-M8-A10-L	Y9-M8-A10-N	M8 x 1.25	10.0
Y6-M8-A13-L	Y8-M8-A13-L	Y9-M8-A13-N		12.0
Y6-M8-A16-L	Y8-M8-A16-L	Y9-M8-A16-N		16.0
Y6-M8-A20-L	Y8-M8-A20-L	Y9-M8-A20-N		20.0
Y6-M8-A25-L	Y8-M8-A25-L	Y9-M8-A25-N		25.0
Y6-M8-A30-L	Y8-M8-A30-L	Y9-M8-A30-N		30.0
Y6-M8-A35-L	Y8-M8-A35-L	Y9-M8-A35-N		35.0
Y6-M8-A40-L	Y8-M8-A40-L	Y9-M8-A40-N		40.0
Y6-M8-A45-L	Y8-M8-A45-L	Y9-M8-A45-N		45.0

THREAD	STYLE	MATERIAL
M10 X 1.5	SELF LOCKING - VIBRATION PROOF FLAT, CHEESE, AND SOCKET	STAINLESS STEEL DIN 1.4300 WITH NYLON STRIP/PELLET

LONG-LOCK®		NYLOC®		
FLAT STYLE STOCK NO.	CHEESE STYLE STOCK NO.	SOCKET STYLE* STOCK NO.	THREAD TOL=6g	LENGTH A
Y6-M10-A13-L	Y8-M10-A13-L	Y9-M10-A13-N	M10 x 1.5	12.0
Y6-M10-A16-L	Y8-M10-A16-L	Y9-M10-A16-N		16.0
Y6-M10-A20-L	Y8-M10-A20-L	Y9-M10-A20-N		20.0
Y6-M10-A25-L	Y8-M10-A25-L	Y9-M10-A25-N		25.0
Y6-M10-A30-L	Y8-M10-A30-L	Y9-M10-A30-N		30.0
Y6-M10-A35-L	Y8-M10-A35-L	Y9-M10-A35-N		35.0
Y6-M10-A40-L	Y8-M10-A40-L	Y9-M10-A40-N		40.0

*Y9 Series Socket Cap screws are available only with Nyloc® insert.
Long-Lok® registered Long Lok Corporation. Nyloc® registered Nyloc Corporation.

INTEGRAL SEAL SCREWS

THREAD	STYLE	MATERIAL
M2 x 0.4	SLOTTED PAN HEAD	STAINLESS STEEL DIN 1.4300 SCREW WITH SILICONE O RING

STOCK NO.	THREAD SIZE	LENGTH	A	B	CLEARANCE HOLE	
					MIN.	MAX.
Y18-M2-A4 Y18-M2-A8 Y18-M2-A12	M2 x 0.4	4.00 8.00 12.00	1.37	4.24	2.31	2.41

THREAD	STYLE	MATERIAL
M3 x 0.5	SLOTTED PAN HEAD	STAINLESS STEEL DIN 1.4300 SCREW WITH SILICONE O RING

STOCK NO.	THREAD SIZE	LENGTH	A	B	CLEARANCE HOLE	
					MIN.	MAX.
Y18-M3-A6 Y18-M3-A12 Y18-M3-A20	M3 x 0.5	6.00 12.00 20.00	1.91	6.22	3.56	3.66

THREAD	STYLE	MATERIAL
M4 x 0.7	SLOTTED PAN HEAD	STAINLESS STEEL DIN 1.4300 SCREW WITH SILICONE O RING

STOCK NO.	THREAD SIZE	LENGTH	A	B	CLEARANCE HOLE	
					MIN.	MAX.
Y18-M4-A6 Y18-M4-A12 Y18-M4-A20	M4 x 0.7	6.00 12.00 20.00	2.44	8.18	4.39	4.55

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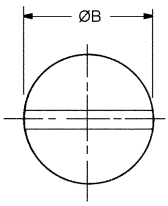
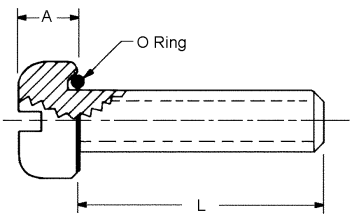
THREAD	STYLE	MATERIAL
M6 x 1.0	SLOTTED PAN HEAD	STAINLESS STEEL DIN 1.4300 SCREW WITH SILICONE O RING

STOCK NO.	THREAD SIZE	LENGTH	A	B	CLEARANCE HOLE	
					MIN.	MAX.
Y18-M6-A12 Y18-M6-A20 Y18-M6-A25	M6 x 1.0	12.00 20.00 25.00	3.73	12.50	6.73	6.83



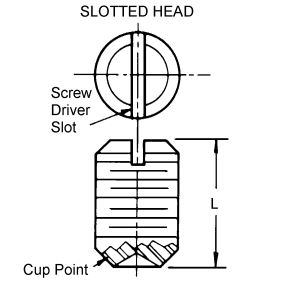


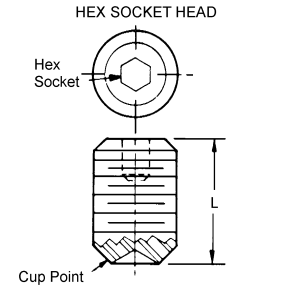
- Reusable
- Clearance holes recommended for maximum sealing
- Maximum temperature range -106°C to +260°C
- Pressure range - up to 4124 N/CM³

SET SCREWS

THREAD	STYLE	MATERIAL
M1.6 x 0.35 to M10 X 1.5	**SLOTTED HEAD AND HEX SOCKET**	**STAINLESS STEEL**

SLOTTED HEAD STAINLESS STEEL STOCK NO.	HEX SOCKET HEAD STAINLESS STEEL STOCK NO.	THREAD	L
SC1M-1	SC2M-1	M1.6 x 0.35	3.0
SC1M-2	SC2M-2		4.0
SC1M-3	SC2M-3		5.0
SC1M-4	SC2M-4	M2 x 0.4	3.0
SC1M-5	SC2M-5		4.0
SC1M-6	SC2M-6		5.0
SC1M-7	SC2M-7		6.0
SC1M-8	SC2M-8	M3 x 0.5	3.0
SC1M-9	SC2M-9		4.0
SC1M-10	SC2M-10		5.0
SC1M-11	SC2M-11		6.0
SC1M-12	SC2M-12	M4 x 0.7	4.0
SC1M-13	SC2M-13		6.0
SC1M-14	SC2M-14		10.0
SC1M-15	SC2M-15		14.0
SC1M-16	SC2M-16	M5 x 0.8	6.0
SC1M-17	SC2M-17		10.0
SC1M-18	SC2M-18		14.0
SC1M-19	SC2M-19		20.0
SC1M-20	SC2M-20	M6 x 1.0	6.0
SC1M-21	SC2M-21		10.0
SC1M-22	SC2M-22		16.0
SC1M-23	SC2M-23		25.0
SC1M-28	SC2M-28	M8 x 1.25	10.0
SC1M-29	SC2M-29		16.0
SC1M-30	SC2M-30		25.0
SC1M-24	SC2M-24	M10 x 1.5	12.0
SC1M-25	SC2M-25		20.0
SC1M-26	SC2M-26		30.0

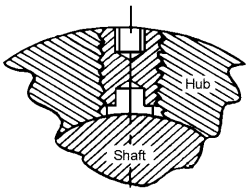


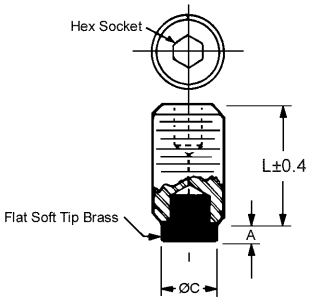


These parts are sold in packages of 10.

SET SCREWS

THREAD	STYLE	MATERIAL
M3 X 0.5 TO M10 X 1.5	BRASS SOFT TIP HEX SOCKET	STAINLESS STEEL DIN 1.4300 AND HEAT TREATED ALLOY STEEL





STOCK NO.	THREAD	L	C	A	MATERIAL
SC10M-3 SC10M-4 SC10M-5	M3 x 0.5	3.0 6.0 9.0	1.6	.8	STAINLESS STEEL DIN 1.4300
SC10M-6 SC10M-7 SC10M-8	M4 x 0.7	4.0 6.0 10.0	2.4	1.2	
SC10M-9 SC10M-10 SC10M-11	M5 x 0.8	6.0 10.0 16.0	2.4	1.2	ALLOY STEEL BLACK OXIDE FINISH
SC10M-12 SC10M-14 SC10M-15	M6 x 1.0	6.0 10.0 25.0	3.2	1.6	ALLOY STEEL
SC10M-16 SC10M-17 SC10M-18 SC10M-19	M8 x 1.25	6.0 10.0 16.0 25.0	3.2	1.6	BLACK OXIDE FINISH
SC10M-20 SC10M-21 SC10M-22	M10 x 1.5	10.0 16.0 25.0	4.8	2.4	

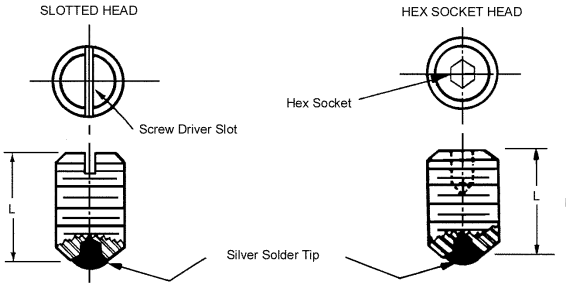
- Non marring
- Self locking
- Also used as position adjustment screw
- Screws may be used over and over
- Conforms to shaft surface for positive grip

Length is exclusive of brass tip.

F

SET SCREWS

THREAD	STYLE	MATERIAL
M2 X 0.4 TO M10 X 1.5	SILVER SOLDER TIP SLOTTED HEAD AND HEX SOCKET	STAINLESS STEEL DIN 1.4300



SLOTTED HEAD STOCK NO.	HEX SOCKET HEAD STOCK NO.	THREAD	L
SC5M-4 SC5M-5 SC5M-6 SC5M-7	SC6M-4 SC6M-5 SC6M-6 SC6M-7	M2 x 0.4	3.0 4.0 5.0 6.0
SC5M-8 SC5M-9 SC5M-10 SC5M-11	SC6M-8 SC6M-9 SC6M-10 SC6M-11	M3 x 0.5	3.0 4.0 5.0 6.0
SC5M-12 - - -	SC6M-12 SC6M-13 SC6M-14 SC6M-15	M4 x 0.7	4.0 6.0 10.0 14.0
SC5M-16 SC5M-17 SC5M-18 SC5M-19	SC6M-16 SC6M-17 SC6M-18 SC6M-19	M5 x 0.8	6.0 10.0 14.0 20.0
SC5M-20 SC5M-21 SC5M-22 SC5M-23	SC6M-20 SC6M-21 SC6M-22 SC6M-23	M6 x 1.0	6.0 10.0 16.0 25.0
SC5M-28 SC5M-29 SC5M-30	SC6M-28 SC6M-29 SC6M-30	M8 x 1.25	10.0 16.0 25.0
SC5M-24 SC5M-25 SC5M-26	SC6M-24 SC6M-25 SC6M-26	M10 x 1.5	12.0 20.0 30.0

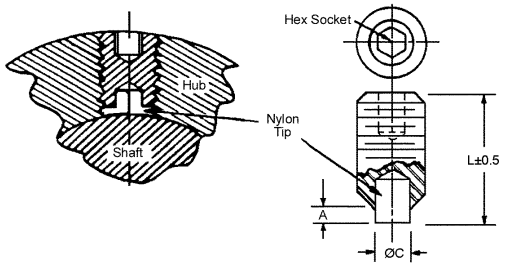
- Also used as position adjustment screw
- Conforms to shaft surface for positive grip
- Non marring
- Self locking

Special sizes are available on request.

Length is exclusive of silver tip.

SET SCREWS

THREAD	STYLE	MATERIAL
M2 X 0.4 TO M10 X 1.5	SOFT TIP SOCKET HEAD	STAINLESS STEEL DIN 1.4300 WITH NYLON TIP



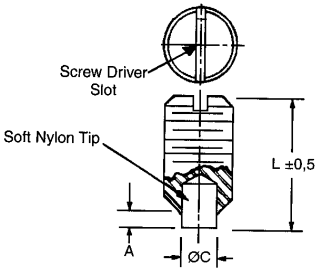
STOCK NO.	THREAD	L	C	A
SC8M-1 SC8M-2 SC8M-3 SC8M-4	M2 X 0.4	3.8 4.8 5.8 6.8	.8	.8
SC8M-5 SC8M-6 SC8M-7 SC8M-8	M3 X 0.5	3.8 4.8 5.8 6.8	1.6	.8
SC8M-9 SC8M-10 SC8M-11 SC8M-12	M4 x 0.7	5.2 7.2 11.2 15.2	2.4	1.2
SC8M-13 SC8M-14 SC8M-15 SC8M-16	M5 x 0.8	7.2 11.2 15.2 21.2	2.4	1.2
SC8M-17 SC8M-18 SC8M-19 SC8M-20	M6 x 1.0	7.6 11.6 17.6 26.6	3.2	1.6
SC8M-24 SC8M-25 SC8M-26 SC8M-27	M8 x 1.25	8.4 12.4 18.4 27.4	4.8	2.4
SC8M-21 SC8M-22 SC8M-23	M10 x 1.5	14.4 22.4 32.4	4.8	2.4

- Self locking
- Extra holding power from full face control
- Will not mar or damage shaft
- Nylon “soft tip” conforms to shape of shaft

F

SET SCREWS

THREAD	STYLE	MATERIAL
M3 X 0.5 TO M6 X 1.0	SOFT TIP SLOTTED HEAD	STAINLESS STEEL DIN 1.4300 WITH NYLON TIP



STOCK NO.	THREAD	L	C	A
SC7M-1	M3 x 0.5	4.8	1.6	.8
SC7M-2	M4 x 0.7	7.2	2.4	1.2
SC7M-3	M5 x 0.8	11.2	2.4	1.2
SC7M-4 SC7M-6	M6 x 1.0	7.6 20.6	3.2	1.6

- Self locking
- Non marring
- Also used as position adjustment screw
- Screw may be used over and over
- Conforms to shaft surface for positive grip

SHOULDER SCREWS

THREAD	STYLE	MATERIAL
M3 X 0.5	SLOTTED HEAD	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

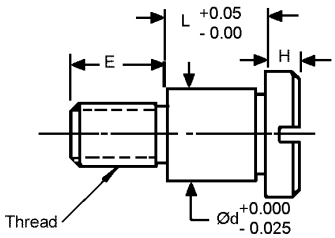
DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	Ød	L	ØD	H	E
PLM-1	PLM-1-3	M3 x 0.5	3.987 (4)	4.01	6	3	4
PLM-2	PLM-2-3			5.01			
PLM-3	PLM-3-3			6.01			
PLM-4	PLM-4-3			8.01			
PLM-5	PLM-5-3			10.01			

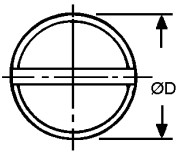
THREAD	STYLE	MATERIAL
M4 X 0.7	SLOTTED HEAD	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	Ød	L	ØD	H	E
PLM-6	PLM-6-3	M4 x 0.7	4.987 (5)	4.01	8	4	5
PLM-7	PLM-7-3			5.01			
PLM-8	PLM-8-3			6.01			
PLM-9	PLM-9-3			8.01			
PLM-10	PLM-10-3			10.01			
PLM-11	PLM-11-3			12.01			
PLM-12	PLM-12-3			14.01			
PLM-13	PLM-13-3			16.01			
PLM-14	PLM-14-3			20.01			
PLM-15	PLM-15-3			25.01			
PLM-16	PLM-16-3			30.01			

THREAD	STYLE	MATERIAL
M5 X 0.8	SLOTTED HEAD	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	Ød	L	ØD	H	E
PLM-17	PLM-17-3	M5 x 0.8	5.987 (6)	4.01	10	5	6
PLM-18	PLM-18-3			5.01			
PLM-19	PLM-19-3			6.01			
PLM-20	PLM-20-3			8.01			
PLM-21	PLM-21-3			10.01			
PLM-22	PLM-22-3			12.01			
PLM-23	PLM-23-3			14.01			
PLM-24	PLM-24-3			16.01			
PLM-25	PLM-25-3			20.01			
PLM-26	PLM-26-3			25.01			
PLM-27	PLM-27-3			30.01			





SHOULDER SCREWS

THREAD	STYLE	MATERIAL
M6 X 1.0	SLOTTED HEAD	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	Ød	L	ØD	H	E
PLM-28 PLM-29 PLM-30 PLM-31 PLM-32 PLM-33	PLM-28-3 PLM-29-3 PLM-30-3 PLM-31-3 PLM-32-3 PLM-33-3	M6 x 1.0	7.987 (8)	6.01 8.01 10.01 12.01 16.01 20.01	12	6	11

THREAD	STYLE	MATERIAL
M6 X 1.0	SLOTTED HEAD	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	Ød	L	ØD	H	E
PLM-34 PLM-35 PLM-36 PLM-37	PLM-34-3 PLM-35-3 PLM-36-3 PLM-37-3	M6 x 1.0	9.987 (10)	8.01 10.01 12.01 16.01	12	6	11

THREAD	STYLE	MATERIAL
M8 X 1.25	SLOTTED HEAD	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	Ød	L	ØD	H	E
PLM-38 PLM-39 PLM-40 PLM-41	PLM-38-3 PLM-39-3 PLM-40-3 PLM-41-3	M8 x 1.25	9.987 (10)	8.01 10.01 12.01 16.01	14	7	12

THREAD	STYLE	MATERIAL
M10 X 1.5	SLOTTED HEAD	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	Ød	L	ØD	H	E
PLM-42 PLM-43 PLM-44 PLM-45	PLM-42-3 PLM-43-3 PLM-44-3 PLM-45-3	M10 x 1.5	11.987 (12)	12.01 16.01 20.01 25.01	20	8	16

Drawing on previous page.

SHOULDER SCREWS

THREAD	STYLE	MATERIAL
M3 X 0.5	HEX SOCKET HEAD	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	Ød	L	ØD	H	E	S
PZM-1	PZM-1-3	M3 x 0.5	3.987 (4)	4.01	6	3	4	2
PZM-2	PZM-2-3			5.01				
PZM-3	PZM-3-3			6.01				
PZM-4	PZM-4-3			8.01				
PZM-5	PZM-5-3			10.01				

THREAD	STYLE	MATERIAL
M4 X 0.7	HEX SOCKET HEAD	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	Ød	L	ØD	H	E	S
PZM-6	PZM-6-3	M4 x 0.7	4.987 (5)	4.01	8	4	5	2.5
PZM-7	PZM-7-3			5.01				
PZM-8	PZM-8-3			6.01				
PZM-9	PZM-9-3			8.01				
PZM-10	PZM-10-3			10.01				
PZM-11	PZM-11-3			12.01				
PZM-12	PZM-12-3			14.01				
PZM-13	PZM-13-3			16.01				
PZM-14	PZM-14-3			20.01				
PZM-15	PZM-15-3			25.01				
PZM-16	PZM-16-3			30.01				

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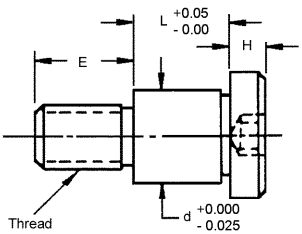
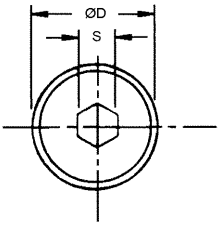
THREAD	STYLE	MATERIAL
M5 X 0.8	HEX SOCKET HEAD	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	Ød	L	ØD	H	E	S
PZM-17	PZM-17-3	M5 x 0.8	5.987 (6)	4.01	10	5	6	3
PZM-18	PZM-18-3			5.01				
PZM-19	PZM-19-3			6.01				
PZM-20	PZM-20-3			8.01				
PZM-21	PZM-21-3			10.01				
PZM-22	PZM-22-3			12.01				
PZM-23	PZM-23-3			14.01				
PZM-24	PZM-24-3			16.01				
PZM-25	PZM-25-3			20.01				
PZM-26	PZM-26-3			25.01				
PZM-27	PZM-27-3			30.01				





SHOULDER SCREWS

THREAD	STYLE	MATERIAL
M6 X 1.0	HEX SOCKET HEAD	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	Ød	L	ØD	H	E	S
PZM-28 PZM-29 PZM-30 PZM-31 PZM-32 PZM-33	PZM-28-3 PZM-29-3 PZM-30-3 PZM-31-3 PZM-32-3 PZM-33-3	M6 x 1.0	7.987 (8)	6.01 8.01 10.01 12.01 16.01 20.01	12	6	11	4

THREAD	STYLE	MATERIAL
M6 X 1.0	HEX SOCKET HEAD	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	Ød	L	ØD	H	E	S
PZM-34 PZM-35 PZM-36 PZM-37	PZM-34-3 PZM-35-3 PZM-36-3 PZM-37-3	M6 x 1.0	9.987 (10)	8.01 10.01 12.01 16.01	12	6	11	4

THREAD	STYLE	MATERIAL
M8 X 1.25	HEX SOCKET HEAD	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	Ød	L	ØD	H	E	S
PZM-38 PZM-39 PZM-40 PZM-41	PZM-38-3 PZM-39-3 PZM-40-3 PZM-41-3	M8 x 1.25	9.987 (10)	8.01 10.01 12.01 16.01	14	7	12	5

THREAD	STYLE	MATERIAL
M10 X 1.5	HEX SOCKET HEAD	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	Ød	L	ØD	H	E	S
PZM-42 PZM-43 PZM-44 PZM-45	PZM-42-3 PZM-43-3 PZM-44-3 PZM-45-3	M10 x1.5	11.987 (12)	12.01 16.01 20.01 25.01	20	8	16	6

Drawing on previous page.

PRECISION CAPTIVE SCREWS

THREAD	STYLE	MATERIAL
M3 x 0.5 to M5 x 0.8	SLOTTED HEAD	DIN 1.4305 STAINLESS STEEL

SLOTTED HEAD STOCK NO.	L	M	H	ØE	ØD	THREAD TOL=6g
Z12M-1	6.75	4.5	2.0	2.14	5.2	M3 x 0.5
Z12M-2	8.25	4.5	2.0	2.14	5.2	M3 x 0.5
Z12M-3	9.75	6.0	2.8	2.89	7.0	M4 x 0.7
Z12M-4	11.75	6.0	2.8	2.89	7.0	M4 x 0.7
Z12M-5	12.75	6.0	2.8	2.89	7.0	M4 x 0.7
Z12M-6	13.25	7.5	3.5	3.77	9.0	M5 x 0.8
Z12M-7	14.25	7.5	3.5	3.77	9.0	M5 x 0.8

Specials Upon request.

THREAD	STYLE	MATERIAL
M3 x 0.5 to M5 x 0.8	HEX SOCKET HEAD	DIN 1.4305 STAINLESS STEEL

HEX SOCKET STOCK NO.	L	M	H	ØE	ØD	THREAD TOL=6g
Z12M-1-H	6.75	4.5	2.0	2.14	5.2	M3 x 0.5
Z12M-2-H	8.25	4.5	2.0	2.14	5.2	M3 x 0.5
Z12M-3-H	9.75	6.0	2.8	2.89	7.0	M4 x 0.7
Z12M-4-H	11.75	6.0	2.8	2.89	7.0	M4 x 0.7
Z12M-5-H	12.75	6.0	2.8	2.89	7.0	M4 x 0.7
Z12M-6-H	13.25	7.5	3.5	3.77	9.0	M5 x 0.8
Z12M-7-H	14.25	7.5	3.5	3.77	9.0	M5 x 0.8

Specials Upon request.

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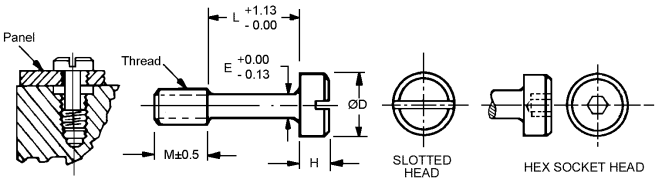
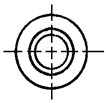
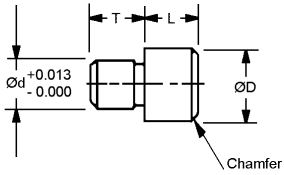
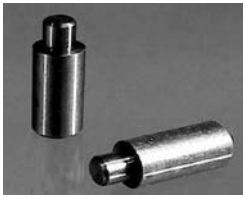


PRECISION JIG BUTTONS

MATERIAL
STAINLESS STEEL DIN 1.4300







STOCK NO.	L	T	ØD	Ød
PMM-1	6	6	10	5.000
PMM-2	10	6	10	5.000
PMM-3	12	6	10	5.000
PMM-4	6	8	12	6.000
PMM-5	10	8	12	6.000
PMM-6	12	8	12	8.000
PMM-7	19	8	12	8.000
PMM-8	25	8	12	8.000

THUMB SCREWS

THREAD	STYLE	MATERIAL
M3 X 0.5	PLASTIC HEAD, KNURLED	STAINLESS STEEL WITH BLACK PLASTIC HEAD

STOCK NO.	THREAD TOL=6g	ØA	B	ØC	L
PQCM-1	M3 X 0.5	9.6	4.4	8.3	5
PQCM-2					8
PQCM-3					12
PQCM-4					20
PQCM-5					25

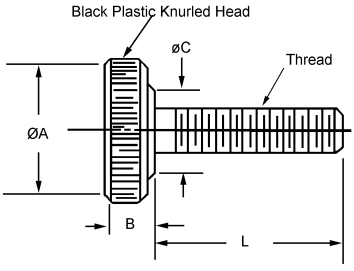
THREAD	STYLE	MATERIAL
M4 X 0.7	PLASTIC HEAD, KNURLED	STAINLESS STEEL WITH BLACK PLASTIC HEAD

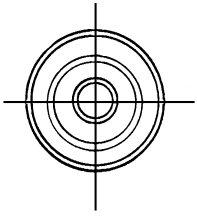
STOCK NO.	THREAD TOL=6g	ØA	B	ØC	L
PQCM-6	M4 X 0.7	13.0	5.5	9.8	6
PQCM-7					10
PQCM-8					12
PQCM-9					20
PQCM-10					25

THREAD	STYLE	MATERIAL
M5 X 0.8	PLASTIC HEAD, KNURLED	STAINLESS STEEL WITH BLACK PLASTIC HEAD

STOCK NO.	THREAD TOL=6g	ØA	B	ØC	L
PQCM-11	M5 X 0.8	16.0	6.5	11.5	8
PQCM-12					10
PQCM-13					12
PQCM-14					20
PQCM-15					25

Other sizes, special lengths and non-stainless screws available on request.





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THUMB SCREWS

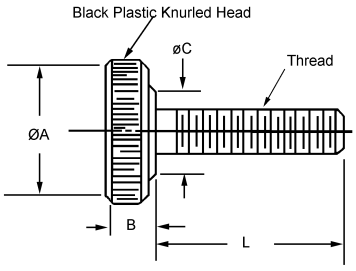
THREAD	STYLE	MATERIAL
M6 X 1.0	PLASTIC HEAD, KNURLED	STAINLESS STEEL WITH BLACK PLASTIC HEAD

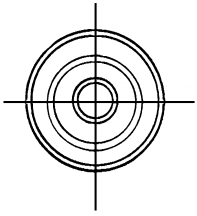
STOCK NO.	THREAD	ØA	B	ØC	L
PQCM-16	M6 X 1.0	19.0	7.6	13.0	10
PQCM-17					12
PQCM-18					16
PQCM-18					20
PQCM-20					25

THREAD	STYLE	MATERIAL
M8 X 1.25	PLASTIC HEAD, KNURLED	STAINLESS STEEL WITH BLACK PLASTIC HEAD

STOCK NO.	THREAD	ØA	B	ØC	L
PQCM-21	M8 X 1.25	26.0	9.8	16.0	10
PQCM-22					12
PQCM-23					16
PQCM-24					20
PQCM-25					25

Other sizes, special lengths and non-stainless screws available on request.





THUMB SCREWS

THREAD	STYLE	MATERIAL
M3 X 0.5	STRAIGHT KNURLED	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	ØD	L	F	E
PQM-1 PQM-2 PQM-3	PQM-1-3 PQM-2-3 PQM-3-3	M3 X 0.5	7	12 25 32	8 11 16	3 12 12

THREAD	STYLE	MATERIAL
M3 X 0.5	STRAIGHT KNURLED	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

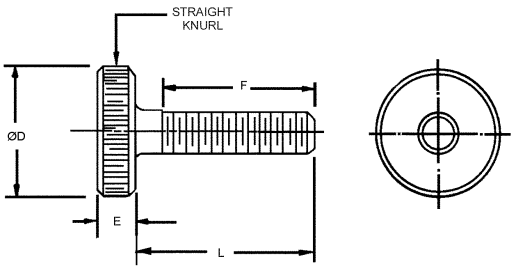
DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	ØD	L	F	E
PQM-4 PQM-5	PQM-4-3 PQM-5-3	M3 X 0.5	10	12 16	8 11	3

THREAD	STYLE	MATERIAL
M4 X 0.7	STRAIGHT KNURLED	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	ØD	L	F	E
PQM-11 PQM-12 PQM-13	PQM-11-3 PQM-12-3 PQM-13-3	M4 X 0.7	7	25 32 38	11 16 24	12

THREAD	STYLE	MATERIAL
M4 X 0.7	STRAIGHT KNURLED	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	ØD	L	F	E
PQM-14 PQM-15	PQM-14-3 PQM-15-3	M4 X 0.7	10	12 16	8 10	3



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THUMB SCREWS

THREAD	STYLE	MATERIAL
M5 X 0.8	STRAIGHT KNURLED	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	ØD	L	F	E
PQM-16 PQM-17 PQM-18 PQM-19	PQM-16-3 PQM-17-3 PQM-18-3 PQM-19-3	M5 X 0.8	10	18 25 30 36	11 16 20 25	5

THREAD	STYLE	MATERIAL
M5 X 0.8	STRAIGHT KNURLED	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	ØD	L	F	E
PQM-20 PQM-21 PQM-22 PQM-23	PQM-20-3 PQM-21-3 PQM-22-3 PQM-23-3	M5 X 0.8	12	25 36 25 42	16 20 25 32	5

THREAD	STYLE	MATERIAL
M5 X 0.8	STRAIGHT KNURLED	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	ØD	L	F	E
PQM-24 PQM-25 PQM-26 PQM-27	PQM-24-3 PQM-25-3 PQM-26-3 PQM-27-3	M5 X 0.8	19	25 30 36 42	16 20 25 32	5

THREAD	STYLE	MATERIAL
M6 X 1.0	STRAIGHT KNURLED	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	ØD	L	F	E
PQM-28 PQM-29 PQM-30 PQM-31	PQM-28-3 PQM-29-3 PQM-30-3 PQM-31-3	M6 X 1.0	19.0	25.0 30.0 36.5 42.5	16 20 25 32	5

THREAD	STYLE	MATERIAL
M6 X 1.0	STRAIGHT KNURLED	STAINLESS STEEL DIN 1.4005 AND STAINLESS STEEL DIN 1.4305

DIN 1.4005 STOCK NO.	DIN 1.4305 STOCK NO.	THREAD	ØD	L	F	E
PQM-32 PQM-33 PQM-34 PQM-35	PQM-32-3 PQM-33-3 PQM-34-3 PQM-35-3	M6 X 1.0	25.5	25.0 30.0 36.5 42.0	16 20 25 32	5

Drawing on previous page.

THUMB SCREWS

THREAD	STYLE	MATERIAL
M3 X 0.5	KNURLED SOCKET HEAD	STAINLESS STEEL DIN 1.4305

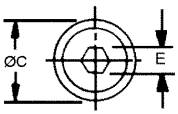
STOCK NO.	THREAD	A	ØC	B	E	F (MIN.)
PQHM-1 PQHM-2	M3 X 0.5	12 19	6	11 16	2	2
PQHM-3 PQHM-4	M3 X 0.5	12 19	8	11 16	2	2
PQHM-5 PQHM-6	M3 X 0.5	10 12	10	8 11	3	3

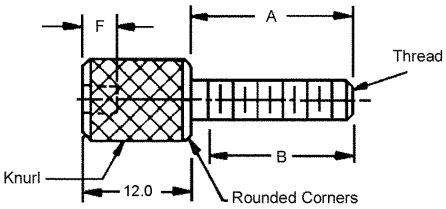
THREAD	STYLE	MATERIAL
M4 X 0.7	KNURLED SOCKET HEAD	STAINLESS STEEL DIN 1.4305

STOCK NO.	THREAD	A	ØC	B	E	F (MIN.)
PQHM-15 PQHM-16 PQHM-17	M4 X 0.7	12 19 25	6	11 16 20	2	2
PQHM-18 PQHM-19 PQHM-20	M4 X 0.7	19 10 25	8	11 16 20	2	2
PQHM-21 PQHM-22	M4 X 07	10 12	10	8 12	3	3

THREAD	STYLE	MATERIAL
M5 X 0.8	KNURLED SOCKET HEAD	STAINLESS STEEL DIN 1.4305

STOCK NO.	THREAD	A	ØC	B	E	F (MIN.)
PQHM-23 PQHM-24 PQHM-25 PQHM-26	M5 X 0.8	12 19 25 32	8	11 16 20 25	2	2
PQHM-27 PQHM-28 PQHM-29 PQHM-30	M5 X 0.8	12 19 25 32	10	11 16 20 25	3	3





THUMB NUTS

THREAD	STYLE	MATERIAL
M3 X 0.5	KNURLED	STAINLESS STEEL DIN 1.4305

STOCK NO.	THREAD	ØA	B	ØC	D	COUNTERBORE	
						DIA.	DEEP
PD1M-1	M3 X 0.5	12.0	6.0	3.0	6.0	-	-
PD1M-2		12.0			12.0	3.2	6.0
PD1M-3		19.0			6.0	-	-
PD1M-4		19.0			12.0	3.2	6.0

THREAD	STYLE	MATERIAL
M4 X 0.7	KNURLED	STAINLESS STEEL DIN 1.4305

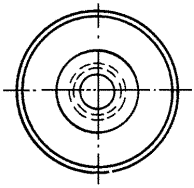
STOCK NO.	THREAD	ØA	B	ØC	D	COUNTERBORE	
						DIA.	DEEP
PD1M-9	M4 X 0.7	12.0	8.0	3.0	6.0	-	-
PD1M-10		12.0			12.0	4.2	6.0
PD1M-11		19.0			6.0	-	-
PD1M-12		19.0			12.0	4.2	6.0

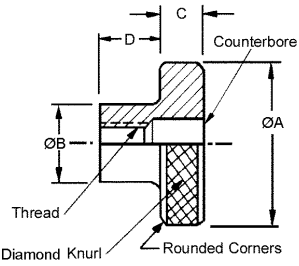
THREAD	STYLE	MATERIAL
M5 X 0.8	KNURLED	STAINLESS STEEL DIN 1.4305

STOCK NO.	THREAD	ØA	B	ØC	D	COUNTERBORE	
						DIA.	DEEP
PD1M-13	M5 X 0.8	12.0	10.0	5.0	6.0	-	-
PD1M-14		12.0			12.0	5.3	7.5
PD1M-15		25.5			6.0	-	-
PD1M-16		25.5			12.0	5.3	7.5

THREAD	STYLE	MATERIAL
M6 X 1.0	KNURLED	STAINLESS STEEL DIN 1.4305

STOCK NO.	THREAD	ØA	B	ØC	D	COUNTERBORE	
						DIA.	DEEP
PD1M-17	M6 X 1.0	19.0	12.5	6.5	6.0	-	-
PD1M-18		19.0			12.0	6.4	9.0
PD1M-19		25.5			6.0	-	-
PD1M-20		25.5			12.0	6.4	9.0
PD1M-21		25.5			19.0	6.4	15.0





THREADED STUDS

THREAD	STYLE	MATERIAL
M3.5 X 0.6	**DOUBLE ENDED**	**STAINLESS STEEL DIN 1.4305**

STOCK NO.	L	THREAD SIZE BOTH ENDS	D	d
PVM-1	25.5	M3.5 X 0.6	6.0	12.0
PVM-2	32.0			15.0
PVM-3	38.0			19.0
PVM-4	44.5			19.0
PVM-5	50.0			19.0

THREAD	STYLE	MATERIAL
M4 X 0.7	**DOUBLE ENDED**	**STAINLESS STEEL DIN 1.4305**

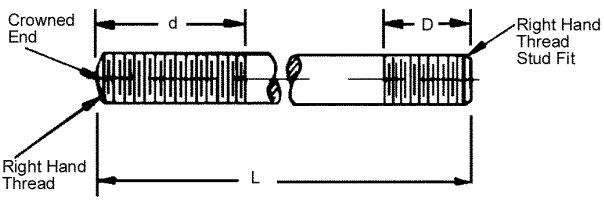
STOCK NO.	L	THREAD SIZE BOTH ENDS	D	d
PVM-6	25.5	M4 X 0.7	6.0	12.0
PVM-7	32.0			15.0
PVM-8	38.0			19.0
PVM-9	44.5			19.0
PVM-10	50.0			19.0

THREAD	STYLE	MATERIAL
M5 X 0.8	**DOUBLE ENDED**	**STAINLESS STEEL DIN 1.4305**

STOCK NO.	L	THREAD SIZE BOTH ENDS	D	d
PVM-11	25.5	M5 X 0.8	6.0	12.0
PVM-12	32.0			15.0
PVM-13	38.0			19.0
PVM-14	44.5			19.0
PVM-15	50.0			19.0

THREAD	STYLE	MATERIAL
M6 X 1.0	**DOUBLE ENDED**	**STAINLESS STEEL DIN 1.4305**

STOCK NO.	L	THREAD SIZE BOTH ENDS	D	d
PVM-16	37.0	M6 X 1.0	7.0	15.0
PVM-17	38.0			15.0
PVM-18	44.5			19.0
PVM-19	50.0			19.0
PVM-20	63.5			19.0
PVM-21	76.0			25.0



F

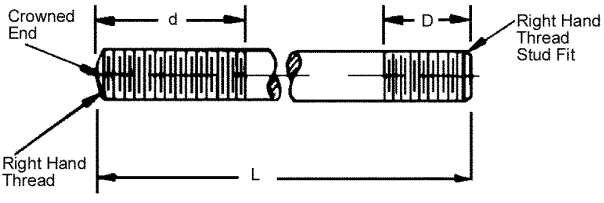
THREADED STUDS

THREAD	STYLE	MATERIAL
M8 X 1.25	**DOUBLE ENDED**	**STAINLESS STEEL DIN 1.4305**

STOCK NO.	L	THREAD SIZE BOTH ENDS	D	d
PVM-22	38.0	M8 X 1.25	8.0	15.0
PVM-23	50.0			25.5
PVM-24	63.5			32.0
PVM-25	76.0			35.0
PVM-26	88.0			38.0
PVM-27	100.0			38.0

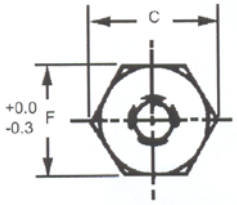
THREAD	STYLE	MATERIAL
M10 X 1.5	**DOUBLE ENDED**	**STAINLESS STEEL DIN 1.4305**

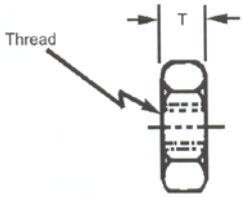
STOCK NO.	L	THREAD SIZE BOTH ENDS	D	d
PVM-28	42.0	M10 X 1.5	8.0	19.0
PVM-29	50.0			25.4
PVM-30	63.5			32.0
PVM-31	76.0			35.0
PVM-32	89.0			38.0
PVM-33	102.0			38.0



HEX NUTS

MATERIAL
STAINLESS STEEL DIN 1.4305

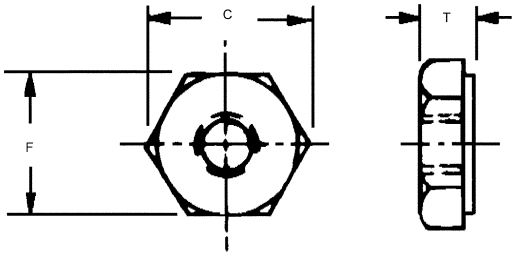




STOCK NO.	THREAD SIZE	T (MAX.)	C (Ref.)	F
Y5-M1	M1.6 X 0.35	1.3	3.5	3.2
Y5-M2	M2 X 0.4	1.6	4.4	4.0
Y5-M3	M3 X 0.5	2.4	6.0	5.5
Y5-M4	M4 X 0.7	3.2	7.7	7.0
Y5-M5	M5 X 0.8	4.0	8.8	8.0
Y5-M6	M6 X 1.0	5.0	11.1	10.0
Y5-M8	M8 X 1.25	6.5	14.4	13.0
Y5-M10	M10 X 1.5	8.0	18.9	17.0

MATERIAL
MOLDED NYLON

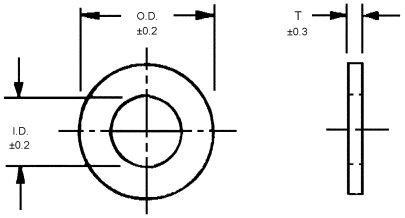
F



STOCK NO.	THREAD SIZE	T (MAX.)	C (Ref.)	F
Z5-N-M2	M2 X 0.4	1.2	3.9	3.9
Z5-N-M3	M3 X 0.5	2.2	5.4	5.4
Z5-N-M4	M4 X 0.7	3.0	6.9	6.9
Z5-N-M5	M5 X 0.8	4.3	7.9	7.9
Z5-N-M6	M6 X 1.0	5.4	9.9	9.9
Z5-N-M8	M8 X 1.25	6.4	12.9	12.9
Z5-N-M10	M10 X 1.5	9.8	14.8	16.9

WASHERS

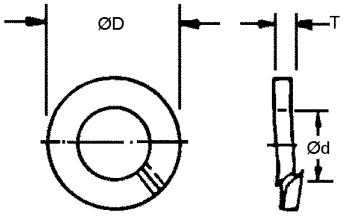
SCREW SIZE	TYPE	MATERIAL
M2 TO M10	PLAIN	MOLDED NYLON



STOCK NO.	SCREW SIZE	O.D.	I.D.	T
Z4-N-M2	M2	5.0	2.2	0.8
Z4-N-M3	M3	8.0	3.2	0.8
Z4-N-M4	M4	9.0	4.3	0.8
Z4-N-M5	M5	11.0	5.3	1.0
Z4-N-M6	M6	12.0	6.4	1.5
Z4-N-M8	M8	18.0	8.4	2.0
Z4-N-M10	M10	20.0	10.5	2.5

SOLD IN PACKAGES OF 10.

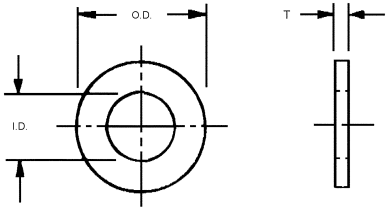
SCREW SIZE	TYPE	MATERIAL
M2 TO M10	SPLIT LOCK	STAINLESS STEEL DIN 1.4300



STOCK NO.	THREAD	ØD Max	Ød	TOL	T	TOL
Z3-M2	M2	4.4	2.1	+0.3	0.5	±0.1
Z3-M3	M3	6.2	3.1	+0.3	0.8	±0.1
Z3-M4	M4	7.6	4.1	+0.3	0.9	±0.1
Z3-M5	M5	9.2	5.1	+0.3	1.2	±0.1
Z3-M6	M6	11.8	6.1	+0.4	1.6	±0.1
Z3-M8	M8	14.8	8.1	+0.4	2.0	±0.1
Z3-M10	M10	18.1	10.2	+0.5	2.2	±0.15

SOLD IN PACKAGES OF 10.

SCREW SIZE	TYPE	MATERIAL
M2 TO M10	PLAIN	STAINLESS STEEL DIN 1.4300

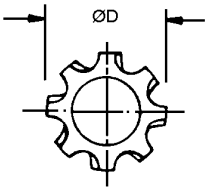


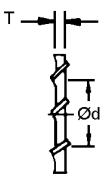
STOCK NO.	THREAD	O.D.	I.D.	TOL	T	TOL
Z4-M2	M2	5	2.2	+0.14	0.30	±0.05
Z4-M3	M3	7	3.2	+0.18	0.50	±0.05
Z4-M4	M4	9	4.3	+0.18	0.8	±0.1
Z4-M5	M5	10	5.3	+0.18	1.0	±0.1
Z4-M6	M6	12.5	6.4	+0.22	1.6	±0.2
Z4-M8	M8	17	8.4	+0.22	1.6	±0.2
Z4-M10	M10	21	10.5	+0.22	2.0	±0.2

SOLD IN PACKAGES OF 10.

LOCK WASHERS

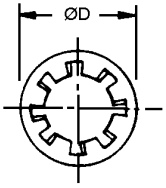
SCREW SIZE	STYLE	MATERIAL
M2 TO M10	EXTERNAL TOOTH	STAINLESS STEEL DIN 1.4006

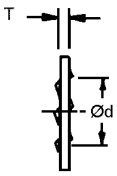




STOCK NO.	THREAD	ØD	Ød	TOL	T	TOL
Z1-M2	M2	4.4	2.1	+0.3	0.5	±0.1
Z1-M3	M3	6.2	3.1	+0.3	0.8	±0.1
Z1-M4	M4	7.6	4.1	+0.3	0.9	±0.1
Z1-M5	M5	9.2	5.1	+0.3	1.2	±0.1
Z1-M6	M6	11.8	6.1	+0.4	1.6	±0.1
Z1-M8	M8	14.8	8.1	+0.4	2.0	±0.1
Z1-M10	M10	18.1	10.2	+0.5	2.2	±0.15

SCREW SIZE	STYLE	MATERIAL
M2 TO M10	INTERNAL TOOTH	STAINLESS STEEL DIN 1.4006





STOCK NO.	SCREW SIZE	ØD h14	Ød h13	F
Z2-M2	M2	4.5	2.2	0.3
Z2-M3	M3	6.0	3.2	0.4
Z2-M4	M4	8.0	4.3	0.5
Z2-M5	M5	10.0	5.3	0.6
Z2-M6	M6	11.0	6.4	0.7
Z2-M8	M8	15.0	8.4	0.8
Z2-M10	M10	18.0	10.5	0.9

THRUST WASHERS

SHAFT SIZE	TYPE	MATERIAL
5 TO 25	HARDENED GROUND	STAINLESS STEEL DIN 1.4006 OR CARBON STEEL

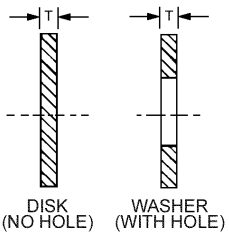
STAINLESS STEEL STOCK NO.	CARBON STEEL STOCK NO.	INSIDE DIA. +0.30 -0.00	OUTSIDE DIA. +0.00 -0.31	T	Tolerance	SHAFT SIZE
CD1M-2-SS	CD1M-2	5.00	12.00	1.27	±0.05	5
CD1M-3-SS	CD1M-3	6.00	14.00			6
CD1M-4-SS	CD1M-4	7.00	17.00			7
CD1M-5-SS	CD1M-5	8.00	16.00			8
CD1M-6-SS	CD1M-6	10.00	21.00	1.57	+0.06 / -0.05	10
CD1M-7-SS	CD1M-7	12.00	24.00			12
CD1M-8-SS	CD1M-8	16.00	28.00	2.36	±0.08	16
CD1M-9-SS	CD1M-9	19.00	32.00			19
CD1M-10-SS	CD1M-10	25.00	41.00	3.18	+0.12 / -0.13	25

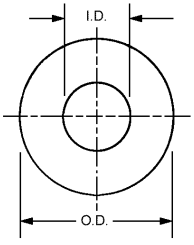
SHAFT SIZE	TYPE	MATERIAL
3 TO 25	PLASTIC	NYLON AND TEFLON

NYLON STOCK NO.	TEFLON® STOCK NO.	I.D. +0.13 -0.00	O.D. +0.00 -0.13	T ±.05	SHAFT SIZE
CD7M-1	CD8M-1	3.00	9	2.5	3
CD7M-2	CD8M-2	4.00	12	2.5	4
CD7M-3	CD8M-3	5.00	13	2.5	5
CD7M-4	CD8M-4	6.00	15	2.5	6
CD7M-5	CD8M-5	8.00	19	2.5	8
CD7M-6	CD8M-6	10.00	24	2.5	10
CD7M-7	CD8M-7	12.00	30	2.5	12
CD7M-8	CD8M-8	20.00	40	2.5	20
CD7M-9	CD8M-9	25.00	40	2.5	25

SHAFT SIZE	TYPE	MATERIAL
3 TO 11	LUBRICATING	BRONZE OIL-IMPREGNATED

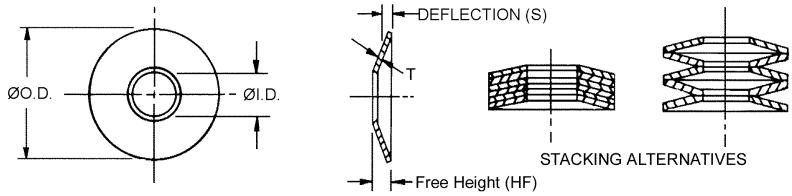
STOCK NO.	I.D. +0.1 -0.0	O.D. +0.00 -0.1	T ±0.05	SHAFT SIZE
CD3M-1	3.1	8.9	1.5	3
CD3M-2	4.1	11.9	1.5	4
CD3M-3	6.1	14.9	1.5	6
CD3M-4	8.1	18.9	2.2	8
CD3M-5	10.1	23.9	3.0	10
CD3M-6	11.1	28.9	4.7	11





SPRING WASHERS

STYLE	SHAFT SIZE	OUTSIDE DIAMETER	MATERIALS
BELLEVILLE	**4 TO 12**	**8 TO 25**	**1095 CARBON STEEL**

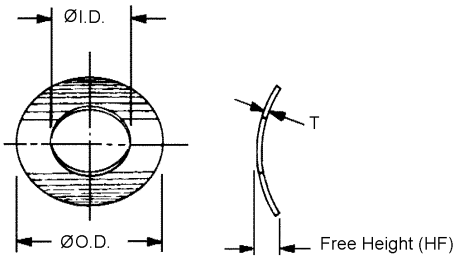


STOCK NO.	ØO.D.	ØI.D.	T	HF (Ref.)	SPRING LOAD (N) AT S=0.25HF
STM-1	8	4.2	0.2	0.45	21
STM-2			0.3	0.55	52
STM-3			0.4	0.6	78
STM-4	10	5.2	0.25	0.55	30
STM-5			0.4	0.7	88
STM-6			0.5	0.75	122
STM-7	12.5	6.2	0.35	0.8	84
STM-8			0.50	0.85	120
STM-9			0.7	1.0	239
STM-10	16	8.2	0.4	0.9	84
STM-11			0.6	1.05	172
STM-12			0.9	1.25	363
STM-13	20	10.2	0.5	1.15	141
STM-14			0.8	1.35	304
STM-15			1.1	1.55	548
STM-16	25	12.2	0.7	1.6	331
STM-17			0.9	1.6	367
STM-18			1.5	2.05	1040

Sold in packages of 10.

F

STYLE	SHAFT SIZE	OUTSIDE DIAMETER	MATERIALS
CURVED	**3 TO 10**	**6 TO 18**	**1095 CARBON STEEL**



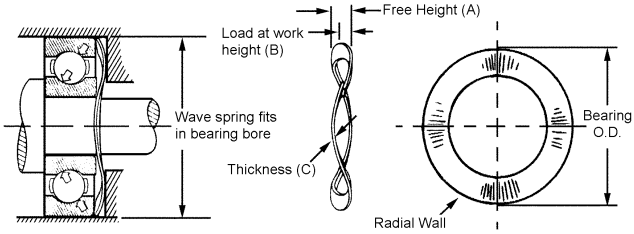
STOCK NO.	ØI.D. (H14)	ØO.D. (js16)	HF (MIN.)	T
SUM-1	3.2	6.0	0.65	0.4
SUM-2	4.3	8.0	0.8	0.5
SUM-3	5.3	10.0	0.9	0.5
SUM-4	6.4	11.0	1.1	0.5
SUM-5	8.4	15.0	1.7	0.5
SUM-6	10.5	18.0	2.0	0.8

I.D. Based in long axis providing free fit on normal screw.

Sold in packages of 10.

SPRING WASHERS

TYPE	MATERIALS
FOR OUTER RACE BALL BEARING PRE-LOAD	**STAINLESS STEEL DIN 1.4300**

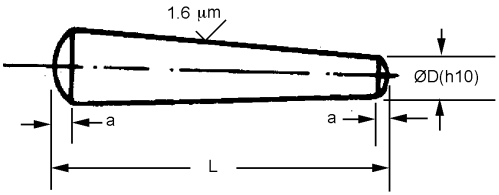


STOCK NO.	BEARING O.D. (Ref.)	A	B	C	FORCE TO DEFLECT TO B	RADIAL WALL
SVM-1	16	2.3	1.6	0.25	45N	1.98
SVM-2	19	3.0		0.25	50N	
SVM-3	22	2.8		0.30	60N	2.39
SVM-4	24	3.6		0.30	70N	

Sold in packages of 10.

PINS

TYPE	MATERIALS
TAPER	STAINLESS STEEL DIN 1.4305



STOCK NO.	ØO.D.	L	a	Ref. SHAFT SIZE
CP3M-1 CP3M-2 CP3M-3	1.00	8.00 10.00 12.00	0.12	3.00 TO 4.00
CP3M-4 CP3M-5 CP3M-6 CP3M-7 CP3M-8	1.50	10.00 12.00 14.00 16.00 20.00	0.20	5.00
CP3M-9 CP3M-10 CP3M-11 CP3M-13	2.00	12.00 14.00 16.00 20.00	0.25	6.00 TO 8.00
CP3M-14 CP3M-16 CP3M-17	3.00	14.00 20.00 25.00	0.40	10.00
CP3M-18 CP3M-19 CP3M-20 CP3M-21	4.00	16.00 20.00 25.00 30.00	0.50	12.00

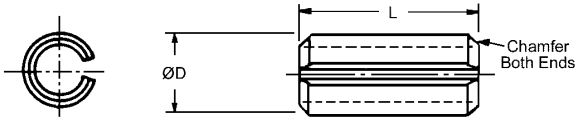
Sold in packages of 10.

Taper 1:50

F

PINS

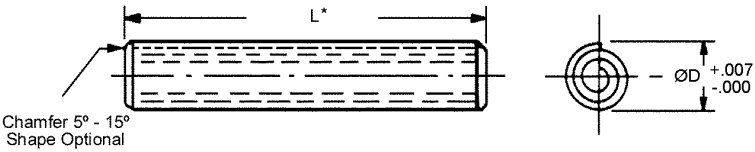
TYPE	MATERIALS
ROLL OR SPRING	STAINLESS STEEL DIN 1.4305



STOCK NO.	O.D. MIN.	L	DRILL SIZE	REF. SHAFT DIA.
CP5M-1 CP5M-2 CP5M-3 CP5M-4 CP5M-5 CP5M-6	1.7	6 8 10 12 14 16	1.5	4.00 TO 5.00
CP5M-7 CP5M-8 CP5M-9 CP5M-10 CP5M-11	2.3	10 12 14 16 18	2.0	6.00
CP5M-12 CP5M-13 CP5M-14 CP5M-15 CP5M-16 CP5M-17	3.3	10 12 14 16 18 20	3.0	8.00 TO 10.00

Sold in packages of 10.

TYPE	MATERIALS
ROLL OR SPRING STANDARD DUTY	STAINLESS STEEL DIN 1.4305



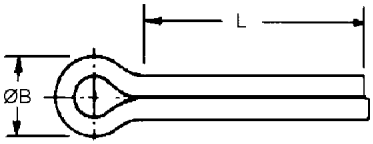
STOCK NO.	O.D. MIN.	L*	DRILL SIZE	(REF.) SHAFT
CP6M-6 CP6M-7 CP6M-8 CP6M-9 CP6M-10	1.0	4 6 8 10 14	1.0	3.00
CP6M-18 CP6M-19	1.5	6 10	1.5	3.00 AND 4.00
CP6M-24 CP6M-25 CP6M-26 CP6M-27	2.0	4 10 14 20	2.0	5.00 AND 6.00
CP6M-31 CP6M-32 CP6M-33	2.5	6 12 18	2.5	7.00
CP6M-38 CP6M-39 CP6M-40	3.0	12 20 30	3.0	8.00 THROUGH 10.00
CP6M-43 CP6M-44 CP6M-45 CP6M-46 CP6M-47 CP6M-48*	4.0	8 12 20 30 40 50	4.0	11.00 AND 12.00

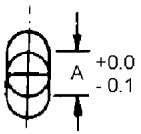
* Length tolerance of plus 0.5 for all lengths through 10mm Plus 1.0 for all lengths over 10mm through 50mm.

Sold in packages of 10.

PINS

TYPE	MATERIALS
COTTER	STAINLESS STEEL DIN 1.4300





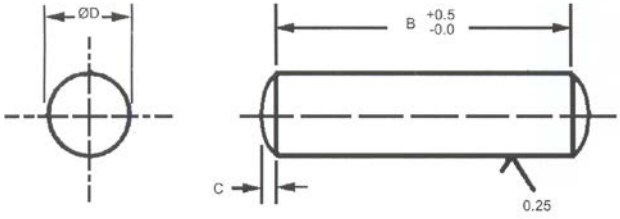
SOLD IN PACKAGES OF 10.

STOCK NO.	A	ØB MIN.	L	HOLE SIZE
CP1-31 CP1-32 CP1-1 CP1-34	0.8	2	10 13 19 25	1.2
CP1-2	1.2	2	25	1.6
CP1-35 CP1-36 CP1-37 CP1-3 CP1-9	1.5	3	10 13 19 25 38	2.0
CP1-4	1.9	4	32	2.4
CP1-10 CP1-11 CP1-12 CP1-5	2.3	5	13 19 25 38	2.8
CP1-14 CP1-15 CP1-16 CP1-17 CP1-7	3.0	6	13 19 25 38 51	3.6
CP1-19 CP1-20 CP1-21 CP1-22	3.8	6	19 25 38 51	4.4
CP1-23 CP1-24 CP1-25 CP1-26	4.5	10	25 38 51 64	5.2
CP1-27 CP1-28 CP1-29	5.7	13	38 51 64	6.8

F

PINS

TYPE	DIAMETER SIZE	MATERIALS
DOWEL SOFT PINS	**1 TO 12**	**STAINLESS STEEL DIN 1.4305 ROCKWELL B75-95**



B	ØD=1 +0.009 +0.002	ØD=1.5 +0.009 +0.002	ØD=2 +0.009 +0.002	ØD=2.5 +0.009 +0.002
	C=0.15	C=0.23	C=0.30	C=0.40
	STOCK NO.	STOCK NO.	STOCK NO.	STOCK NO.
3	D10M-1	–	–	–
4	D10M-2	D15M-2	D20M-2	D25M-2
5	D10M-3	D15M-3	D20M-3	D25M-3
6	D10M-4	D15M-4	D20M-4	D25M-4
8	D10M-5	D15M-5	D20M-5	D25M-5
10	D10M-6	D15M-6	D20M-6	D25M-6
12	D10M-7	D15M-7	D20M-7	D25M-7
14	D10M-8	D15M-8	D20M-8	D25M-8
16	D10M-9	D15M-9	D20M-9	D25M-9
18	D10M-10	D15M-10	D20M-10	D25M-10
20	D10M-11	D15M-11	D20M-11	D25M-11
24	D10M-12	D15M-12	D20M-12	D25M-12

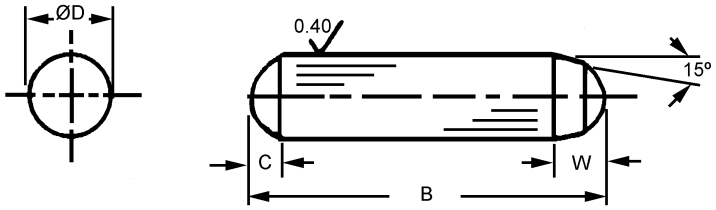
B	ØD=3 +0.012 +0.004	ØD=4 +0.012 +0.004	ØD=5 +0.012 +0.004	ØD=6 +0.015 +0.006
	C=0.45	C=0.63	C=0.75	C=0.90
	STOCK NO.	STOCK NO.	STOCK NO.	STOCK NO.
4	D30M-1	–	–	–
5	D30M-2	D40M-2	D50M-2	–
6	D30M-3	D40M-3	D50M-3	D60M-3
8	D30M-4	D40M-4	D50M-4	D60M-4
10	D30M-5	D40M-5	D50M-5	D60M-5
12	D30M-6	D40M-6	D50M-6	D60M-6
14	D30M-7	D40M-7	D50M-7	D60M-7
16	D30M-8	D40M-8	D50M-8	D60M-8
18	D30M-9	D40M-9	D50M-9	D60M-9
20	D30M-10	D40M-10	D50M-10	D60M-10
24	D30M-11	D40M-11	D50M-11	D60M-11
28	D30M-12	D40M-12	D50M-12	D60M-12

B	ØD=8 +0.015 +0.006	ØD=10 +0.015 +0.006	ØD=12 +0.018 +0.007
	C=1.20	C=1.50	C=1.80
	STOCK NO.	STOCK NO.	STOCK NO.
12	D80M-1		
14	D80M-2	D100M-2	–
16	D80M-3	D100M-3	–
18	D80M-4	D100M-4	D120M-4
20	D80M-5	D100M-5	D120M-5
24	D80M-6	D100M-6	D120M-6
28	D80M-7	D100M-7	D120M-7
32	D80M-8	D100M-8	D120M-8
36	–	D100M-9	D120M-9
40	–	D100M-10	D120M-10
50	–	–	D120M-11

SOLD IN PACKAGES OF 10.

PINS

TYPE	DIAMETER SIZE	MATERIALS
HARDENED DOWEL	**2 TO 10**	**STAINLESS STEEL DIN 1.4005 ROCKWELL C36-42**



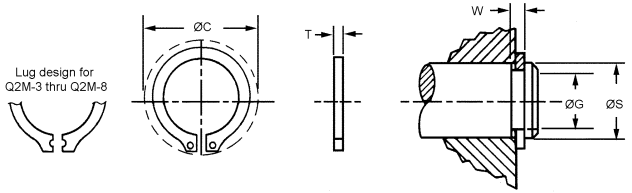
B	**ØD = 2.009 - .007** W = 0.78 C = 0.30	**ØD = 2.509 - .007** W = 0.95 C = 0.40	**ØD = 3.012 - .007** W = 1.10 C = 0.45	**ØD = 4.012 -.008** W = 1.40 C = 0.60
	STOCK NO.	STOCK NO.	STOCK NO.	STOCK NO.
5	D40-1	D41-1	–	–
6	D40-2	D41-2	D42-2	–
8	D40-3	D41-3	D42-3	–
10	D40-4	D41-4	D42-4	D43-4
12	D40-5	D41-5	D42-5	D43-5
14	D40-6	D41-6	D42-6	D43-6
16	D40-7	D41-7	D42-7	D43-7
20	D40-8	D41-8	D42-8	D43-8
24	D40-9	D41-9	D42-9	D43-9
B	**ØD = 5.012 - .008** W = 1.70 C = 0.75	**ØD = 6.015 - .009** W = 2.10 C = 0.90	**ØD = 8.015 - .009** W = 2.50 C = 1.20	**ØD = 10.018 - .011** W = 3.00 C = 1.50
	STOCK NO.	STOCK NO.	STOCK NO.	STOCK NO.
10	D44-4	–	–	–
12	D44-5	D45-5	–	–
16	D44-7	D45-7	D46-7	–
20	D44-8	D45-8	D46-8	D47-8
24	D44-9	D45-9	D46-9	D47-9
30	D44-10	D45-10	D46-10	D47-10
40	–	D45-11	D46-11	D47-11

SOLD IN PACKAGES OF 10.

F

RETAINER RINGS

TYPE	MATERIALS
EXTERNAL LUG DESIGN	**SPRING STEEL**

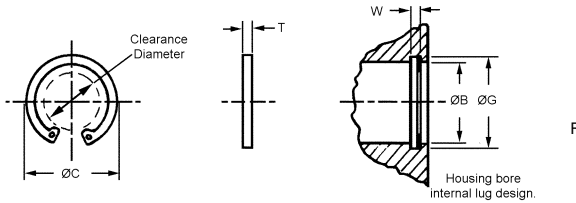


Retainer Ring Pliers. Order separately.

STOCK NO.	ØG GROOVE DIA.	ØS SHAFT SIZE	GROOVE WIDTH W (H13)	T	ØC CLEARANCE DIAMETER	PLIERS STOCK NO.
Q2M-3	2.80 - 0.04	3.00	0.50	0.40	7.0	S11-12P
Q2M-4	3.80 - 0.04	4.00	0.50	0.40	8.6	S11-12P
Q2M-5	4.80 - 0.04	5.00	0.70	0.60	10.3	S11-18P
Q2M-6	5.70 - 0.04	6.00	0.80	0.70	11.7	S11-18P
Q2M-8	7.60 - 0.06	8.00	0.90	0.80	14.7	S11-25P
Q2M-10	9.60 - 0.11	10.00	1.10	1.00	17.0	S11-25P
Q2M-12	11.50 - 0.11	12.00	1.10	1.00	18.0	S11-25P

SOLD IN PACKAGES OF 10.

TYPE	MATERIALS
INTERNAL LUG DESIGN	**SPRING STEEL**



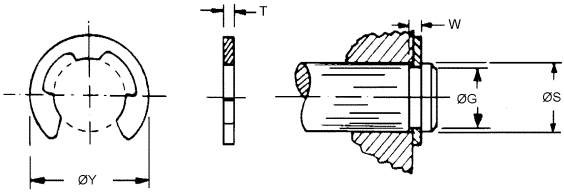
Retainer Ring Pliers. Order separately.

STOCK NO,	HOUSING BORE ØB	GROOVE DIA. ØG	RING THICKNESS T	PLIERS STOCK NO.	MAX. (ØC) CLEARANCE DIAMETER	GROOVE WIDTH W (MIN.)
Q4M-9	9.00	9.40 + 0.11	0.8	S13-37P	3.7	0.90
Q4M-10	10.00	10.40 + 0.11	1.0	S13-37P	3.3	1.10
Q4M-11	11.00	11.40 + 0 11	1 0	S13-37P	4 1	1 10
Q4M-13	13.00	13.60 + 0 11	1.0	S13-37P	5 4	1 10
Q4M-15	15.00	15.70 + 0.11	1.0	S13-37P	7.2	1.10
Q4M-16	16.00	16.80 + 0.11	1.0	S13-37P	8.0	1.10
Q4M-19	19.00	20.00 + 0.15	1.0	S13-37P	10.4	1.10
Q4M-22	22.00	23.00 + 0.15	1.0	S13-37P	13.2	1.10
Q4M-26	26.00	27.20 + 0.21	1.2	S13-37P	16.7	1.30

SOLD IN PACKAGES OF 10.

RETAINER RINGS

TYPE	MATERIALS
EXTERNAL SNAP ON DESIGN	**SPRING STEEL**



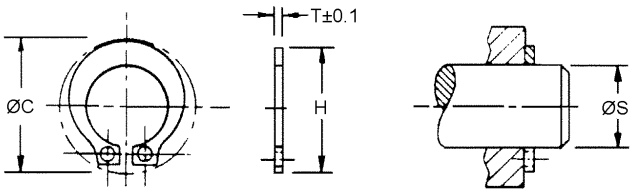
Retainer Ring Pliers. Order separately.

STOCK NO.	SHAFT SIZE ØS	GROOVE ØG (h11)	GROOVE WIDTH W (MIN)	T RING THICKNESS MAX.	O.D. RING Y MAX.	APPLICATOR TOOL NO.
Q1M-2	2	1.2	0.34	0.32	3.3	S10-6T
Q1M-3	3	1.9	0.54	0.52	4.8	S10-9T
Q1M-4	4	2.3	0.64	0.62	6.3	S10-12T
Q1M-5	5	3.2	0.64	0.62	7.3	S10-18T
Q1M-6	6	4.0	0.74	0.72	9.3	S10-18T
Q1M-8	8	5.0	0.74	0.72	11.3	S10-25T
Q1M-10	10	7.0	0.94	0.92	14.3	S10-31T
Q1M-11	11	8.0	1.05	1.03	16.3	S10-50T
Q1M-12	12	8.0	1.05	1.03	16.3	S10-50T
Q1M-16	16	12.0	1.35	1.33	23.4	S10-62T
Q1M-19	19	15.0	1.55	1.53	29.4	S10-75T

SOLD IN PACKAGES OF 10.

F

TYPE	MATERIALS
EXTERNAL POWER GRIP DESIGN	**SPRING STEEL**



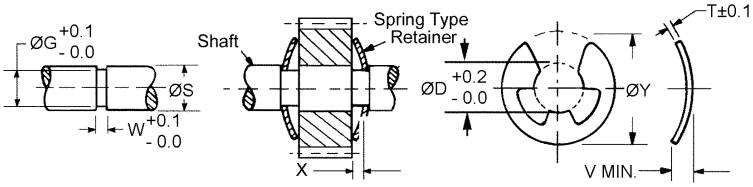
Retainer Ring Pliers. Order separately.

STOCK NO.	SHAFT SIZE ØS	T RING THICKNESS	CLEARANCE ØC	ASSEMBLY PLIER STOCK NO.
Q7M-2	2	0.6	6.4	S14-12P
Q7M-3	3	0.6	7.4	S14-12P
Q7M-4	4	0.6	9.1	S14-12P
Q7M-5	5	0.8	11.2	S14-25P
Q7M-6	6	1.0	12.7	S14-25P
Q7M-8	8	1.1	17.0	S14-37P
Q7M-10	10	1.2	19.3	S14-37P
Q7M-11	11	1.3	20.3	S14-87P
Q7M-14	14	1.5	25.1	S14-37P
Q7M-19	19	1.6	33.0	S14-37P

SOLD IN PACKAGES OF 10.

RETAINER RINGS

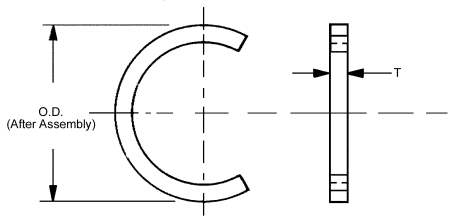
TYPE	MATERIALS
EXTERNAL BOWED SNAP ON DESIGN	**SPRING STEEL**



STOCK NO.	ØS SHAFT SIZE	FLAT ØY	T	V	X MAX. TAKE UP	FREE I.D. ØD	W	ØG
Q3M-3	3	5.8	0.3	0.6	0.3	2.3	0.6	2.4
Q3M-4	4	7.2	0.4	0.8	0.3	2.8	0.7	2.9
Q3M-8	8	12.7	0.6	1.3	0.6	6.1	1.2	6.3
Q3M-11	11	17.4	0.9	1.5	0.6	8.5	1.5	8.7
Q3M-16	16	23.9	1.1	2.0	0.9	12.1	2.0	12.3
Q3M-19	19	25.4	1.3	2.2	0.9	15.5	2.2	15.9
Q3M-25	25	38.1	1.3	2.2	0.9	20.8	2.2	21.2

Applicator toos are available on request.
Sold in packages of 10.

TYPE	MATERIALS
EXTERNAL DESIGN	**CARBON STEEL PLATED**

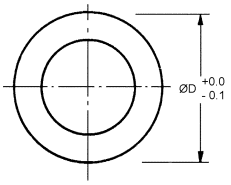


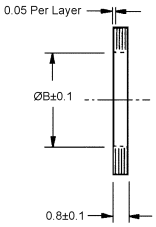
STOCK NO.	SHAFT SIZE	FREE O.D. (MAX.)	T	GROOVE DIMENSIONS	
				WIDTH (MIN.)	DIAMETER (MIN.)
Q5M-4	4	3.7	0.5	0.6	3.7
Q5M-8	8	7.4	0.8	0.9	7.5
Q5M-13	13	12.0	1.2	1.3	12.1
Q5M-16	16	15.0	1.4	1.6	15.2
Q5M-19	19	18.1	1.6	1.8	18.2
Q5M-23	23	21.8	1.2	1.3	22.0
Q5M-24	24	22.7	1.8	2.0	23.2
Q5M-32	32	130.2	1.5	1.6	30.5
Q5M-40	40	137.7	1.6	1.8	38.0
Q5M-45	45	142.7	1.6	1.8	43.0

Sold in packages of 10.

SPACERS

TYPE	SHAFT SIZE	MATERIALS
INNER RACE SHIM	**3 TO 10**	**BRASS**



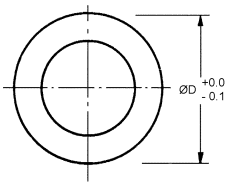


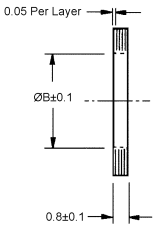
STOCK NO.	SHAFT SIZE	ØD	ØB
SS8-1M	3	5.9	3.2
SS8-2M	5	9.5	5.2
SS8-3M	6	12.7	6.2
SS8-4M	10	15.9	10.2

Sold in packages of 10.

The inner race spacer fits on shaft and pre-loads inner race of ball bearing.

TYPE	SHAFT SIZE	MATERIALS
OUTER RACE SHIM	**8.0 TO 11.0**	**BRASS**





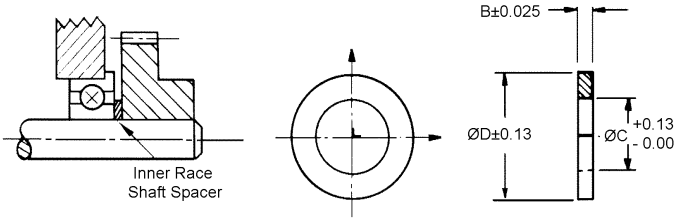
STOCK NO.	D	B
SS7-1M	10.0	7.9
SS7-2M	13.0	9.5
SS7-3M	16.0	11.1

Sold in packages of 10.

The outer race spacer fits in housing and pre-loads outer race of ball bearing.

SHAFT SPACERS

TYPE	SHAFT SIZE	MATERIALS
INNER RACE	3.00 TO 10.00	STAINLESS STEEL DIN 1.4300



STOCK NO.	SHAFT SIZE OR BEARING I.D.	ØC	ØD	B
SS1-117 SS1-118	3.00	3.05	3.73	0.10 0.15
SS1-101 SS1-102 SS1-103 SS1-104	4.00	4.05	5.30	0.10 0.15 0.25 0.40
SS1-121 SS1-122 SS1-123 SS1-124	5.00	5.05	5.93	0.10 0.15 0.25 0.40
SS1-105 SS1-106 SS1-107 SS1-108	6.00	6.05	7.90	0.10 0.15 0.25 0.40
SS1-109 SS1-110 SS1-111 SS1-112	8.00	8.05	10.20	0.10 0.15 0.25 0.40
SS1-113 SS1-114 SS1-115 SS1-116	10.00	10.05	12.30	0.10 0.15 0.25 0.40

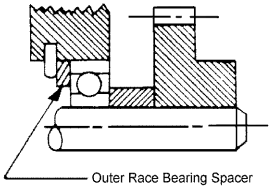
Sold in packages of 10.

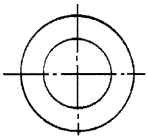
Also available

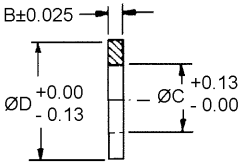
STOCK NUMBER	DESCRIPTION
KIT-SS1M	STAINLESS STEEL SHAFT SPACERS, INNER RACE, 3mm THRU 10mm SHAFT SIZE (300 PIECES)

BEARING SPACERS

TYPE	SHAFT SIZE	MATERIALS
OUTER RACE	7.00 TO 19.00	STAINLESS STEEL DIN 1.4300





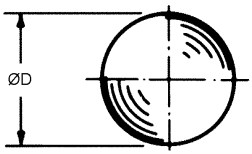


STOCK NO.	BEARING OUTSIDE DIA. (ØD)	ØC	B
SS3-113 SS3-114	7.00	6.25	0.15 0.25
SS3-115 SS3-116	8.00	6.75	0.15 0.25
SS3-101 SS3-102 SS3-103	9.00	7.85	0.15 0.25 0.40
SS3-117 SS3-118	10.00	8.25	0.15 0.25
SS3-119 SS3-120	11.00	10.00	0.15 0.25
SS3-104 SS3-105 SS3-106	13.00	11.15	0.15 0.25 0.40
SS3-121 SS3-122	15.00	13.00	0.15 0.25
SS3-107 SS3-108 SS3-109	16.00	13.85	0.15 0.25 0.40
SS3-110 SS3-111 SS3-112	19.00	16.65	0.15 0.25 0.40

F

BALLS

TYPE	DIAMETER	MATERIALS
HARDENED STEEL	**2 TO 11**	**STAINLESS STEEL DIN 1.4112 OR CHROME STEEL DIN 1.3505**

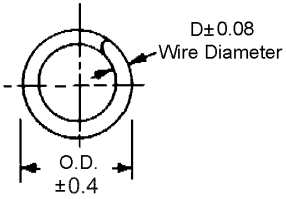


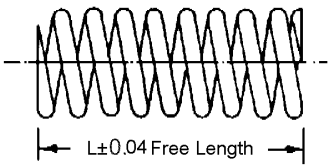
ØD	STAINLESS STEEL DIN 1.4112	CHROME STEEL DIN 1.3505
	±.0012 HARDNESS C55-60	±.0006 HARDNESS C60-67
	STOCK NUMBER	STOCK NUMBER
2	PT4M-2	PT5M-2
3	PT4M-3	PT5M-3
4	PT4M-4	PT5M-4
5	PT4M-5	PT5M-5
6	PT4M-6	PT5M-6
7	PT4M-7	PT5M-7
8	PT4M-8	PT5M-8
9	PT4M-9	PT5M-9
10	PT4M-10	PT5M-10
11	PT4M-11	PT5M-11

Sold in packages of 10.

SPRINGS

TYPE	STYLE	MATERIALS
COMPRESSION	RIGHT HAND - OPEN WOUND ENDS SQUARED	STAINLESS STEEL DIN 1.4305





STOCK NO.	ØO.D.	ØD	L	COILS	K ±10%
SPR1-1	1.45	0.18	9.5	18	276.5
SPR9-1		0.20	6.3	13	771.7
SPR9-2		0.20	12.7	24	364.0
SPR9-3	2.24	0.25	6.3	9	728.0
SPR1-2		0.25	12.7	17	334.3
SPR9-5		0.30	9.5	14	946.7
SPR9-6		0.30	19.0	24	465.5
SPR9-7	3.05	0.41	6.3	7	2549.7
SPR9-8		0.41	12.7	13	1209.2
SPR9-9		0.46	9.5	10	2609.2
SPR1-3		0.46	15.9	16	1543.5
SPR9-10		0.46	19.0	19	1239.0
SPR9-11		0.51	9.5	11	4037.2
SPR9-12		0.51	19.0	20	1923.2
SPR9-13		0.56	12.7	14	4532.5
SPR9-14		0.56	25.4	27	2142.0
SPR9-15	4.57	0.46	12.7	8	976.5
SPR9-16		0.46	25.4	14	465.5
SPR9-17		0.51	12.7	8	1414.0
SPR9-18		0.51	25.7	15	670.2
SPR1-4		0.56	12.7	8	2068.5
SPR9-20		0.56	25.4	16	946.7
SPR9-21		0.61	12.7	9	2754.5
SPR9-22		0.56	25.4	17	1610.7
SPR9-23		0.66	12.7	9	3906.7
SPR9-24		0.66	25.4	17	1778.0
SPR9-25		0.74	19.0	14	3760.7
SPR9-26		0.74	38.1	26	1806.0
SPR9-27		0.81	19.0	14	6020.0
SPR9-28		0.81	38.1	27	2740.5
SPR9-29	6.10	0.66	12.7	6	3045.0
SPR1-5		0.66	15.9	8	1849.7
SPR9-30		0.66	25.4	12	1078.0
SPR9-31		0.89	12.7	8	7070.0
SPR9-32		0.89	25.4	14	3263.7
SPR9-33		0.97	19.0	10	6720.0
SPR9-34		0.97	38.1	20	3118.5
SPR9-35		1.02	25.4	14	5684.0
SPR9-36		1.02	50.8	27	2724.7
SPR1-6	7.62	0.81	15.9	6	903.0
SPR1-7	9.14	1.07	22.2	8	3717.0
SPR1-8	10.67	1.14	25.4	7	2915.5
SPR1-9	12.19	1.40	31.7	8	3935.7
SPR1-10	15.24	1.60	38.1	8	3498.2
SPR1-11	18.29	1.83	50.8	9	2915.5

K = Average Spring Rate N/m.

Specials on request.

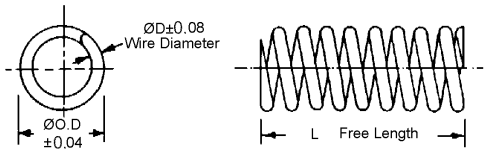
Sold in packages of 10.

F

SPRINGS

TYPE	LENGTHS	MATERIALS
COMPRESSION	**38 TO 63**	**STAINLESS STEEL DIN 1.4305**

STOCK NO.	ØO.D.	ØD	L	APPROX. NO. COILS
SPR7-1	2.36	0.41	38.1	32
SPR7-2	3.18	0.46	50.8	37
SPR7-7	3.56	0.41	25.4	17
SPR7-8	4.37	0.46	31.7	19
SPR7-3	4.75	0.58	63.5	37
SPR7-4	6.35	0.64	76.2	29
SPR7-9	6.35	0.58	38.1	22
SPR7-10	8.33	0.64	44.4	19
SPR7-11	9.91	0.81	50.8	16
SPR7-12	11.89	1.02	57.1	12
SPR7-13	15.47	1.19	63.5	15

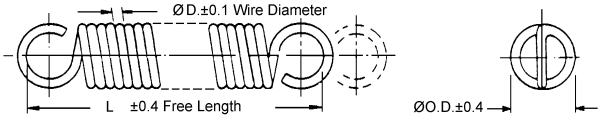


- Cut your own length
- Ends can be ground or looped

Special springs available on request (send drawing).

Sold in packages of 10.

TYPE	LENGTHS	MATERIALS
EXTENSION - FULL TWIST LOOPS CLOSE WOUND	**6 TO 127**	**SPRING TEMPERED STAINLESS STEEL**



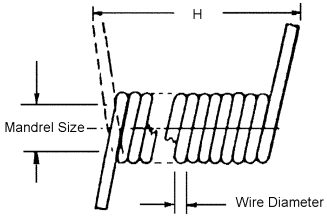
K = Spring rate in N/m

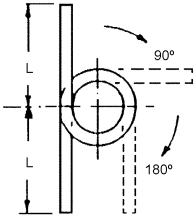
Sold in packages of 10.

STOCK NO.	ØO.D.	ØD	L	K ±10%
SPR10-1	1.6	0.2	6.4	297
SPR2-1		0.2	9.5	157
SPR10-2		0.2	12.7	105
SPR10-3	2.4	0.3	9.5	175
SPR2-2		0.3	12.7	297
SPR10-4		0.3	19.1	52
SPR2-3	3.1	0.5	25.4	472
SPR10-5	3.1	0.4	19.1	437
SPR10-6		0.4	31.8	192
SPR10-7		0.5	19.1	1207
SPR10-8		0.5	31.8	647
SPR2-4	4.6	0.7	31.8	735
SPR10-9	4.6	0.6	19.1	630
SPR10-10		0.6	31.8	297
SPR10-11		0.7	19.1	1540
SPR10-13		0.8	19.1	3953
SPR10-4		0.8	31.8	1907
SPR2-5	6.1	0.8	31.8	612
SPR10-15	6.1	0.7	19.1	822
SPR10-16		0.7	31.8	297
SPR10-17		0.7	19.1	1435
SPR10-18		0.7	31.8	560
SPR10-19		0.8	19.1	2012
SPR10-20		0.8	31.8	770
SPR10-21		0.9	19.1	3220
SPR10-22		0.9	31.8	1295
SPR2-6	9.1	1.4	50.8	2660
SPR10-27	9.1	0.8	25.4	472
SPR10-28		0.8	31.8	210
SPR10-29		0.9	25.4	1155
SPR10-30		0.9	38.1	490
SPR10-31		1.1	31.8	1977
SPR10-32		1.1	50.8	910
SPR10-33		1.4	31.8	5635
SPR10-35	12.7	0.9	31.8	402
SPR10-36		0.9	50.8	140
SPR2-7		1.4	63.5	735
SPR2-8	16.5	1.4	76.2	280
SPR2-9	19.1	1.6	101.6	245
SPR2-10	21.6	1.9	38.1	367
SPR2-11	25.4	1.9	127.0	210

SPRINGS

TYPE	LENGTHS	MATERIALS
TORSION LEFT HAND WOUND	**12 TO 50**	**STAINLESS STEEL**





STOCK NUMBER	WIRE DIA.	OUTSIDE DIA.	L	MANDREL SIZE (MAX.)	H	TORQUE N•cm @ 180°
SPR3-1	0.3	4.2	12.7	2.8	1.5	0.5
SPR3-2	0.4	4.7	19.1	2.8	1.9	1.1
SPR3-3	0.5	5.5	19.1	3.6	2.8	1.6
SPR3-4	0.5	6.3	25.4	4.0	3.2	2.5
SPR3-5	0.6	7.7	25.4	5.2	3.8	4.2
SPR3-6	0.8	10.0	25.4	6.3	4.6	7.1
SPR3-7	0.9	11.4	31.8	7.1	3.1	11.3
SPR3-8	1.0	13.2	50.8	8.7	6.2	15.5
SPR3-9	1.2	15.6	50.8	10.3	7.4	28.3

Special springs on request, send sketch.
Right hand wound on request.
Sold in packages of 10.

F

NOTES

COUPLINGS & CLUTCHES

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SLIP CLUTCHES & COUPLINGS . . . . . MG 39

ROLLER CLUTCHES . . . . . MG 40

G

GUIDE FOR COUPLING SELECTION

TECHNICAL DATA

		Dimensional Parameters			Environmental Parameters				
	COUPLING TYPE	TORQUE RANGE IN.-OZ.	RANGE OF MAXIMUM PARALLEL MISALIGN.	RANGE OF MAXIMUM ANGULAR MISALIGN.	HIGH TORSIONAL STIFFNESS	VIBRATION DAMPENING	VACUUM COMPATIBILITY	ELECTRICAL INSULATION	CLEAN ROOM ENVIRONMENT
INFORMATION TRANSMITTING COUPLINGS	MULTIBEAM: -ST/ST+AL -PLASTIC	 64-7200 35-1273	. 005-.038 .005-.038	 5Þ-7Þ 5Þ-10Þ	 E G	 - -	 E -	 - E	 E G
	BEAMED	56-1488	.004-.005	5Þ	E	-	E	-	E
	BELLOWS	40-175	.012-.027	4Þ-7Þ	E	-	E	-	E
	SLEEVE	5-5833	0	0Þ	E	-	E	-	E
SHOCK ABSORBING COUPLINGS	SPIDER	42-3520	.031-.078	1Þ	-	G	-	E	G
	NEO-FLEX	150	.005	1Þ	-	E	-	E	G
	ABSORBATHANE	48-640	.094-.125	10Þ-15Þ	-	E	-	E	G
MISALIGNMENT COUPLINGS	UNIVERSAL LATERAL	38-607	.050	5Þ-10Þ	G	-	-	E	-
	OLDHAM	16-3200	.030-.200	1/2Þ-1 1/4Þ	G	-	-	E	-
HIGH MISALIGNMENT COUPLINGS	UNIVERSAL JOINTS: - ST/ST	 480-4240	 0	 30Þ	 G	 -	 E	 -	 -
	- DELRIN®, SINGLE JOINT	16-239	0	45Þ	-	-	-	E	-
	-DELRIN®, DOUBLE JOINT	11-183	.220-.610	90Þ	-	-	-	E	-
	TELESCOPIC UNIVERSAL JOINT	55-239	1.920-3.770	60Þ	-	-	-	E	-

E = Excellent G = Good - = Not Recommended

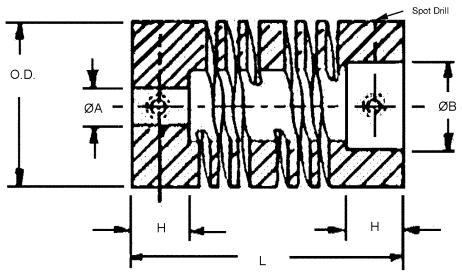
W.M. Berg Inc. manufactures a complete line of precision made, high quality couplings. Available in inch and metric sizes and many styles to accommodate any design requirement. Couplings can be placed into the following four categories:

1. **Information Transmitting Couplings -** These zero backlash high torsional rigidity couplings are for precision positioning applications where constant velocity is required for accurate feedback control.
2. **Shock Absorbing Couplings -** As a result of flexible plastic members connecting their hubs, these couplings dampen vibrations and shock loads and electrically insulate shafting.
3. **Misalignment Couplings -** The sliding center elements of these couplings compensate for lateral and angular misalignment caused by tolerance buildup or as a result of mounting.
4. **High Misalignment Couplings -** These couplings allow the designer to have shafts that are intentionally offset, laterally or angularly, by a large amount.

The above chart is a guide for the proper selection of the Berg coupling best suited for your particular application.

SIX BEAM FLEXIBLE COUPLINGS

BORES	STYLE	MATERIAL
2MM TO 30MM	SET SCREW	ANODIZED ALUMINUM



STOCK NO.	ØA +.05 -.00	ØB +.05 -.00	ØO.D.	L	H	ANGLE OFF SET	PARALLEL OFF SET	MAX. WORKING TORQUE (N•cm)
CO36A-1M CO36A-2M CO36A-3M CO36A-4M	2.00 3.00 3.00 4.00	3.00 3.00 4.00 4.00	9.5	19.6	6.0	5°	0.1	55
CO38A-1M CO38A-2M CO38A-3M CO38A-4M	3.00 3.00 5.00 6.00	3.00 5.00 5.00 6.00	12.7	25.4	6.9	5°	0.2	110
CO40A-1M CO40A-2M CO40A-3M CO40A-4M	5.00 6.00 6.00 10.00	6.00 6.00 10.00 10.00	19.1	28.0	6.4	7°	0.3	280
CO42A-1M CO42A-2M CO42A-3M CO42A-4M	6.00 8.00 10.00 13.00	6.00 8.00 10.00 13.00	25.4	38.7	11.7	7°	0.4	490
CO44A-1M CO44A-2M CO44A-3M CO44A-4M	6.00 10.00 13.00 16.00	10.00 10.00 13.00 16.00	31.7	57.2	16.0	7°	0.5	680
CO50A-1M CO50A-2M CO50A-3M	10.00 12.00 16.00	12.00 12.00 16.00	38.1	66.7	18.0	7°	0.6	900
CO52A-1M CO52A-2M CO52A-3M	14.00 16.00 20.00	14.00 16.00 20.00	44.5	76.2	20.0	7°	0.8	1000
CO54A-1M CO54A-2M CO54A-3M	20.00 25.00 30.00	20.00 25.00 30.00	57.2	130.0	32.0	7°	0.9	2200

Operating temperature -40° C to 120°C

Advantages

- One Piece construction. no mechanical joints
- No Backlash
- Constant velocity
- Torsionally rigid
- High Flexibility
- Small and lightweight
- High or low speeds
- Not temperature sensitive
- No lubrication
- Unaffected by climactic conditions
- Reversible

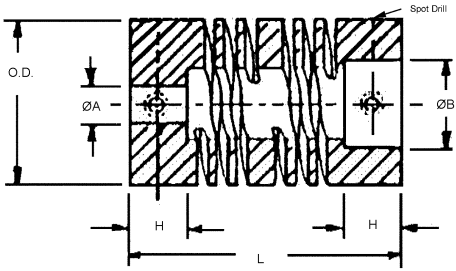
Applications

Encoders • Stepper Motors • Precision Ball Screws • Machine Tools • Robotics • Scientific Equipment • Measuring Instruments • Computers • Servo Systems • Optical Telescopes • Defense Systems • Medical Equipment • Appliances• Pumps • Valves • Fans

Central relief diameter may be smaller than bore in some cases.

SIX BEAM FLEXIBLE COUPLINGS

BORES	STYLE	MATERIAL
2MM TO 30MM	SET SCREW	STAINLESS STEEL DIN 1.4305



STOCK NO.	ØA +.05 -.00	ØB +.05 -.00	ØO.D.	L	H	ANGLE OFF SET	PARALLEL OFF SET	MAX. WORKING TORQUE (N•cm)
CO36S-1M CO36S-2M CO36S-3M CO36S-4M	2.00 3.00 3.00 4.00	3.00 3.00 4.00 4.00	9.5	19.6	6.0	5°	0.1	85
CO38S-1M CO38S-2M CO38S-3M CO38S-4M	3.00 3.00 5.00 6.00	3.00 5.00 5.00 6.00	12.7	25.4	6.9	5°	0.2	150
CO40S-1M CO40S-2M CO40S-3M CO40S-4M	5.00 6.00 6.00 10.00	6.00 6.00 10.00 10.00	19.1	28.0	6.4	7°	0.3	400
CO42S-1M CO42S-2M CO42S-3M CO42S-4M	6.00 8.00 10.00 13.00	6.00 8.00 10.00 13.00	25.4	38.7	11.7	7°	0.4	900
CO44S-1M CO44S-2M CO44S-3M CO44S-4M	6.00 10.00 13.00 16.00	10.00 10.00 13.00 16.00	31.7	57.2	16.0	7°	0.5	1000
CO50S-1M CO50S-2M CO50S-3M	10.00 12.00 16.00	12.00 12.00 16.00	38.1	66.7	18.0	7°	0.6	1500
CO52S-1M CO52S-2M CO52S-3M	14.00 16.00 20.00	14.00 16.00 20.00	44.5	76.2	20.0	7°	0.8	1900
CO54S-1M CO54S-2M CO54S-3M	20.00 25.00 30.00	20.00 25.00 30.00	57.2	130.0	32.0	7°	0.9	4100

Operating temperature -40° C to 120°C

Advantages

- One Piece construction. no mechanical joints
- No Backlash
- Constant velocity
- Torsionally rigid
- High Flexibility
- Small and lightweight
- High or low speeds
- Not temperature sensitive
- No lubrication
- Unaffected by climactic conditions
- Reversible

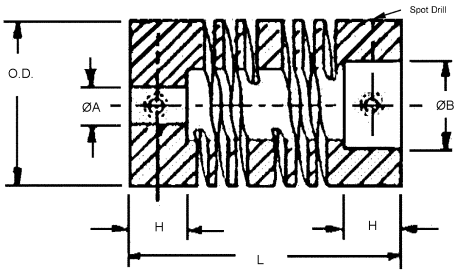
Applications

Encoders • Stepper Motors • Precision Ball Screws • Machine Tools • Robotics • Scientific Equipment • Measuring Instruments • Computers • Servo Systems • Optical Telescopes • Defense Systems • Medical Equipment • Appliances• Pumps • Valves • Fans

Central relief diameter may be smaller than bore in some cases.

SIX BEAM FLEXIBLE COUPLINGS

BORES	STYLE	MATERIAL
2MM TO 30MM	SET SCREW	DELRIN



STOCK NO.	ØA +.05 -.00	ØB +.05 -.00	ØO.D.	L	H	ANGLE OFF SET	PARALLEL OFF SET	MAX. WORKING TORQUE (N•cm)
CO38D-1M CO38D-2M CO38D-3M CO38D-4M	3.00 3.00 5.00 6.00	3.00 5.00 5.00 6.00	12.7	25.4	6.9	5°	0.2	25
CO40D-1M CO40D-2M CO40D-3M CO40D-4M	5.00 6.00 6.00 10.00	6.00 6.00 10.00 10.00	19.1	28.0	6.4	7°	0.3	80
CO42D-1M CO42D-2M CO42D-3M CO42D-4M	6.00 8.00 10.00 13.00	6.00 8.00 10.00 13.00	25.4	38.7	11.7	7°	0.4	150
CO44D-1M CO44D-2M CO44D-3M CO44D-4M	6.00 10.00 13.00 16.00	10.00 10.00 13.00 16.00	31.7	57.2	16.0	7°	0.5	230
CO50D-1M CO50D-2M CO50D-3M	10.00 12.00 16.00	12.00 12.00 16.00	38.1	66.7	18.0	7°	0.6	275
CO52D-1M CO52D-2M CO52D-3M	14.00 16.00 20.00	14.00 16.00 20.00	44.5	76.2	20.0	7°	0.8	325
CO54D-1M CO54D-2M CO54D-3M	20.00 25.00 30.00	20.00 25.00 30.00	57.2	130.0	32.0	7°	0.9	380

Operating temperature -20° C to 60°C

Advantages

- One Piece construction. no mechanical joints
- No Backlash
- Constant velocity
- Torsionally rigid
- High Flexibility
- Small and lightweight
- High or low speeds
- Not temperature sensitive
- No lubrication
- Unaffected by climactic conditions
- Reversible

Applications

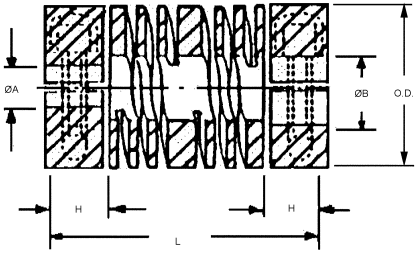
Encoders • Stepper Motors • Precision Ball Screws • Machine Tools • Robotics • Scientific Equipment • Measuring Instruments • Computers • Servo Systems • Optical Telescopes • Defense Systems • Medical Equipment • Appliances• Pumps • Valves • Fans

NOTE: Maximum angular offset of 10°.

Central relief diameter may be smaller than bore in some cases.

SIX BEAM FLEXIBLE COUPLINGS

BORES	STYLE	MATERIAL
2MM TO 30MM	CLAMP	ANODIZED ALUMINUM



STOCK NO.	ØA +.05 -.00	ØB +.05 -.00	ØO.D.	L	H	ANGLE OFF SET	PARALLEL OFF SET	MAX. WORKING TORQUE (N•cm)
CO37A-1M CO37A-2M CO37A-3M CO37A-4M	2.00 3.00 3.00 4.00	3.00 3.00 4.00 4.00	9.5	19.6	6.0	5°	0.1	55
CO39A-1M CO39A-2M CO39A-3M CO39A-4M	3.00 3.00 5.00 6.00	3.00 5.00 5.00 6.00	12.7	25.4	6.9	5°	0.2	110
CO41A-1M CO41A-2M CO41A-3M CO41A-4M	5.00 6.00 6.00 10.00	6.00 6.00 10.00 10.00	19.1	28.0	6.4	7°	0.3	280
CO43A-1M CO43A-2M CO43A-3M CO43A-4M	6.00 8.00 10.00 13.00	6.00 8.00 10.00 13.00	25.4	38.7	11.7	7°	0.4	490
CO45A-1M CO45A-2M CO45A-3M CO45A-4M	6.00 10.00 13.00 16.00	10.00 10.00 13.00 16.00	31.7	57.2	16.0	7°	0.5	680
CO51A-1M CO51A-2M CO51A-3M	10.00 12.00 16.00	12.00 12.00 16.00	38.1	66.7	18.0	7°	0.6	900
CO53A-1M CO53A-2M CO53A-3M	14.00 16.00 20.00	14.00 16.00 20.00	44.5	76.2	20.0	7°	0.8	1000
CO55A-1M CO55A-2M CO55A-3M	20.00 25.00 30.00	20.00 25.00 30.00	57.2	130.0	32.0	7°	0.9	2200

Operating temperature -40° C to 120°C

Advantages

- One Piece construction. no mechanical joints
- No Backlash
- Constant velocity
- Torsionally rigid
- High Flexibility
- Small and lightweight
- High or low speeds
- Not temperature sensitive
- No lubrication
- Unaffected by climactic conditions
- Reversible

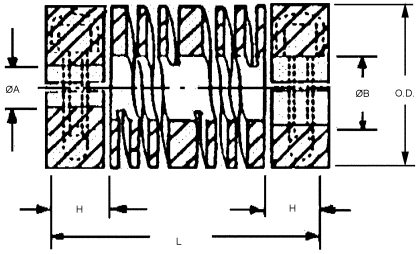
Applications

Encoders • Stepper Motors • Precision Ball Screws • Machine Tools • Robotics • Scientific Equipment • Measuring Instruments • Computers • Servo Systems • Optical Telescopes • Defense Systems • Medical Equipment • Appliances• Pumps • Valves • Fans

Central relief diameter may be smaller than bore in some cases.

SIX BEAM FLEXIBLE COUPLINGS

BORES	STYLE	MATERIAL
2MM TO 30MM	CLAMP	STAINLESS STEEL DIN 1.4305



STOCK NO.	ØA +.05 -.00	ØB +.05 -.00	ØO.D.	L	H	ANGLE OFF SET	PARALLEL OFF SET	MAX. WORKING TORQUE (N•cm)
CO37S-1M CO37S-2M CO37S-3M CO37S-4M	2.00 3.00 3.00 4.00	3.00 3.00 4.00 4.00	9.5	19.6	6.0	5°	0.1	85
CO39S-1M CO39S-2M CO39S-3M CO39S-4M	3.00 3.00 5.00 6.00	3.00 5.00 5.00 6.00	12.7	25.4	6.9	5°	0.2	150
CO41S-1M CO41S-2M CO41S-3M CO41S-4M	5.00 6.00 6.00 10.00	6.00 6.00 10.00 10.00	19.1	28.0	6.4	7°	0.3	400
CO43S-1M CO43S-2M CO43S-3M CO43S-4M	6.00 8.00 10.00 13.00	6.00 8.00 10.00 13.00	25.4	38.7	11.7	7°	0.4	900
CO45S-1M CO45S-2M CO45S-3M CO45S-4M	6.00 10.00 13.00 16.00	10.00 10.00 13.00 16.00	31.7	57.2	16.0	7°	0.5	1000
CO51S-1M CO51S-2M CO51S-3M	10.00 12.00 16.00	12.00 12.00 16.00	38.1	66.7	18.0	7°	0.6	1500
CO53S-1M CO53S-2M CO53S-3M	14.00 16.00 20.00	14.00 16.00 20.00	44.5	76.2	20.0	7°	0.8	1900
CO55S-1M CO55S-2M CO55S-3M	20.00 25.00 30.00	20.00 25.00 30.00	57.2	130.0	32.0	7°	0.9	4100

Operating temperature -40° C to 120°C

Advantages

- One Piece construction. no mechanical joints
- No Backlash
- Constant velocity
- Torsionally rigid
- High Flexibility
- Small and lightweight
- High or low speeds
- Not temperature sensitive
- No lubrication
- Unaffected by climactic conditions
- Reversible

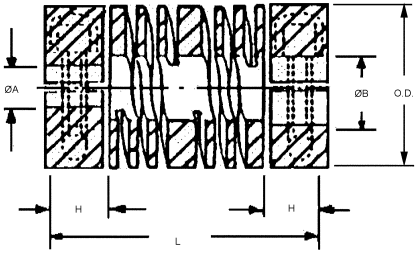
Applications

Encoders • Stepper Motors • Precision Ball Screws • Machine Tools • Robotics • Scientific Equipment • Measuring Instruments • Computers • Servo Systems • Optical Telescopes • Defense Systems • Medical Equipment • Appliances• Pumps • Valves • Fans

Central relief diameter may be smaller than bore in some cases.

SIX BEAM FLEXIBLE COUPLINGS

BORES	STYLE	MATERIAL
3MM TO 30MM	CLAMP	DELRIN



STOCK NO.	ØA +.05 -.00	ØB +.05 -.00	ØO.D.	L	H	ANGLE OFF SET	PARALLEL OFF SET	MAX. WORKING TORQUE (N•cm)
CO39D-1M CO39D-2M CO39D-3M CO39D-4M	3.00 3.00 5.00 6.00	3.00 5.00 5.00 6.00	12.7	25.4	6.9	5°	0.2	25
CO41D-1M CO41D-2M CO41D-3M CO41D-4M	5.00 6.00 6.00 10.00	6.00 6.00 10.00 10.00	19.1	28.0	6.4	7°	0.3	80
CO43D-1M CO43D-2M CO43D-3M CO43D-4M	6.00 8.00 10.00 13.00	6.00 8.00 10.00 13.00	25.4	38.7	11.7	7°	0.4	150
CO45D-1M CO45D-2M CO45D-3M CO45D-4M	6.00 10.00 13.00 16.00	10.00 10.00 13.00 16.00	31.7	57.2	16.0	7°	0.5	230
CO51D-1M CO51D-2M CO51D-3M	10.00 12.00 16.00	12.00 12.00 16.00	38.1	66.7	18.0	7°	0.6	275
CO53D-1M CO53D-2M CO53D-3M	14.00 16.00 20.00	14.00 16.00 20.00	44.5	76.2	20.0	7°	0.8	325
CO55D-1M CO55D-2M CO55D-3M	20.00 25.00 30.00	20.00 25.00 30.00	57.2	130.0	32.0	7°	0.9	380

Operating temperature -20° C to 60°C

Advantages

- One Piece construction. no mechanical joints
- No Backlash
- Constant velocity
- Torsionally rigid
- High Flexibility
- Small and lightweight
- High or low speeds
- Not temperature sensitive
- No lubrication
- Unaffected by climactic conditions
- Reversible

Applications

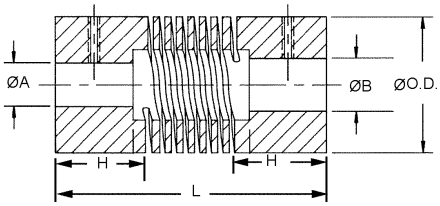
Encoders • Stepper Motors • Precision Ball Screws • Machine Tools • Robotics • Scientific Equipment • Measuring Instruments • Computers • Servo Systems • Optical Telescopes • Defense Systems • Medical Equipment • Appliances• Pumps • Valves • Fans

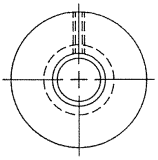
NOTE: Maximum angular offset of 10°.

Central relief diameter may be smaller than bore in some cases.

THREE BEAM FLEXIBLE COUPLINGS

BORE	STYLE	MATERIAL
3MM TO 12MM	SET SCREW	ALUMINUM ANODIZED





- Couplings can be supplied with a keyway
- Non-standard bore sizes available
- **Operating temperature -40° C to 120°C**

STOCK NO.	ØA +0.05 -0.00	ØB +0.05 -0.00	ØO.D.	L	H	ALLOWABLE MISALIGNMENT		
						MAX TOR. N•cm	ANGLE OFF SET	PARA OFF SET
CO71A-1M	3.00	3.00	9.5	14.2	2.8	40	5°	0.10
CO73A-1M CO73A-2M CO73A-3M CO73A-4M	3.00 4.00 4.00 5.00	3.00 4.00 5:00 5.00	12.7	19.0	5.3	90	5°	0.13
CO75A-1M CO75A-2M CO75A-3M CO75A-4M CO75A-5M	3.00 3.00 4.00 4.00 5.00	3.00 4.00 4.00 5.00 5.00	16.0	20.3	6.1	145	5°	0.13
CO77A-1M CO77A-2M CO77A-3M CO77A-4M CO77A-5M	4.00 4.00 5.00 5.00 6.00	4.00 5.00 5.00 6.00 6.00	19.0	22.9	7.1	245	5°	0.13
CO79A-1M CO79A-2M CO79A-3M CO79A-4M CO79A-5M	6.00 6.00 8.00 8.00 10.00	6.00 8.00 8.00 10.00 10.00	25.4	31.8	8.4	390	5°	0.13
CO81A-1M CO81A-2M CO81A-3M	10.00 10.00 12.00	10.00 12.00 12.00	31.8	44.5	11.2	590	5°	0.13

Central relief diameter may be smaller than bore in some cases.

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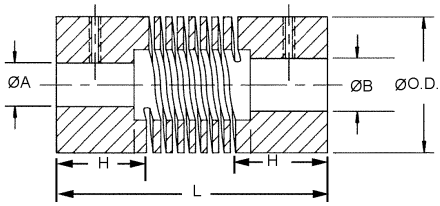
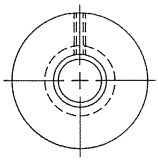
THREE BEAM FLEXIBLE COUPLINGS

BORE	STYLE	MATERIAL
3MM TO 12MM	SET SCREW	STAINLESS STEEL DIN 1.4305





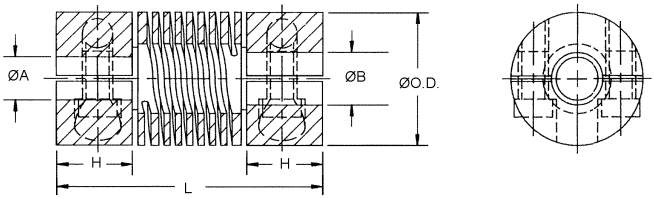
- Couplings can be supplied with a keyway
- Non-standard bore sizes available
- **Operating temperature -40° C to 120°C**

STOCK NO.	ØA +0.05 -0.00	ØB +0.05 -0.00	ØO.D.	L	H	ALLOWABLE MISALIGNMENT		
						MAX TOR. N•cm	ANGLE OFF SET	PARA OFF SET
CO71S-1M	3.00	3.00	9.5	14.2	2.8	40	5°	0.10
CO73S-1M	3.00	3.00	12.7	19.0	5.3	90	5°	0.13
CO73S-2M	4.00	4.00						
CO73S-3M	4.00	5:00						
CO73S-4M	5.00	5.00						
CO75S-1M	3.00	3.00	16.0	20.3	6.1	150	5°	0.13
CO75S-2M	3.00	4.00						
CO75S-3M	4.00	4.00						
CO75S-4M	4.00	5.00						
CO75S-5M	5.00	5.00						
CO77S-1M	4.00	4.00	19.0	22.9	7.1	250	5°	0.13
CO77S-2M	4.00	5.00						
CO77S-3M	5.00	5.00						
CO77S-4M	5.00	6.00						
CO77S-5M	6.00	6.00						
CO79S-1M	6.00	6.00	25.4	31.8	8.4	550	5°	0.13
CO79S-2M	6.00	8.00						
CO79S-3M	8.00	8.00						
CO79S-4M	8.00	10.00						
CO79S-5M	10.00	10.00						
CO81S-1M	10.00	10.00	31.8	44.5	11.2	950	5°	0.13
CO81S-2M	10.00	12.00						
CO81S-3M	12.00	12.00						

Central relief diameter may be smaller than bore in some cases.

THREE BEAM FLEXIBLE COUPLINGS

BORE	STYLE	MATERIAL
3MM TO 12MM	CLAMP	ALUMINUM ANODIZED



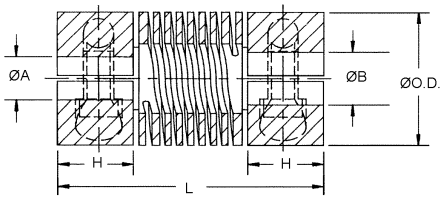
- Couplings can be supplied with a keyway
- Non-standard bore sizes available
- **Operating temperature -40° C to 120°C**

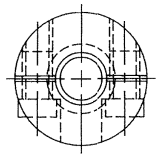
STOCK NO.	ØA +0.05 -0.00	ØB +0.05 -0.00	ØO.D.	L	H	ALLOWABLE MISALIGNMENT		
						MAX TOR. N•cm	ANGLE OFF SET	PARA OFF SET
CO72A-1M	3.00	3.00	12.7	19.0	5.3	90	5°	0.13
CO72A-2M	4.00	4.00						
CO72A-3M	4.00	5:00						
CO72A-4M	5.00	5.00						
CO74A-1M	3.00	3.00	16.0	20.3	6.1	145	5°	0.13
CO74A-2M	3.00	4.00						
CO74A-3M	4.00	4.00						
CO74A-4M	4.00	5.00						
CO74A-5M	5.00	5.00						
CO76A-1M	4.00	4.00	19.0	22.9	7.1	245	5°	0.13
CO76A-2M	4.00	5.00						
CO76A-3M	5.00	5.00						
CO76A-4M	5.00	6.00						
CO76A-5M	6.00	6.00						
CO78A-1M	6.00	6.00	25.4	31.8	8.4	390	5°	0.13
CO78A-2M	6.00	8.00						
CO78A-3M	8.00	8.00						
CO78A-4M	8.00	10.00						
CO78A-5M	10.00	10.00						
CO80A-1M	10.00	10.00	31.8	44.5	11.2	590	5°	0.13
CO80A-2M	10.00	12.00						
CO80A-3M	12.00	12.00						

Central relief diameter may be smaller than bore in some cases.

THREE BEAM FLEXIBLE COUPLINGS

BORE	STYLE	MATERIAL
3MM TO 12MM	CLAMP HUB	STAINLESS STEEL DIN 1.4305





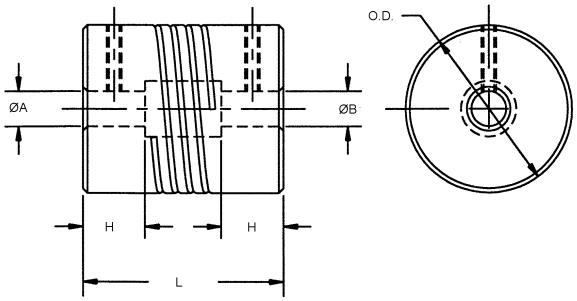
- Couplings can be supplied with a keyway
- Non-standard bore sizes available
- All couplings contain an integral relief chamber
- **Operating temperature -40° C to 120°C**

STOCK NO.	ØA +0.05 -0.00	ØB +0.05 -0.00	ØO.D.	L	H	ALLOWABLE MISALIGNMENT		
						MAX TOR. N•cm	ANGLE OFF SET	PARA OFF SET
CO72S-1M	3.00	3.00	12.7	19.0	5.3	90	5°	0.13
CO72S-2M	4.00	4.00						
CO72S-3M	4.00	5:00						
CO72S-4M	5.00	5.00						
CO74S-1M	3.00	3.00	16.0	20.3	6.1	150	5°	0.13
CO74S-2M	3.00	4.00						
CO74S-3M	4.00	4.00						
CO74S-4M	4.00	5.00						
CO74S-5M	5.00	5.00						
CO76S-1M	4.00	4.00	19.0	22.9	7.1	250	5°	0.13
CO76S-2M	4.00	5.00						
CO76S-3M	5.00	5.00						
CO76S-4M	5.00	6.00						
CO76S-5M	6.00	6.00						
CO78S-1M	6.00	6.00	25.4	31.8	8.4	550	5°	0.13
CO78S-2M	6.00	8.00						
CO78S-3M	8.00	8.00						
CO78S-4M	8.00	10.00						
CO78S-5M	10.00	10.00						
CO80S-1M	10.00	10.00	31.8	44.5	11.2	950	5°	0.13
CO80S-2M	10.00	12.00						
CO80S-3M	12.00	12.00						

Central relief diameter may be smaller than bore in some cases.

SINGLE BEAM FLEXIBLE COUPLINGS

BORES	STYLE	MATERIAL
3MM TO 25MM	SET SCREW	ALUMINUM ANODIZED

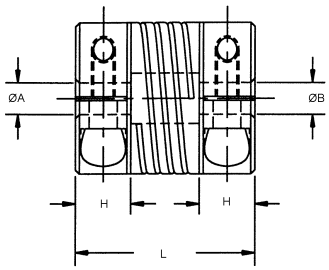


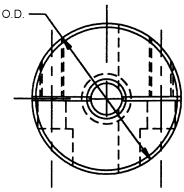
STOCK NO.	ØA +0.05 -0.00	ØB +0.05 -0.00	ØO.D.	L	H	MAX. WORKING TORQUE (N•cm)	ANGULAR OFFSET	PARALLEL OFFSET
COS71A-1M	3.00	3.00	9.5	14.2	2.8	15	5°	0.13
COS73A-1M	3.00	3.00	12.7	19.0	5.3	45	5°	0.25
COS73A-2M	4.00	4.00						
COS73A-3M	4.00	4.00						
COS73A-4M	5.00	5.00						
COS75A-1M	3.00	3.00	16.0	20.3	6.1	65	5°	0.25
COS75A-2M	3.00	3.00						
COS75A-3M	4.00	4.00						
COS75A-4M	4.00	4.00						
COS75A-5M	5.00	5.00						
COS77A-1M	4.00	4.00	19.1	22.9	7.1	115	5*	0.25
COS77A-2M	4.00	4 00						
COS77A-3M	5.00	5.00						
COS77A-4M	5.00	5.00						
COS77A-5M	6.00	6.00						
COS79A-1M	6.00	6.00	25.5	31.8	8.4	165	5°	0.25
COS79A-2M	6.00	8.00						
COS79A-3M	8.00	8.00						
COS79A-4M	8.00	10.00						
COS79A-5M	10.00	10.00						
COS81A-1M	10.00	10.00	31.8	44.5	11.2	345	5°	0.25
COS81A-2M	10.00	12.00						
COS81A-3M	12.00	12.00						
COS83A-1M	12.00	12.00	38.0	67.0	18.0	500	5°	0.25
COS83A-2M	16.00	16.00						
COS83A-3M	19.00	19.00						
COS85A-1M	12.00	12 00	44.5	76.2	20.0	675	5°	0.25
COS85A-2M	16.00	16.00						
COS85A-3M	19.00	19.00						
COS87A-1M	19.00	19.00	57.0	130.3	32.0	1100	5°	0.25
COS87A-2M	22.00	22.00						
COS87A-3M	25.00	25.00						

Central relief diameter may be smaller than bore in some cases.

SINGLE BEAM FLEXIBLE COUPLINGS

BORE	STYLE	MATERIAL
3MM TO 25MM	CLAMP	ALUMINUM ANODIZED





STOCK NO.	ØA +0.05	ØB +0.05	ØO.D.	L	H	MAX WORKING TORQUE (N•cm)	ANGULAR OFF SET	PARALLEL OFF SET
COS72A-1M	3.00	3.00	12.7	19.0	5.3	45	5°	0.25
COS72A-2M	4.00	4.00						
COS72A-3M	4.00	4.00						
COS72A-4M	5.00	5.00						
COS74A-1M	3.00	3.00	16.0	20.3	6.1	68	5°	0.25
COS74A-2M	3.00	3.00						
COS74A-3M	4.00	4.00						
COS74A-4M	4.00	4.00						
COS74A-5M	5.00	5.00						
COS76A-1M	4.00	4.00	19.1	22.9	7.1	118	5*	0.25
COS76A-2M	4.00	4 00						
COS76A-3M	5.00	5.00						
COS76A-4M	5.00	5.00						
COS76A-5M	6.00	6.00						
COS78A-1M	6.00	6.00	25.5	31.8	8.4	170	5°	0.25
COS78A-2M	6.00	8.00						
COS78A-3M	8.00	8.00						
COS78A-4M	8.00	10.00						
COS78A-5M	10.00	10.00						
COS80A-1M	10.00	10.00	31.8	44.5	11.2	350	5°	0.25
COS80A-2M	10.00	12.00						
COS80A-3M	12.00	12.00						
COS82A-1M	12.00	12.00	38.0	67.0	18.0	508	5°	0.25
COS82A-2M	16.00	16.00						
COS82A-3M	19.00	19.00						
COS84A-1M	12.00	12 00	44.5	76.2	20.0	678	5°	0.25
COS84A-2M	16.00	16.00						
COS84A-3M	19.00	19.00						
COS86A-1M	19.00	19.00	57.0	130.3	32.0	1130	5°	0.25
COS86A-2M	22.00	22.00						
COS86A-3M	25.00	25.00						

Central relief diameter may be smaller than bore in some cases.

ABSORBATHANE FLEXIBLE COUPLINGS

BORE	STYLE	MATERIAL
5.00 TO 10.00	EXTERNAL HUB	BLACK POLYURETHANE PLATED MILD STEEL HUBS

STOCK NO.	BORES ØB1 and ØB2 +0.05	ØA	C	ØD	MAX. WORKING TORQUE (N•cm)	MAX. PARALLEL MISALIGN	MAX. ANGULAR MISALIGN
CC3M-18 CC3M-19 CC3M-20 CC3M-21	5.00 6.00 8.00 10.00	28.5	28.5	17.5	30	2.4	10°

BORE	STYLE	MATERIAL
6.00 TO 13.00	INTERNAL HUB	BLACK POLYURETHANE PLATED MILD STEEL HUBS

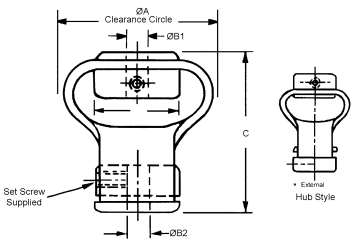
STOCK NO.	BORES ØB1 and ØB2 +0.05	ØA	C	ØD	MAX. WORKING TORQUE (N•cm)	MAX. PARALLEL MISALIGN	MAX. ANGULAR MISALIGN
CC3M-22 CC3M-23 CC3M-24 CC3M-25 CC3M-26	6.00 8.00 10.00 11.00 13.00	47.5	44.5	25.5	135	3.2	15°

BORE	STYLE	MATERIAL
10.00 TO 16.00	INTERNAL HUB	BLACK POLYURETHANE PLATED MILD STEEL HUBS

STOCK NO.	BORES ØB1 and ØB2 +0.05	ØA	C	ØD	MAX. WORKING TORQUE (N•cm)	MAX. PARALLEL MISALIGN	MAX. ANGULAR MISALIGN
CC3M-27 CC3M-28 CC3M-29 CC3M-30 CC3M-31	10.00 11.00 13.00 14.00 16.00	54.0	54.0	32.0	315	4.7	15°

BORE	STYLE	MATERIAL
13.00 TO 16.00	INTERNAL HUB	BLACK POLYURETHANE PLATED MILD STEEL HUBS

STOCK NO.	BORES ØB1 and ØB2 +0.05	ØA	C	ØD	MAX. WORKING TORQUE (N•cm)	MAX. PARALLEL MISALIGN	MAX. ANGULAR MISALIGN
CC3M-32 CC3M-33 CC3M-34	13.00 14.00 16.00	54.0	60.5	32.0	450	3.2	15°

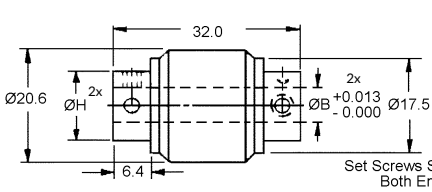


Available on request:
Other bore sizes
or bore combinations.

- Absorbs end play
- Quiet running
- Maintenance free (No moving parts)
- 3600 R.P.M. Maximum

NEO-FLEX COUPLINGS

BORE	STYLE	MATERIAL
3MM TO 10MM	PIN HUB	STAINLESS STEEL DIN 1.4305 HUBS MOLDED NEOPRENE BODY

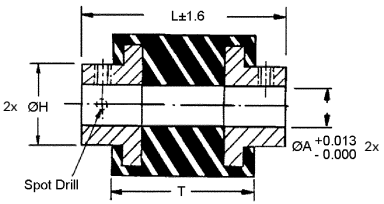


- Isolates torsional vibrations
- Insulates between shafts
- 1° angular misalignment (Max.)
- 0.13 Shaft misalignment (Max.)
- Maximum working torque of 105 N•cm

STOCK NO.	ØB	ØH	ØC
CO14M-1	2.995	7.9	4.6
CO14M-2	3.995	8.7	5.6
CO14M-3	4.995	9.7	6.6
CO14M-4	5.995	12.3	7.6
CO14M-5	7.995	12.8	9.6
CO14M-6	9.995	16.4	11.6

(Special bore sizes and mixed bore combinations available on request.)

BORE	STYLE	MATERIAL
5MM TO 13MM	PIN HUB	STAINLESS STEEL DIN 1.4305 HUBS POLYURETHANE CENTER

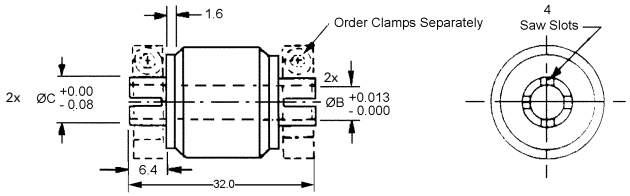


STOCK NO.	ØA	H	ØD	L	T
CC1-3M	4.995	9.5	23.8	31.8	19.1
CC1-14M	5.995	15.9	28.6	39.7	23.8
CC1-15M	7.995	15.9	28.6	39.7	23.8
CC1-16M	9.995	15.9	28.6	39.7	23.8

Combination bores are available on request.

NEO-FLEX COUPLINGS

BORE	STYLE	MATERIAL
3MM TO 10MM	CLAMP HUB	STAINLESS STEEL DIN 1.4305 HUBS MOLDED NEOPRENE BODY

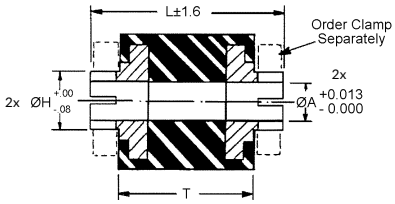


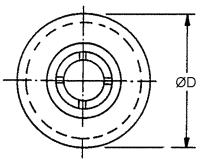
- Isolates torsional vibrations
- Insulates between shafts
- 1° angular misalignment (Max.)
- 0.13 Shaft misalignment (Max.)
- Maximum working torque of 105 N•cm

STOCK NO.	ØB	ØH	ØC	CLAMP STOCK NO.
CO15M-1	2.995	7.9	4.6	CG1M-4
CO15M-2	3.995	8.7	5.6	CG1M-5
CO15M-3	4.995	9.7	6.6	CG1M-8
CO15M-4	5.995	12.3	7.6	CG1M-11
CO15M-5	7.995	12.8	9.6	CG1M-14
CO15M-6	9.995	16.4	11.6	CG1M-16

(Special bore sizes and mixed bore combinations available on request.)

BORE	STYLE	MATERIAL
5MM TO 13MM	CLAMP HUB	STAINLESS STEEL DIN 1.4305 HUBS POLYURETHANE CENTER





STOCK NO.	ØA	H	ØD	L	T
CC2-3M	4.995	6.6	23.8	31.8	19.1
CC2-14M	5.995	7.6	28.6	39.7	23.8
CC2-15M	7.995	9.6	28.6	39.7	23.8
CC2-16M	9.995	11.6	28.6	39.7	23.8

Combination bores are available on request.

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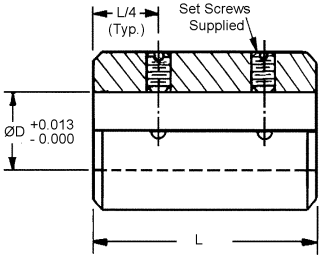
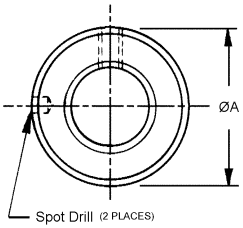
SLEEVE COUPLINGS

BORE	STYLE	MATERIAL
3MM TO 25MM	SET SCREW	STAINLESS STEEL DIN 1.4305



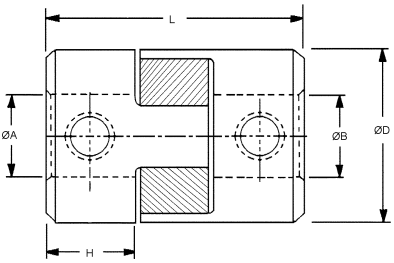


STOCK NO.	SHAFT SIZE	ØD	L	ØA
CTM-1	3	2.995	11	9
CTM-2	4	3.995	13	9
CTM-3	6	5.995	15	13
CTM-4	8	7.995	15	13
CTM-5	9	8.995	19	19
CTM-6	9	8.995	25	19
CTM-7	12	11.995	25	25
CTM-8	12	11.995	38	25
CTM-9	16	15.995	50	32
CTM-10	19	18.995	50	38
CTM-11	25	24.995	76	50
CTM-12	3-4	2.995 3.995	11	9
CTM-13	3-5	2.995 4.995	13	9
CTM-14	3-6	2.995 5.995	14	13
CTM-15	4-6	3.995 5.995	14	13
CTM-16	5-6	4.995 5.995	14	13
CTM-17	6-8	5.995 7.995	14	14
CTM-18	6-9	5.995 8.995	19	19
CTM-19	8-9	7.995 8.995	19	19
CTM-20	9-12	8.995 11.995	25	25

Modified or specials are available on request.

SPIDER COUPLINGS

BORES	DESCRIPTION	MATERIAL
3MM TO 12MM	SOFT 80 DURO SPIDER	ALUMINUM HUBS POLYURETHANE SPIDER



SOFT 80 DURO SPIDER STOCK NO.	ØA H10	ØB H10	ØD	H	L	MAX. WORKING TORQUE (N•cm) 80 DURO	MAX. PARALLEL MISALIGN.	MAX. ANGULAR MISALIGN.
CO46M-1A CO46M-2A	3.00 5.00	3.00 5.00	10.0	5.0	15.0	30	0.8	1°
CO47M-1A CO47M-2A CO47M-3A	3.00 5.00 7.00	3.00 5.00 7.00	14.0	7.0	22.0	140	1.2	
CO48M-1A CO48M-2A CO48M-3A	7.00 8.00 10.00	7.00 8.00 10.00	20.0	10.0	30.0	360	1.6	
CO49M-1A CO49M-2A CO49M-3A	8.00 10.00 12.00	8.00 10.00 12.00	30.0	11.0	35.0	800	2.0	

- Backlash free coupling for feedback devices, stepper motors and positioning devices.
- Torsional rigidity
- Contoured and machined components for quick assembly and minimum wear over extended use. Components assembled with pre-load.
- Bearing protection from parallel and angular misalignment
- Allowance for axial shaft float
- Small size, low WR^2, electrical isolation and light weight aluminum hubs.

Other bore sizes an combinations are available on request.
Clamp style couplings are available on request.

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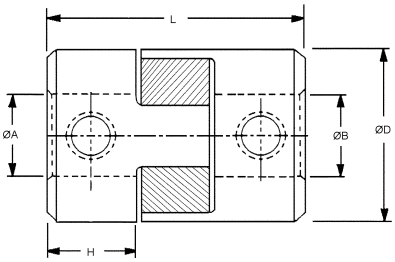
SPIDER COUPLINGS

BORE	DESCRIPTION	MATERIAL
3MM TO 12MM	RIGID 98 DURO SPIDER	ALUMINUM HUBS POLYURETHANE SPIDER



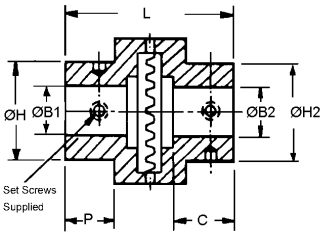
SOFT 98 DURO SPIDER STOCK NO.	ØA H10	ØB H10	ØD	H	L	MAX. WORKING TORQUE (N•cm) 98 DURO	MAX. PARALLEL MISALIGN.	MAX. ANGULAR MISALIGN.
CO46M-1B CO46M-2B	3.00 5.00	3.00 5.00	10.0	5.0	15.0	100	0.8	1°
CO47M-1B CO47M-2B CO47M-3B	3.00 5.00 7.00	3.00 5.00 7.00	14.0	7.0	22.0	400	1.2	
CO48M-1B CO48M-2B CO48M-3B	7.00 8.00 10.00	7.00 8.00 10.00	20.0	10.0	30.0	1000	1.6	
CO49M-1B CO49M-2B CO49M-3B	8.00 10.00 12.00	8.00 10.00 12.00	30.0	11.0	35.0	2500	2.0	

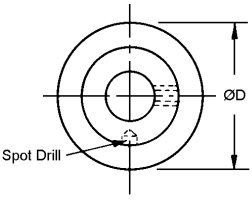
- Backlash free coupling for feedback devices, stepper motors and positioning devices.
- Torsional rigidity
- Contoured and machined components for quick assembly and minimum wear over extended use. Components assembled with pre-load.
- Bearing protection from parallel and angular misalignment
- Allowance for axial shaft float
- Small size, low WR^2, electrical isolation and light weight aluminum hubs.

Other bore sizes an combinations are available on request.
Clamp style couplings are available on request.

MULTI-JAW COUPLINGS

BORE	MATERIAL
3MM TO 13MM	STAINLESS STEEL DIN 1.4305





STOCK NO.	ØB1 +.013 -.000	ØB2 +.013 -.000	H1	H2	L	C	P	ØD	NO. OF TEETH	MAX. TORQUE
CM3M-1	2.995	2.995	8.0	8.0	20.0	6.0	6.0	14	32	200 N•cm
CM3M-2	2.995	3.995	8.0	9.0						
CM3M-3	3.995	3.995	9.0	9.0						
CM3M-4	3.995	4.995	9.0	10.0						
CM3M-5	3.995	5.995	9.0	13.0						
CM3M-6	4.995	4.995	10.0	10.0						
CM3M-7	4.995	5.995	10.0	13.0						
CM3M-8	5.995	5.995	13.0	13.0						
CM1M-1	2.995	3.995	8.0	9.0	22.0	6.0	7.0	19	48	350 N•cm
CM1M-2	3.995	3.995	9.0	9.0						
CM1M-3	3.995	4.995	9.0	10.0						
CM1M-4	3.995	5.995	9.0	13.0						
CM1M-5	4.995	4.995	10.0	10.0						
CM1M-6	4.995	5.995	10.0	13.0						
CM1M-7	5.995	5.995	13.0	13.0						
CM1M-8	7.995	7.995	13.0	13.0						
CM1M-9	9.995	9.995	18.0	18.0	32.0	11.0	8.0	25	64	640 N•cm
CM1M-10	12.995	12.995	24.0	24.0	38.0	14.0	11.0			

1.3 Disengagement and assembly clearance.
Other bore to bore combinations can be assembeled to order from stock.

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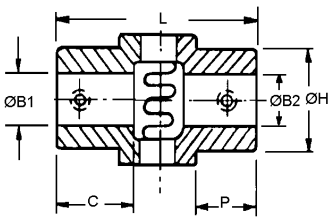
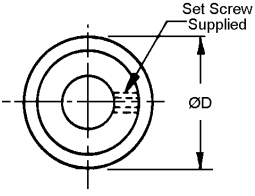
BORE	MATERIAL
5MM TO 13MM	STEEL DIN 1.0718 HEAVY DUTY



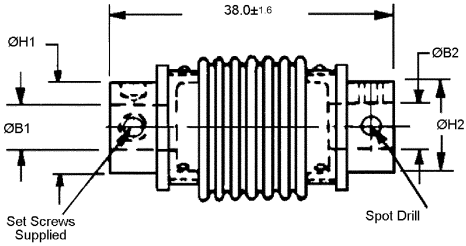


STOCK NO.	ØB1 +.05 -.00	ØB2 +.05 -.00	ØD	L	C	ØH	P	NO. OF TEETH	MAX. TORQUE (N•cm)
CM2M-1	5.00	5.00	13	28	13	11.0	11	10	280
CM2M-2	6.00	6.00	13	28	13	11.0	11	10	280
CM2M-3	8.00	8.00	19	38	16	17.0	13	10	460
CM2M-4	10.00	10.00	19	38	16	17.0	13	10	460
CM2M-5	13.00	13.00	25	51	22	23.0	19	12	780

7.1 Disengagement & Assembly Clearance

BELLOWS COUPLINGS

BORE	STYLE	MATERIAL
3MM TO 10MM	PIN HUB	STAINLESS STEEL DIN 1.4305

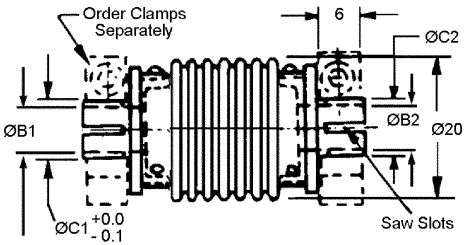


STOCK NO.	ØB1 H6	ØB2 H6	ØH1	ØH2
CO5M-1	2.995	2.995	8	8
CO5M-2	2.995	3.995	8	9
CO5M-3	2.995	4.995	8	10
CO5M-4	2.995	5.995	8	13
CO5M-5	3.995	3.995	9	9
CO5M-6	3.995	4.995	8	10
CO5M-7	3.995	5.995	8	13
CO5M-8	4.995	4.995	10	10
CO5M-9	4.995	5.995	10	11
CO5M-10	5.995	6.995	11	13
CO5M-11	5.995	5.995	11	11
CO5M-12	7.995	7.995	13	13
CO5M-13	9.995	9.995	15	15

- Eliminates end play
- Zero backlash
- Provides uniform angular velocity
- Absorbs vibration, noise and shock

Other bore sizes available.

BORE	STYLE	MATERIAL
3MM TO 10MM	CLAMP HUB	STAINLESS STEEL DIN 1.4305



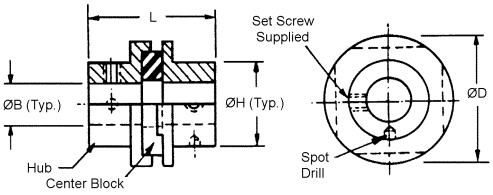
STOCK NO.	ØB1 H6	ØB2 H6	ØH1	ØH2
CO5M-1C	2.995	2.995	4.6	4.6
CO5M-2C	2.995	3.995	4.6	5.6
CO5M-3C	2.995	4.995	4.6	6.6
CO5M-4C	2.995	5.995	4.6	7.6
CO5M-5C	3.995	3.995	5.6	5.6
CO5M-6C	3.995	4.995	5.6	6.6
CO5M-7C	3.995	5.995	5.6	7.6
CO5M-8C	4.995	4.995	6.6	6.6
CO5M-9C	4.995	5.995	6.6	7.6
CO5M-10C	5.995	6.995	7.6	8.6
CO5M-11C	5.995	5.995	7.6	7.6
CO5M-12C	7.995	7.995	9.6	9.6
CO5M-13C	9.995	9.995	11.6	11.6

- Eliminates end play
- Zero backlash
- Provides uniform angular velocity
- Absorbs vibration, noise and shock

Other bore sizes available.

OLDHAM COUPLINGS

BORE	STYLE	MATERIAL
4MM TO 13MM	PIN HUB	STAINLESS STEEL DIN 1.4305 HUBS CENTER BLOCK: U = POLYURETHANE B = BRONZE OR N = NYLON



- Shaft to shaft misalignment 0.3 maximum
- Angular misalignment 1° maximum
- Maximum backlash 10 minutes

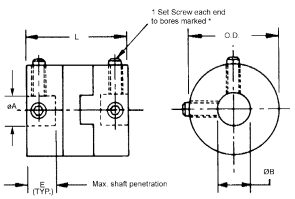
STOCK NO.	ØB +0.013 -0.000	ØD	ØH	L	MAX. TORQUE N•cm.
CO3-4M-U CO3-4M-B CO3-4M-N	3.995	15.9	7.9	16.7	U = 50 B = 250 N = 75
CO3-5M-U CO3-5M-B CO3-5M-N	4.995	15.9	9.5	18.3	
CO3-6M-U CO3-6M-B CO3-6M-N	5.995	15.9	12.7	19.8	
CO3-8M-U CO3-8M-B CO3-8M-N	7.995	15.9	12.7	19.8	
CO3-10M-U CO3-10M-N	9.995	34.9	19.1	39.7	U = 250 N = 360
CO3-13M-U CO3-13M-B CO3-13M-N	12.995	38.1	25.4	46.0	U = 300 B = 1225 N = 430

BORES	STYLE	MATERIAL
2MM TO 16MM	PIN HUB	ALUMINUM HUBS DELRIN INSERTS

STOCK NO.	ØA +0.03	ØB +0.03	E	ØO.D.	L	MAX. WORKING TORQUE (N•cm)	MAX. PARALLEL MISALIGNMENT	MAX. ANGULAR MISALIGNMENT
CO30-B	SOLID	SOLID	-	6.3	12.7	10	.7	1/2°
CO30M-1* CO30M-2*	2.00 3.00	2.00 3.00	3.8					
CO31-B	SOLID	SOLID	-	9.5	12.7	20	.9	
CO31M-1* CO31M-2*	3.00 4.00	3.00 4.00	3.8					
CO32-B	SOLID	SOLID	-	12.7	15.9	49	1.2	
CO32M-1 CO32M-2 CO32M-3	3.00 4.00 6.00	3.00 4.00 6.00	4.3					
CO33-B	SOLID	SOLID	-	19.1	22.0	169	2.0	
CO33M-1 CO33M-2 CO33M-3 CO33M-4	4.00 5.00 6.00 8.00	4.00 5.00 6.00 8.00	6.3					
CO34-B	SOLID	SOLID	-	25.4	28.4	395	2.5	
CO34M-1 CO34M-2 CO34M-3	6.00 8.00 10.00	6.00 8.00 10.00	8.6					
CO60-B	SOLID	SOLID	-	33.3	48.0	904	3.3	
CO60M-1 CO60M-2 CO60M-3	8.00 10.00 12.00	8.00 10.00 12.00	13.0					
CO35-B	SOLID	SOLID	-	41.3	50.8	2250	4.0	
CO35M-1 CO35M-2 CO35M-3 CO35M-4	10.00 12.00 14.00 16.00	10.00 12.00 14.00 16.00	16.7					

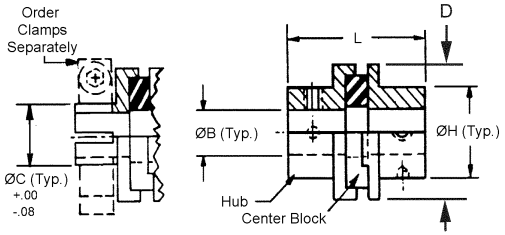
NOTE: Hubs are interchangeable within the same series. Special combinations will be assembled to order. Set screws are omitted from blanks. One (1) set screw supplied to bores marked (*), two (2) set screws supplied otherwise.

- Simple construction
- No backlash
- Corrosion resistant
- Reduces vibration
- Electrical Isolation
- No lubrication required



OLDHAM COUPLINGS

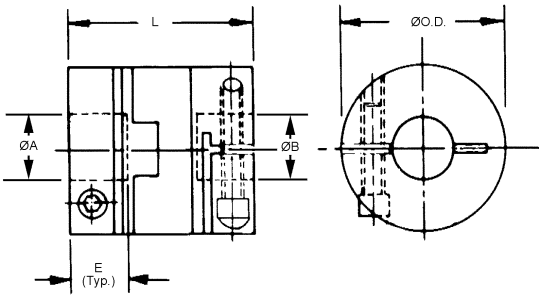
BORE	STYLE	MATERIAL
4MM TO 6MM	CLAMP HUB	STAINLESS STEEL DIN 1.4305 HUBS CENTER BLOCK: U = POLYURETHANE B = BRONZE OR N = NYLON



STOCK NO.	ØB +0.013 -0.000	ØD	ØH	L	MAX. TORQUE N•cm.
CO6-4M-U CO6-4M-B CO6-4M-N	3.995	15.9	5.6	21.4	U = 50 B = 250 N = 75
CO6-5M-U CO6-5M-B CO6-5M-N	4.995	15.9	6.6		
CO6-6M-U CO6-6M-B CO6-6M-N	5.995	15.9	7.6		

- Shaft to shaft misalignment 0.3 maximum
- Angular misalignment 1° maximum
- Maximum backlash 10 minutes

BORE	STYLE	MATERIAL
4MM TO 16MM	CLAMP HUB	ALUMINUM HUBS DELRIN CENTER BLOCK

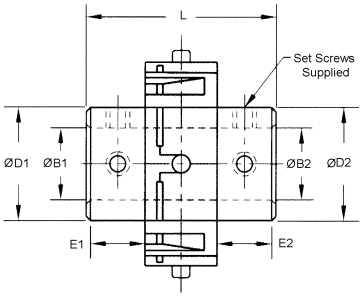


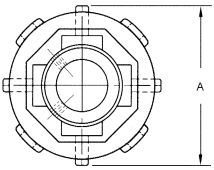
STOCK NO.	ØA +0.03	ØB +0.03	E	ØO.D.	L	MAX. WORKING TORQUE (N•cm)	MAX. PARALLEL MISALIGNMENT	MAX. ANGULAR MISALIGNMENT
CO33M-1C CO33M-4C	4.00 8.00	4.00 8.00	6.3	19.1	22.0	169	2.0	1/2°
CO34M-1C CO34M-2C CO34M-3C	6.00 8.00 10.00	6.00 8.00 10.00	8.6	25.4	28.4	395	2.5	
CO60M-1C CO60M-2C CO60M-3C	8.00 10.00 12.00	8.00 10.00 12.00	13.0	33.3	48.0	904	3.3	
CO35M-1C CO35M-2C CO35M-3C CO35M-4C	10.00 12.00 14.00 16.00	10.00 12.00 14.00 16.00	16.7	41.3	50.8	2250	4.0	

- Simple construction
- No backlash
- Corrosion resistant
- Reduces vibration
- Electrical Isolation
- No lubrication required

UNIVERSAL LATERAL COUPLINGS

BORE	STYLE	MATERIAL
3MM TO 16MM	PIN HUB	DELRIN OUTER RING BRASS OR ALUMINUM HUBS



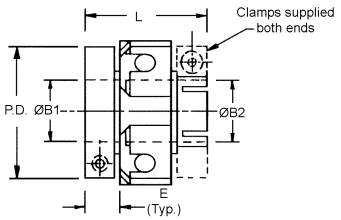


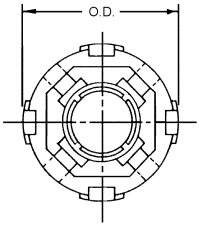
STOCK NO.	ØB1 +0.03	ØB2 +0.03	ØD1	ØD2	E1	E2	L	A	MAX WORKING TORQUE (N•cm)	MAX PARALLEL MISALIGN.	MAX - ANGULAR MISALIGN.	HUB MATERIAL
CO26M-1	3.00	3.00	8.9	8.9	4.0	4.0	14.2	18	27	1.3	10°	BRASS
CO26M-2	4.00	4.00										
CO26M-3	5.00	5.00										
CO26M-4	4.00	6.00	8.9	11.1	4.0	6.5	16.7					
CO26M-5	6.00	6.00	11.1	11.1	6.5	6.5	19.1					
CO23M-1	3.00	6.00	12.7	12.7	4.8	4.8	19.1	27.2	169			
CO23M-2	4.00	4.00										
CO23M-3	4.00	6.00										
CO23M-4	6.00	6.00										
CO23M-5	8.00	8.00										
CO23M-6	6.00	10.00	12.7	15.1	4.8	7.9	22.3					
CO23M-7	8.00	8.00	15.1	15.1	7.9	7.9	25.4		86			
CO23M-8	10.00	10.00										
CO25XM-1	6.00	6.00	17.6	17.6	7.6	7.6	25.2	33.7	248			ALUMINUM
CO25XM-2	6.00	10.00										
CO25XM-3	8.00	8.00										
CO25XM-4	10.00	12.00	17.6	20.1	7.6	10.2	28.0					
CO25XM-5	12.00	12.00	20.1	20.1	10.2	10.2	30.7					
CO25M-1	6.00	6.00	22.1	22.1	7.6	7.6	28.4	41.4	429			
CO25M-2	7.00	7.00										
CO25M-3	8.00	8.00										
CO25M-4	10.00	10.00										
CO25M-5	16.00	16.00	24.2	24.2	12.5	12.5	38.1					

- Zero backlash
- Offers simultaneous lateral & angular misalignment
- Corrosion resistant
- No lubrication required
- Resonance damping
- Low inertia
- Shafts can pass through for easy installation
- Maximum operating temperature 60°C
- Misalignment
  Angular 10° maximum
  Lateral 1mm maximum

UNIVERSAL LATERAL COUPLINGS

BORE	STYLE	MATERIAL
3.18MM TO 12MM	CLAMP	DELRIN OUTER RING BRASS OR ALUMINUM HUBS





STOCK NO.	ØB1 +0.03 -0.00	ØB2 +0.03 -0.00	ØD	E	L	MAXIMUM WORKING TORQUE (N•cm)	O.D.	HUB MATERIAL
CO27-3	3.18	6.35	19.1	6.5	19.1	27	19.1	TARNISH RESISTANT BRASS
CO27M-1	6.00	6.00						
CO27-6	6.35	6.35						
CO28M-1	5.00	5.00	27.2	7.9	25.4	169	27.9	
CO28M-2	6.00	6.00						
CO28M-3	6.00	8:00						
CO28M-4	7.00	7.00						
CO29XM-1	6.00	6.00	20.1	10.2	30.7	248	33.7	ALUMINUM
CO29XM-2	6.00	8.00						
CO29XM-3	8.00	10.00						
CO29XM-4	10.00	10.00						
CO29M-1	6.00	6.00	24.2	12.5	38.1	429	41.4	
CO29M-2	6.00	12.00						
CO29M-3	8.00	8.00						
CO29M-4	10.00	12.00						
CO29M-5	11.00	11.00						
CO29M-6	12.00	12.00						

- Low inertia
- Resonance damping
- Electrically insulated
- Zero backlash
- Offers simultaneous lateral & angular misalignment
- Corrosion resistant
- No lubrication required
- Shafts can pass through for easy installation
- Maximum operating temperature 60°C
- Misalignment
  Angular 10° maximum
  Lateral 1mm maximum

*Clamp hub is integral to hub on CO29 series.
Compatable with 2mm or 5/64" key.
Additional sizes and bore combinations available on request.

UNIVERSAL JOINTS

BORE	STYLE	MATERIAL
3MM TO 13MM	PIN	STAINLESS STEEL DIN 1.4305

STOCK NO.	ØB +0.013	ØH	L	A BORE LENGTH	MAX. WORKING TORQUE	MAX. ANGULAR MISALIGNMENT (N•cm)	FIG.
UJM-1	2.995	8.0	38.0	11.0	339		2
UJM-2	4.995	9.5	38.0	11.0	339		2
UJM-3	5.995	12.5	38.0	11.0	339	30°@ 500 RPM	1
UJM-4	7.995	12.5	38.0	11.0	339	10°@ 1000 RPM	1
UJM-5	9.995	19.0	66.5	23.5	904		1
UJM-6	12.995	25.5	85.5	29.5	2994		1

- Maximum parallel misalignment 0:0
- Ideal operating angle 10° at 1000 RPM
- Lubrication required at all times

Special bore and bore-to-bore connections available on request.

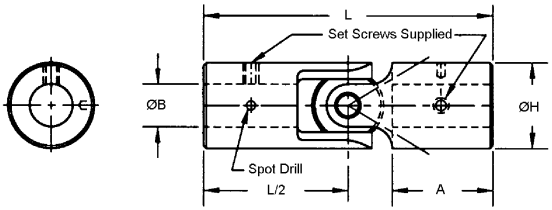


FIGURE 1 PIN STYLE

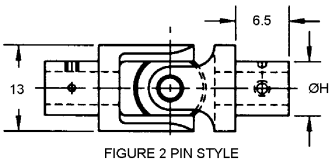


FIGURE 2 PIN STYLE

BORE	STYLE	MATERIAL
3MM TO 6MM	CLAMP	STAINLESS STEEL DIN 1.4305

STOCK NO.	ØB +0.013	ØH	L	CLAMP BORE LENGTH	CLAMP STOCK NO.	MAX. TORQUE (N•cm)	MAX. ANGULAR MISALIGNMENT
UJM-10	2.995	4.6	35.0	10.0	CG1M-4	339	30°@ 500 RPM 10°@ 1000 RPM
UJM-11	4.995	6.6			CG1M-10		
UJM-12	5.995	7.6			CG1M-11		

- Maximum parallel misalignment 0:0
- Ideal operating angle 10° at 1000 RPM
- Lubrication required at all times

Special bore and bore-to-bore connections available on request.

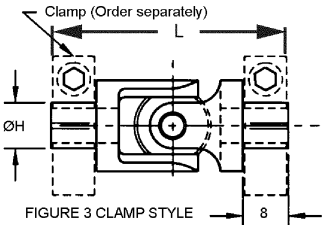
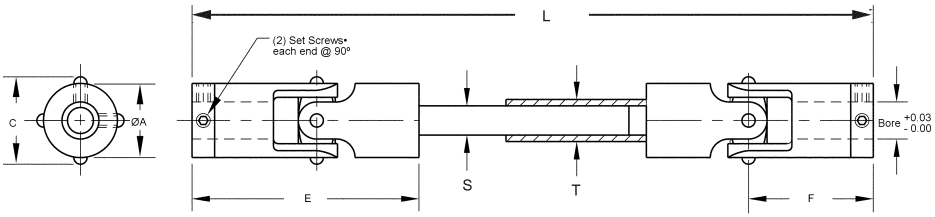


FIGURE 3 CLAMP STYLE

TELESCOPIC UNIVERSAL JOINTS

BORE	MATERIAL
3MM TO 10MM	DELRIN BODY BRASS ENDS, SPIDER AND TELESCOPIC SECTIONS



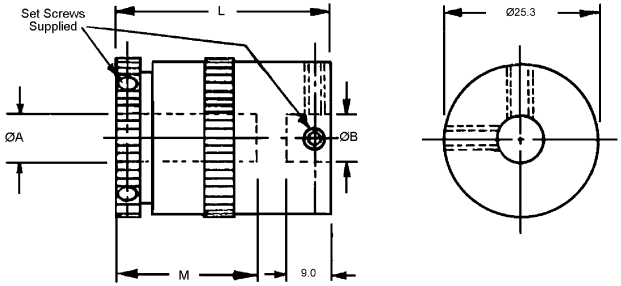
STOCK NUMBER	BORES	ØA	C	L		E	F	MAXIMUM TORQUE N•cm		SQ.	SQ.
				MAX	MIN			BREAK	WORKING		
UJT-1M UJT-2M UJT-3M	3.00 4.00 5.00	9.5	10.2	134	104	32.9	18.8	191	39	3.2	4.8
UJT-4M	6.00	12.7	13.8	186	139	40.9	23.1	451	107	4.8	6.4
UJT-5M	10.00	15.9	17.2	260	198	60.3	33.8	677	169	6.4	8.0

Minimum length can be reduced by cutting equal lengths off both telescope halves.

- Temperature Range -40° C to +85° C
- Needs no lubrication
- Can be submersed in water
- Resists corrosion
- Electrically isolates input from output
- Minimum Backlash
- Lightweight
- Non contaminant (e.g. food, textiles and paper handling)
- Non-magnetic
- Resists chemical attack
- Shock absorbent

SLIP COUPLINGS

BORE	TORQUE	MATERIAL
6MM AND 8MM	**ADJUSTABLE 2.4 N.cm TO 132.4 N.cm**	HOUSING, ADJUSTER RING AND ADAPTERS - ALUMINUM WITH ALOCROM FINISH, HUBS AND PLATES - HEAT TREATED STEEL, BEARING - SINTERED BRONZE

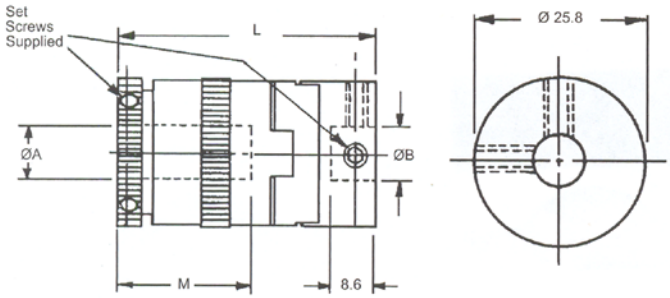


STOCK NO.	ØA BORE +0.03	ØB BORE +0.03	L	M	ADJUSTABLE TORQUE RANGE N•cm		WEIGHT
					MIN.	MAX.	
JJ-25M JJ-26M	6.00 8.00	6.00 8.00	36.0	25.0	2.4	53.0	50g
JJ-27M JJ-28M	6.00 8.00	6.00 8.00	42.5	31.0	7.8	132.4	61g

- Bi-directional
- Maximum operating Temperature 80°C
- Maximum backlash 2°

OLDHAM SLIP COUPLINGS

BORE	TORQUE	MATERIAL
6MM AND 8MM	**ADJUSTABLE 2.4 N.cm TO 132.4 N.cm**	HOUSING, ADJUSTER RING AND ADAPTERS - ALUMINUM WITH ALOCROM FINISH, HUBS AND PLATES - HEAT TREATED STEEL, BEARING - SINTERED BRONZE

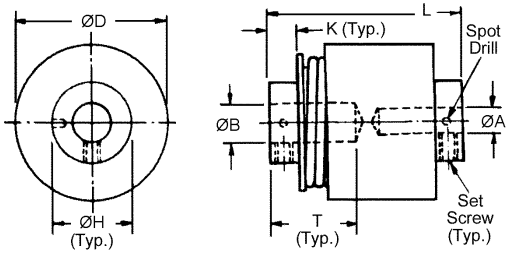


STOCK NO.	ØA BORE +0.03	ØB BORE +0.03	L	M	ADJUSTABLE TORQUE RANGE N•cm		WEIGHT
					MIN.	MAX.	
JJ-29M JJ-30M	6.00 8.00	6.00 8.00	46.5	25.0	2.4	53.0	57g
JJ-31M JJ-32M	6.00 8.00	6.00 8.00	53.4	31.0	7.8	132.4	68g

- Bi-directional
- Maximum operating Temperature 80°C
- Maximum backlash 2°

SLIP COUPLINGS

BORE	MATERIAL
3MM TO 19MM	STAINLESS STEEL DIN 1.4305



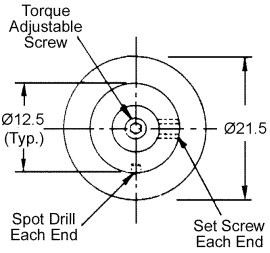
- Shaft misalignment to 0.3 max.
- Angular misalignment 3° maximum.

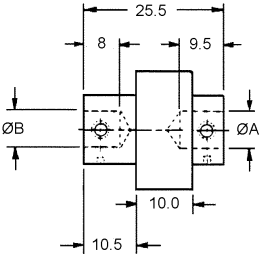
STOCK NUMBER.	BORE	+0.015 -0.000	L ±0.5	ØD ±0.05	ØH ±0.05	K ±0.05	T	TORQUE BI-DIRECTION N•cm
	ØA	ØB.						
JJM-1	3.000	3.000	22.6	12.7	9.4	4.3	10.9	3.5 ± 0.5
JJM-2	3.000	4.000						
JJM-3	4.000	4.000						
JJM-4	4.000	4.000	28.2	19.1	12.7	4.8	12.7	8.5 ± 0.8
JJM-5	4.000	6.000						
JJM-6	6.000	6.000						
JJM-7	4.000	4.000	32.0	25.4	12.7	4.8	14.0	14.1 ± 1.4
JJM-8	4.000	6.000						
JJM-9	6.000	6.000						
JJM-10	6.000	6.000	36.3	31.8	15.7	6.4	15.7	33.9 ± 3.5
JJM-11	6.000	10.000						
JJM-12	10.000	10.000						
JJM-13	8.000	8.000	40.4	38.1	19.1	6.4	18.5	62.2 ± 6.4
JJM-14	10.000	10.000						
JJM-15	10.000	10.000	46.7	47.5	22.1	7.1	21.6	84.7 ± 8.5
JJM-16	10.000	12.000						
JJM-17	12.000	12.000						
JJM-18	10.000	10.000	57.2	57.2	38.1	9.7	25.4	169.5 ± 16.9
JJM-19	10.000	12.000						
JJM-20	12.000	12.000						
JJM-21	12.000	16.000						
JJM-22	16.000	16.000						
JJM-23	16.000	19.000						
JJM-24	19.000	19.000						

Available On Request: Torque Limits Calibrated to 5%
Torque From 0.35 N•mc To 340 N•mc

SLIP COUPLINGS

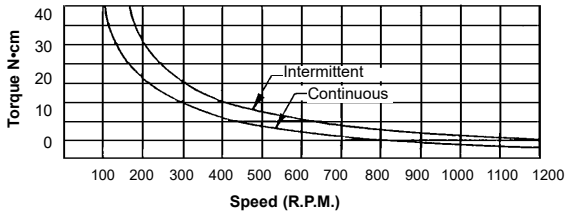
BORE	TORQUE	MATERIAL
3MM TO 19MM	ADJUSTABLE 0 N.cm TO 35.5 N.cm	STAINLESS STEEL HOUSING





- Bi-directional
- No lubrication required
- Rulon clutch faces for smooth operation and long life at high speeds
- Consistent breakaway torques and performance at slip speeds up to 1200 R.P.M.
- Slip torque is set and may be adjusted

STOCK NUMBER	ØA BORE +0.013	ØB BORE +0.013	ADJUSTABLE TORQUE RANGE
JKM-1	4.000	4.000	
JKM-2	4.000	5.000	
JKM-3	4.000	6.000	0 To 35.5 N•cm
JKM-4	5.000	5.000	
JKM-5	5.000	6.000	
JKM-7	6.000	6.000	



Note: Clutch capacity can be determined by use of the chart. The curves are based on a predetermined maximum temperature rise in the clutch when operated in an ambient temperature of 20°C. The intermittent curve applies to applications where the slipping period is 10 minutes or less and the cooling period is equal or greater.

Torque settings are maintained within plus or minus 20% over the full speed range. Stability is improved for constant speed applications.

G

OVERRUNNING COUPLINGS

BORE	STYLE	MATERIAL
4MM TO 13MM	CLOCKWISE SPRING WRAPPED - ONE DIRECTIONAL	STAINLESS STEEL DIN 1.4005 HUB DELRIN CENTER

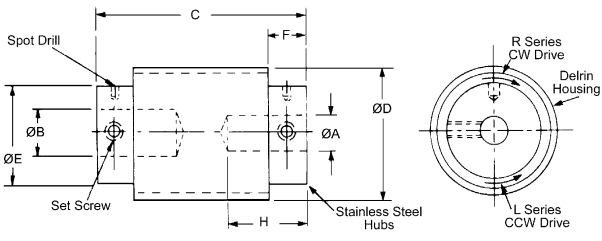
STOCK NO.	+.015 ØA	+.015 ØB	MAX DRIVE TORQUE	MAX DRAG TORQUE	C	ØD	ØE	F	H
JBM-R-1	3.995	3.995	113 N•cm	1.1 N•cm	25.0	19.0	14.0	5.4	12
JBM-R-2	3.995	4.995							
JBM-R-3	3.995	5.995							
JBM-R-4	4.995	4.995							
JBM-R-5	4.995	5.995							
JBM-R-6	5.995	5.995							
JBM-R-7	7.995	7.995	904 N•cm	2.8 N•cm	2.8	35.0	25.0	8.4	18.5
JBM-R-8	7.995	9.995							
JBM-R-9	7.995	12.995							
JBM-R-10	9.995	9.995							
JBM-R-11	9.995	12.995							
JBM-R-12	12.995	12.995							

Locking R.H. Hub, L.H. Hub drives clockwise.

BORE	STYLE	MATERIAL
4MM TO 13MM	COUNTER-CLOCKWISE SPRING WRAPPED - ONE DIRECTIONAL	STAINLESS STEEL DIN 1.4005 HUB DELRIN CENTER

STOCK NO.	+.015 ØA	+.015 ØB	MAX DRIVE TORQUE	MAX DRAG TORQUE	C	ØD	ØE	F	H
JBM-L-1	3.995	3.995	113 N•cm	1.1 N•cm	25.0	19.0	14.0	5.4	12
JBM-L-2	3.995	4.995							
JBM-L-3	3.995	5.995							
JBM-L-4	4.995	4.995							
JBM-L-5	4.995	5.995							
JBM-L-6	5.995	5.995							
JBM-L-7	7.995	7.995	904 N•cm	2.8 N•cm	2.8	35.0	25.0	8.4	18.5
JBM-L-8	7.995	9.995							
JBM-L-9	7.995	12.995							
JBM-L-10	9.995	9.995							
JBM-L-11	9.995	12.995							
JBM-L-12	12.995	12.995							

Locking R.H. Hub, L.H. Hub drives clockwise.



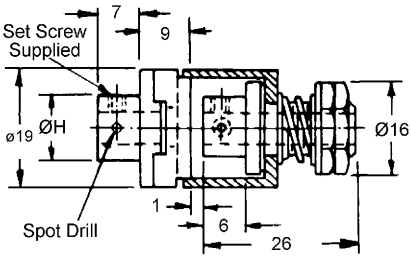
Drive load in one direction.
Clutch rotates freely in opposite direction

Note: Backlash is less than 1° (degree) in driving direction.

INLINE COUPLING SLIP CLUTCHES

BORE	STYLE	TORQUE	MATERIAL
4MM TO 6MM	PIN HUB	ADJUSTABLE 0 N.cm TO 17 N.cm	STAINLESS STEEL DIN 1.4305

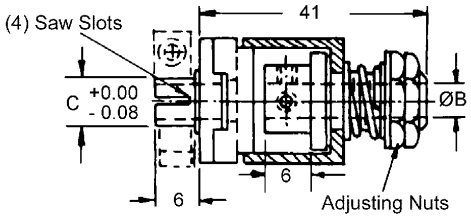
STOCK NO.	ØB1* +0.013	ØB2 +0.013	ØH	ADJUSTABLE SLIP TORQUE
CO16M-1	3.995	3.995	8	0 TO 17 N•cm
CO16M-2	4.995	4.995	10	
CO16M-3	5.995	5.995	13	
CO16M-4	3.995	4.995	10	
CO16M-5	3.995	5.995	13	
CO16M-6	4.995	5.995	13	



PIN HUB

BORE	STYLE	TORQUE	MATERIAL
4MM TO 6MM	CLAMP HUB	ADJUSTABLE 0 N.cm TO 17 N.cm	STAINLESS STEEL DIN 1.4305

STOCK NO.	ØB1* +0.013	ØB2 +0.013	ØC	ADJUSTABLE SLIP TORQUE
CO17M-1	3.995	3.995	5	0 TO 17 N•cm
CO17M-2	4.995	4.995	7	
CO17M-3	5.995	5.995	8	
CO17M-4	3.995	4.995	7	
CO17M-5	3.995	5.995	8	
CO17M-6	4.995	5.995	8	



CLAMP HUB

* Bore size on adjustable end.
Other bore combinations on request.
For 35 N•cm units, add -35 to stock number.

G

SLIP CLUTCHES

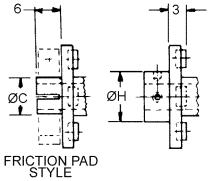
BORE	STYLE	TORQUE	MATERIAL
4MM TO 6MM	PIN HUB	ADJUSTABLE 0 N.cm TO 35 N.cm	STAINLESS STEEL DIN 1.4305

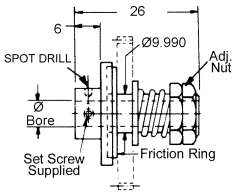
STOCK NO.	BORE SIZE	ØH	ØD	ADJUSTABLE SLIP TORQUE
JCM-10 JCM-11 JCM-12	3.995 4.995 5.995	8 10 13	15	0 TO 7 N•cm
JCM-10-50 JCM-11-50 JCM-12-50	3.995 4.995 5.995	8 10 13	15	7 T0 35 N•cm
JAM-1 JAM-2 JAM-3	3.995 4.995 5.995	8 10 13	25	7 TO 35 N•cm
JCM-1 JCM-2 JCM-3	3.995 4.995 5.995	8 10 13	25	0 TO 7 N•cm
JCM-1-50 JCM-2-50 JCM-3-50	3.995 4.995 5.995	8 10 13	25	7 TO 35 N•cm

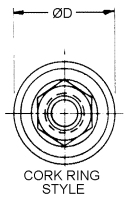
BORE	STYLE	TORQUE	MATERIAL
4MM TO 6MM	CLAMP HUB	ADJUSTABLE 0 N.cm TO 35 N.cm	STAINLESS STEEL DIN 1.4305

STOCK NO.	BORE SIZE	ØC	ØD	ADJUSTABLE SLIP TORQUE
JAM-1C JAM-2C JAM-3C	3.995 4.995 5.995	8 10 13	25	7 TO 35 N•cm
JCM-1C JCM-2C JCM-3C	3.995 4.995 5.995	8 10 13	25	0 TO 7 N•cm
JCM-1-50C JCM-2-50C JCM-3-50C	3.995 4.995 5.995	8 10 13	25	7 TO 35 N•cm

CLAMP HUB **PIN HUB**



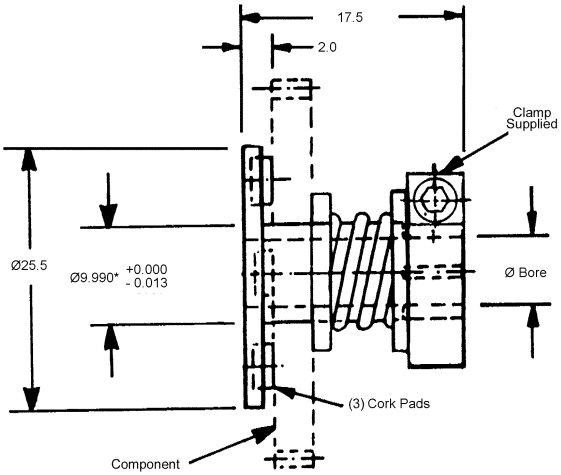




Order gears and clamps separately.

SLIP CLUTCHES

BORE	STYLE	TORQUE	MATERIAL
4MM TO 6MM	CLAMP HUB	ADJUSTABLE 0 N.cm TO 70 N.cm	STAINLESS STEEL DIN 1.4305



- Use with gears, sprockets, pulleys, ratchets, cams, or other components with 10mm bores.

STOCK NO.	BORE	COMPONENT THICKNESS (IN.)	ADJUSTABLE SLIP TORQUE (IN.)
JCM-7 JCM-8 JC-M9	3.995 4.995 5.995	1.5 THROUGH 3.0	1.5, 0-10 N•cm 3.0, 3-20 N•cm
JC-7M-50 JC-8M-50 JC-9M-50	3.995 4.995 5.995	1.5 THROUGH 3.0	1.5, 10-35 N•cm 3.0, 18-70 N•cm

* Adjustable by varying spring force

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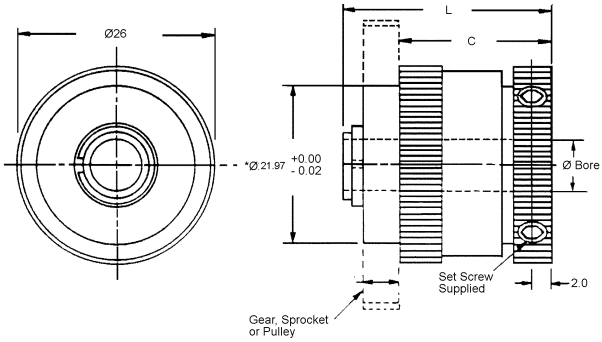
SLIP CLUTCHES

BORE	TORQUE	MATERIAL
6MM OR 8MM	ADJUSTABLE 2.5 N.cm TO 132 N.cm	HOUSING, ADJUSTOR RING & ADAPTERS-ALUMINUM HUB & PLATES-STEEL, BEARING-SINTERED BRONZE



STOCK NO.	Ø BORE +0.03	L	C	ADJUSTABLE TORQUE RANGE		WEIGHT
				MIN.	MAX.	
JH-11M JH-12M	6.00 8.00	26.4	20.0	2.5 N• cm.	53.5 N• cm	37g
JH-13M JH-14M	6.00 8.00	32.4	25.6	7.8 N• cm	132.0 N• cm	48g

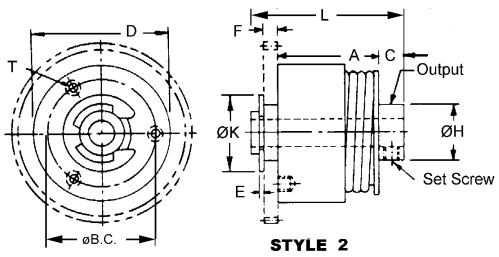
- Maximum operating temperature 80°C
- Maximum backlash 2°
- Bi-directional
- Fine-knurled torque adjustment rings

SLIP CLUTCHES

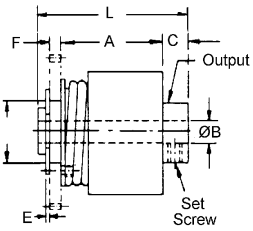
BORE	STYLE	MATERIAL
3MM TO 12MM	1 AND 2	STAINLESS STEEL BRONZE BEARINGS

STOCK NO.	ØB BORE +0.02 -0.00	TORQUE BI-DIRECTIONAL	ØK DIA. -0.02	L	A	C	STYLE	ØD	T THREAD (DEPTH)	ØB.C.	F	ØQ (MAX.)	E	ØH
JH-1M	3.00	6.4 N•cm ± 0.7	10.00	26.7	18.3	4.6	1	16	M1.2 X 2.5 X 2.0Dp.	12	2.0	11.4	0.8	10
JH-2M	4.00	14.1 N•cm ± 1.4	12.00	31.5	21.6	5.3	1	25	M1.2 X 2.5 X 2.0Dp.	16	2.4	17.3	1.0	13
JH-2AM	6.00	14.1 N•cm ± 1.4	12.00	31.5	21.6	5.3	1	25	M1.2 X 2.5 X 2.0Dp.	16	2.4	17.3	1.0	13
JH-3M	6.00	33.9 N•cm ± 3.5	12.00	35.3	23.9	5.8	1	35	M2.0 X 0.4 X 2.5Dp.	25	3.3	17.3	1.0	13
JH-4M	6.00	56.5 N•cm ± 5.7	12.00	35.3	23.9	5.8	2	35	M2.0 X 0.4 X 2.5Dp.	25	3.3	17.3	1.0	16
JH-5M	6.00	84.7 N•cm ± 8.5	12.00	42.4	30.5	6.4	1	48	M2.0 X 0.4 X 2.5Dp.	20	3.3	17.3	1.0	16
JH-5AM	8.00	84.7 N•cm ± 8.5	12.00	42.4	30.5	6.4	1	48	M2.0 X 0.4 X 2.5Dp.	20	3.3	17.3	1.0	25
JH-6M	10.00	105.9 N•cm ± 10.6	20.00	47.8	34.0	7.4	1	48	M2.0 X 0.4 X 2.5Dp.	30	3.3	18.8	1.0	25
JH-6AM	12.00	105.9 N•cm ± 10.6	20.00	47.8	34.0	7.4	1	48	M2.0 X 0.4 X 2.5Dp.	30	3.3	18.8	1.0	25
JH-7M JH-8M JH-9M JH-10M	6.00 8.00 10.001 12.00	169.5 N•cm ± 17.0	20.00	47.8	34.0	7.4	2	57	M3.0 X 0.5 X 4.0Dp.	30	3.3	18.8	1.0	25
JH-7M-X JH-8M-X JH-9M-X JH-10M-X	6.00 8.00 10.001 12.00	226 N•cm ± 23.0	20.00	47.8	34.0	7.4	2	57	M3.0 X 0.5 X 4.0Dp.	30	3.3	18.8	1.0	25

- Torque limits calibrated to 5% on request.
- Torques from 0.35 N.cm to 339 N.cm are available on request.



STYLE 2

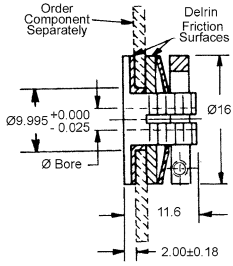


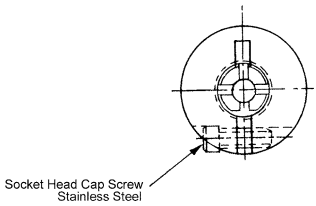
STYLE 1

G

MINIATURE SLIP CLUTCHES

BORE	STYLE	TORQUE	MATERIAL
4MM TO 5MM	CLAMP HUB	ADJUSTABLE 0 N.cm TO 35.5 N.cm	ANODIZED ALUMINUM





STOCK NO.	Ø BORE +0.005	COMPONENT THICKNESS
JAM-4	3.995	1.5 THROUGH 3.0
JAM-5	4.995	

- Use with gears, sprockets, pulleys, ratchets, cams, or other components with 10mm bores.

Special bore sizes available on request.

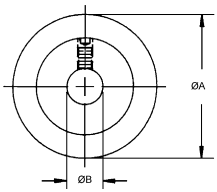
* Adjustable by varying spring force

SLIP CLUTCHES & COUPLINGS

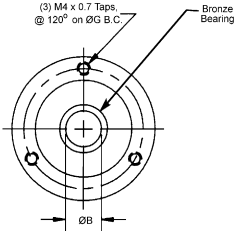
BORE	STYLE	TORQUE	MATERIAL
3MM TO 12MM	**OPEN OR CLOSED**	**ADJUSTABLE 3.4 N.cm TO 280 N.cm**	HOUSING, ADJUSTER RING AND ADAPTERS - ALUMINUM; HUBS & PLATES - HEAT TREATED STEEL; BEARING - SINTERED BRONZE

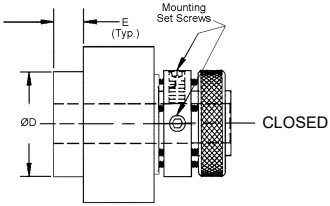
SLIP CLUTCH STOCK NO.	SLIP COUPLING STOCK NO.	ØB +0.03	ØA	C	ØD	E	ØG	ADJUSTABLE TORQUE RANGE	STYLE
JCL-1M JCL-2M JCL-3M	JCO-1M JCO-2M JCO-3M	3 4 6	25	33	10	6	18	3.4 TO 113 N•cm	CLOSED
JCL-4M JCL-5M JCL-6M	JCO-4M JCO-5M JCO-6M	6 8 12	38	64	25	10	30	5.6 TO 280 N•cm	OPEN

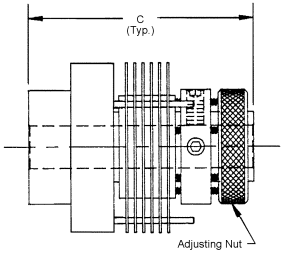
SLIP COUPLING
JCO SERIES - CLOSED



SLIP CLUTCH
JCL SERIES - CLOSED







OPEN

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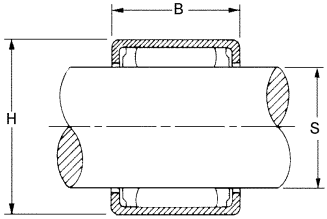
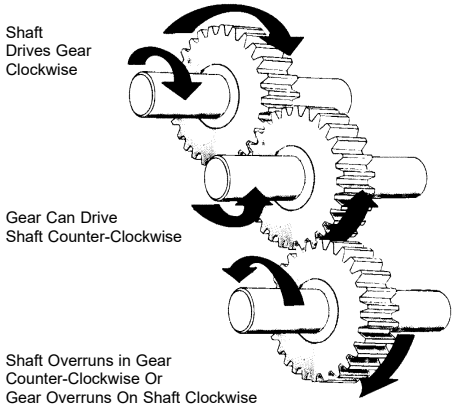
ROLLER CLUTCHES

BORE	STYLE	MATERIAL
4MM TO 20MM	DRAWN CUP DESIGN ONE DIRECTIONAL DRIVE	ROLLER CUP - CASE HARDENED STEEL; NEEDLE BEARINGS - HARDENED CHROME STEEL DIN 1.3505; SPRINGS - STAINLESS STEEL; CAGE - NYLON 66 (or Equiv.) TREATED STEEL; BEARING - SINTERED BRONZE



- Ideal For Indexing, Backstopping Or Overrunning Operations
- Free Rolling One Way, Drives In Opposite Direction
- Light Weight, Low Profile
- High Indexing, Frequency
- Temp. Range, Grease - 45Þ C to + 70ÞC
- Minimum Backlash



* HARDENED SHAFTING STOCK LENGTH 300mm OTHER LENGTHS ON REQUEST	
SHAFTING STOCK NO.	SHAFT DIAMETER h6
LMS-6M	6.000
LMS-8M	8.000
LMS-12M	12.000
LMS-20M	20.000

STOCK NO.	BORE ØS	ØH CLUTCH O.D.	B +.000 -.25	MAX TORQ N•cm	HOUSING DIAMETER N7 STEEL R7 ALUM.	OVERRUN SPEED (MAX) (RPM)
NRC-4M*	4	8.000	6.00	0.34	8.000	17000
NRC-6M	6	10.000	12.00	1.76	10.000	23060
NRC-8M	8	12.000	12.00	3.15	12.000	17000
NRC-10M	10	14.000	12.00	5.30	14.000	14000
NRC-12M	12	18.000	16.00	12.20	18.000	11000
NRC-20M	20	26.000	16.00	28.50	26.000	7000

* Order shaft separately.
- Maximum operating temperature +70°C due to plastic spring design.

VIBRATION DAMPING COMPONENTS

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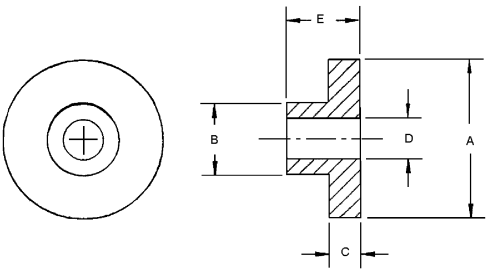
BUSHINGS . . . . . **MH 2**

ISOLATION RINGS . . . . . **MH 3**

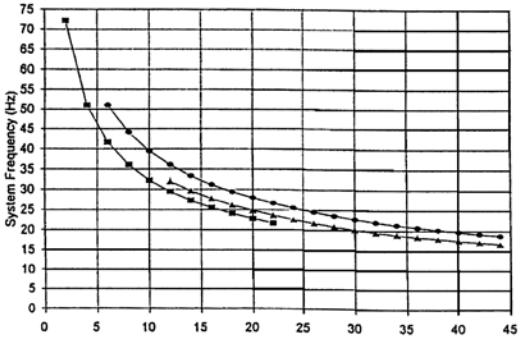
ISOLATION PADS . . . . . **MH 3**

BUSHINGS

MATERIAL
SORBOTHANE



STOCK NO.	A	B	C	D	E	LOAD PER BUSHING (N) 70 DUROMETER
SB-1	19.0	12.7	3.8	6.4	5.6	35.6 - 93.4
SB-2	25.4	11.7	4.8	7.2	7.9	89.0 - 186.8
SB-3	25.4	--	4.8	11.4	4.8	35.6 - 48.9
SB-4	25.4	11.4	4.8	6.4	15.2	124.6 - 195.7

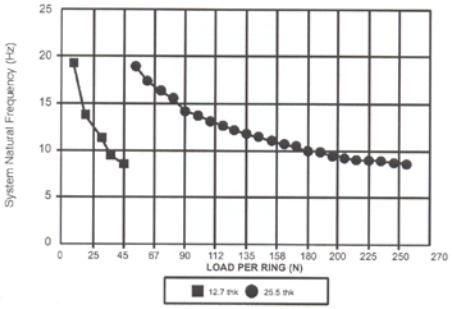


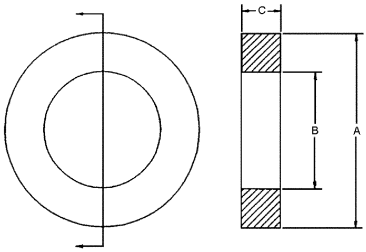
-1	-2	-3	-4

Sorbothane bushings isolate vibration and absorb shock for delicate electronics and other light weight applications. Using two bushings together, you can create a floating bolt which isolates your unit from any metal to metal contact. To achieve this floating bolt, use two pieces of stock numbers SB-1 or SB-2 respectively and one piece each of part numbers SB-3 and SB-4 together. Different durometers allow for different spring rates. Load ratings assume a 10% torsional deflection of the bushing material.

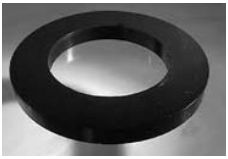
ISOLATION RINGS

MATERIAL
SORBOTHANE



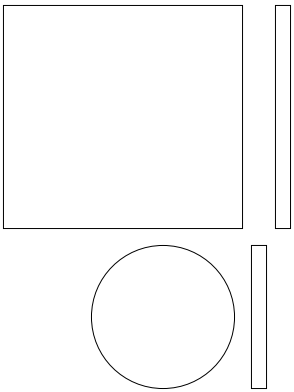


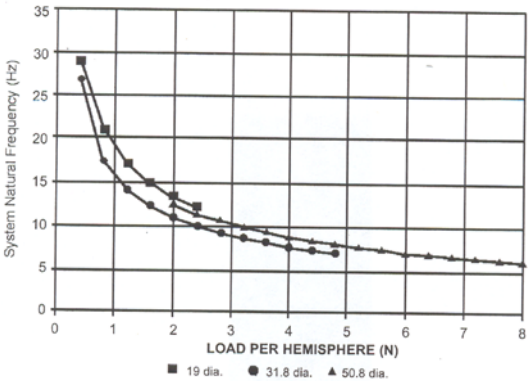
STOCK NO.	A	B	C	LOAD PER RING (N) 70 DUROMETER
SIR-1	127	78.7	12.7	20 - 29
SIR-2	127	78.7	25.5	119 - 245



ISOLATION PADS

MATERIAL
SORBOTHANE





STOCK NO.	DESCRIPTION	LOAD PER PAD (N) 70 DUROMETER SHORE SCALE 00
SIP-1	101.6 X 101.6 X 12.7	1280-2000
SIP-2	127 X 127 X 6.4	2400-4800
SIP-3	127 X 127 X 127	3000-4800
SIP-4	63.5 X 63.5 X 12.7	1440-1920
SIP-5	57.2 6.4	160-240

A wide range of loads can be isolated by choosing the correct thickness, durometer and varying the number of pads. The pads are designed to offer isolation for all types of static and dynamic systems. Higher disturbing frequencies and lower temperatures are parameters that indicate the need for a lower durometer pad. Ideal for applications with heavier loads.

NOTES

BEARINGS, SHAFTS, CLAMPS, COLLARS & HUBS

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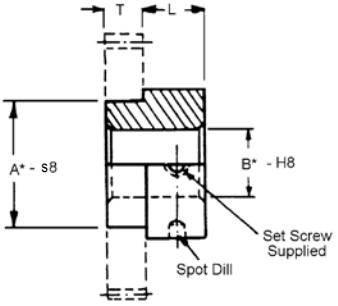
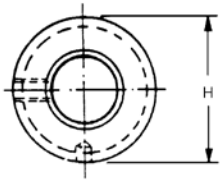
GEAR, SPROCKET & DIAL HUBS

BORE	TYPE	MATERIAL
4MM TO 12MM	PIN HUB	STAINLESS STEEL DIN 1.4305





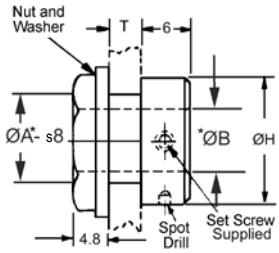
STOCK NO.	ØB	ØA	T	L	ØH
PH4M-1 PH4M-2 PH4M-3 PH4M-4 PH4M-5	4.00	10.00	1.6 3.0 5.0 6.4 9.5	6	13
PH4M-6 PH4M-7 PH4M-8 PH4M-9 PH4M-10	6.00	10.00	1.6 3.0 5.0 6.4 9.5	6	13
PH4M-11 PH4M-12 PH4M-13 PH4M-14 PH4M-15	7.00	10.00	1.6 3.0 5.0 6.4 9.5	6	13
PH4M-40 PH4M-41 PH4M-42 PH4M-43 PH4M-44	8.00	10.00	1.6 3.0 5.0 6.4 9.5	13	20
PH4M-16 PH4M-17 PH4M-18 PH4M-19 PH4M-20	10.00	16.00	1.6 4.8 6.4 9.5 10.0	13	20
PH4M-21 PH4M-22 PH4M-23 PH4M-24 PH4M-25	12.00	16.00	1.6 4.8 6.4 9.5 10.0	13	20

* Diameters A & B are concentric within 0.013mm.

- Fasten component to hub with epoxy cement or stake and dutch pin
- Assembly by Berg available.

GEAR, SPROCKET & DIAL HUBS

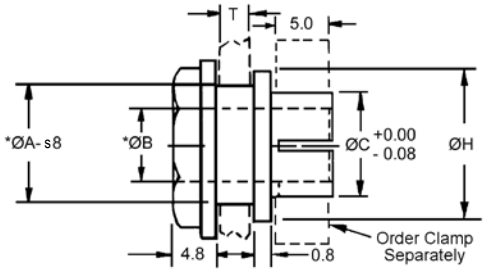
BORE	TYPE	MATERIAL
3MM TO 8MM	PIN HUB	STAINLESS STEEL DIN 1.4305



STOCK NO.	ØB-H8	T	ØH	A
PH4M-30 PH4M-31	3	1.6 3.0	12	10
PH4M-32 PH4M-33	4	1.6 3.0	12	10
PH4M-34 PH4M-35	6	1.6 3.0	12	10
PH4M-38 PH4M-39	8	1 6 3.0	15	12

* Concentric to bore within 0.013mm

BORE	TYPE	MATERIAL
3MM TO 8MM	CLAMP HUB	STAINLESS STEEL DIN 1.4305



STOCK NO.	ØB-H8	T	ØH	ØC	CLAMP STOCK NO.	ØA
CH2M-30 CH2M-31	3	1.6 3.0	12	4.60	CG1M-3	10
CH2M-32 CH2M-33	4	1.6 3.0	12	5.60	CG1M-5	10
CH2M-34 CH2M-35	6	1.6 3.0	12	7.60	CG1M-11	10
CH2M-38 CH2M-39	8	1 6 3.0	15	9.60	CG1M-14	12

* Concentric to bore within 0.013mm

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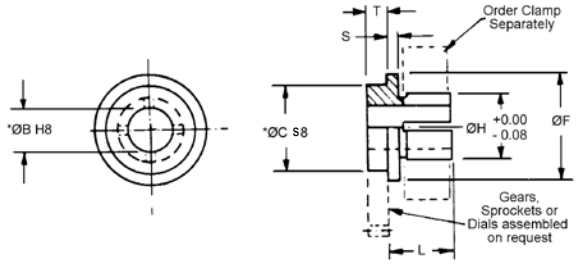
GEAR, SPROCKET & DIAL HUBS

BORE	TYPE	MATERIAL
4MM TO 12MM	CLAMP HUB	STAINLESS STEEL DIN 1.4305

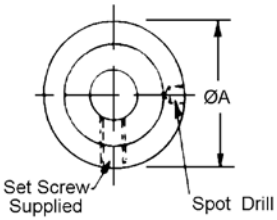


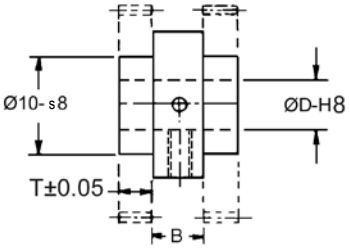
* Concentric within 0.008mm

STOCK NO.	ØB	ØC	T	L	ØH	ØF	S	CLAMP STOCK NO.
CH2M-1 CH2M-2 CH2M-3 CH2M-4 CH2M-5	4	10	1.6 3.0 5.0 6.4 9.5	4.8	5.6	12	0.8	CG1M-5
CH2M-6 CH2M-7 CH2M-8 CH2M-9 CH2M-10	6	10	1.6 3.0 5.0 6.4 9.5	6.2	7.6	13	1.2	CG1M-11
CH2M-11 CH2M-12 CH2M-13 CH2M-14 CH2M-15	7	10	1.6 3.0 5.0 6.4 9.5	6.6	8.6	14	1.6	CG1M-12
CH2M-40 CH2M-41 CH2M-42 CH2M-43 CH2M-44	8	10	1.6 3.0 5.0 6.4 9.5	7.6	9.6	16	1.6	CG1M-14
CH2M-16 CH2M-17 CH2M-18 CH2M-19 CH2M-20	10	16	1.6 4.8 6.4 9.5 10.0	7.6	11.6	24	1.6	CG1M-16
CH2M-21 CH2M-22 CH2M-23 CH2M-24 CH2M-25	12	16	1.6 4.8 6.4 9.5 10.0	9.6	13.6	30	1.6	CG1M-18

DUAL GEAR HUBS

BORE	TYPE	MATERIAL
3MM TO 8MM	PIN HUB	STAINLESS STEEL DIN 1.4305





STOCK NO.	ØD	T	ØA	B
PH3M-1	3	3.00	11.0	6.5
PH3M-2	5		11.0	
PH3M-3	6		12.7	
PH3M-4	8		12.7	

- Assembly available
- Gears are triple staked and dutch pinned at assembly
- Components may also be assembled to hubs with epoxy cement
- Order gears separately

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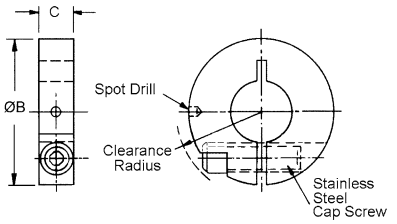
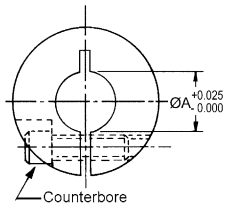
SPLIT HUB CLAMPS

BORE	TYPE	MATERIAL
4.60MM TO 13.60MM	COMPACT CLAMP DESIGN	STAINLESS STEEL DIN 1.4305 OR ALUMINUM ANODIZED DIN 3.1355





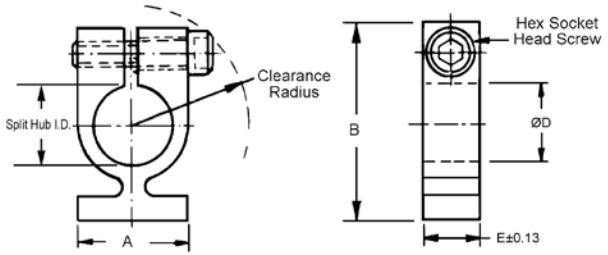
Note: Some sizes may be full or semi-counterbored or step cut at manufacturer's option.

STAINLESS STEEL DIN 1.4305 STOCK NO.	ALUMINUM ANODIZED DIN 3.1355 STOCK NO.	ØA	ØB	C	CLEAR RADIUS	SPLIT HUB I.D. (Ref.)
CG1M-1	CG1M-1A	4.60	14.0	4.0	8.5	3
CG1M-2	CG1M-2A		16.0	4.0	8.5	
CG1M-3	CG1M-3A		16.0	5.0	8.5	
CG1M-4	CG1M-4A		16.0	6.5	10.0	
CG1M-5	—	5.60	16.0	4.0	8.5	4
CG1M-7	CG1M-7A	6.60	16.0	4.0	8.5	5
CG1M-8	CG1M-8A		16.0	5.0	8.5	
CG1M-9	CG1M-9A		22.0	5.0	12.5	
CG1M-10	CG1M-10A		22.0	6.0	13.0	
CG1M-11	—	7.60	22.0	5.0	12.5	6
CG1M-12	—	8.60	22.0	5.0	12.5	7
CG1M-13	CG1M-13A		22.0	6.0	13.0	
CG1M-14	CG1M-14A	9.60	28.5	6.5	16.0	8
CG1M-15	CG1M-15A		28.5	8.0	16.0	
CG1M-16	CG1M-16A	11.60	28.5	6.5	16.0	10
CG1M-17	CG1M-17A		32.0	8:0	16.0	
CG1M-18	CG1M-18A	13.60	32.0	8.0	16.0	12

Special clamps are available on request.

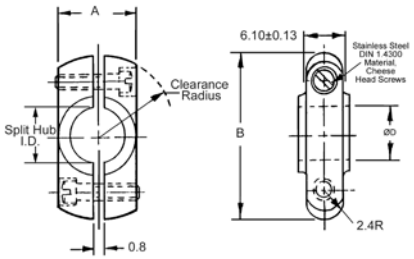
SPLIT HUB CLAMPS

SHAFT SIZE	MATERIAL
3MM TO 12MM	STAINLESS STEEL AND MILD STEEL



STOCK NO.	MATERIAL	D	A	B	CLEAR. RADIUS	E	FINISH	SHAFT SIZE
CG3M-1 CG3M-2 CG3M-3	DIN 1.4005 S.S. DIN 1.4305 S.S. MILD STEEL	4.60	7.9	17.5	11.1	6.35 6.35 3.56	BLACK PASS. CLEAR PASS. CAD. PLATE	3.00
CG3M-4 CG3M-5 CG3M-6	DIN 1.4005 S.S. DIN 1.4305 S.S. MILD STEEL	6.60	9.6	20.6	13.1	6.35 6.35 3.56	BLACK PASS. CLEAR PASS. CAD. PLATE	5.00
CG3M-7 CG3M-8 CG3M-9	DIN 1.4005 S.S. DIN 1.4305 S.S. MILD STEEL	8.60	11.1	20.6	14.3	6.35 6.35 3.56	BLACK PASS CLEAR PASS. CAD. PLATE	7.00
CG3M-10 CG3M-11 CG3M-12	DIN 1.4005 S.S. MILD STEEL MILD STEEL	11.60	15.9	26.2	17.1	6.35 6.35 3.56	CLEAR PASS. CAD. PLATE CAD. PLATE	10.00
CG3M-13 CG3M-14 CG3M-15	DIN 1.4005 S.S. MILD STEEL MILD STEEL	13.60	15.9	26.2	17.1	6.35 6.35 3.56	CLEAR PASS. CAD. PLATE CAD. PLATE	12.00

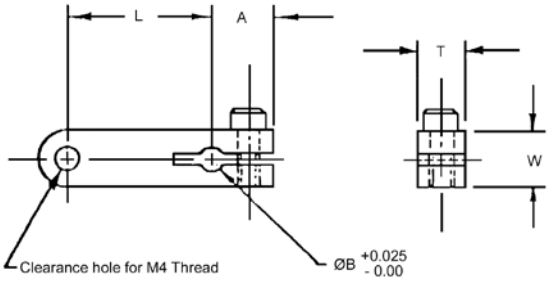
SHAFT SIZE	TYPE	MATERIAL
3MM TO 7MM	BALANCED CLAMP	STAINLESS STEEL AND MILD STEEL



STOCK NO.	ØD	A	B	TYPE CLEAR. RADIUS	SPLIT HUB OF BALANCE	INSIDE DIA. (REF.)
CG2M-1 CG2M-2 CG2M-3	4.60 6.60 8.60	7.9 9.5 11.1	17.4 18.85 20.6	9.5 10.3 11.9	DYNAMICALLY BALANCED	3.00 5.00 7.00
CG2M-4 CG2M-5 CG2M-6	4.60 6.60 8.60	7.9 9.5 11.1	17.4 18.85 20.6	9.5 10.3 11.9	AS CAST	3.00 5.00 7.00

SHAFT CLAMPS

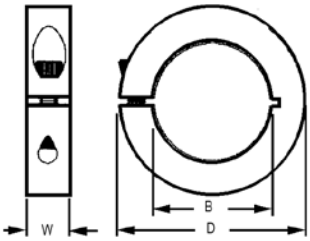
SHAFT SIZE	MATERIAL
3MM TO 6MM	STAINLESS STEEL DIN 1.4005



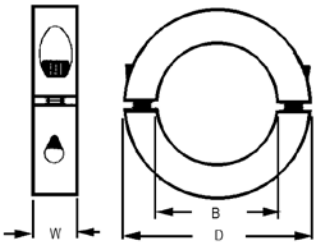
STOCK NO.	A	ØB	L	T	W
CG7M-1	6.4	3.00	15.9	4.8	6.4
CG7M-2	6.4	4.00	15.9	4.8	6.4
CG7M-3	6.4	5.00	15.9	4.8	7.9
CG7M-4	6.7	6.00	15.9	4.8	7.9

CLAMPS

BORE	TYPE	MATERIAL
3MM TO 26MM	ONE AND TWO PIECE STYLES	COLD ROLLED STEEL OR STAINLESS STEEL



One Piece Style

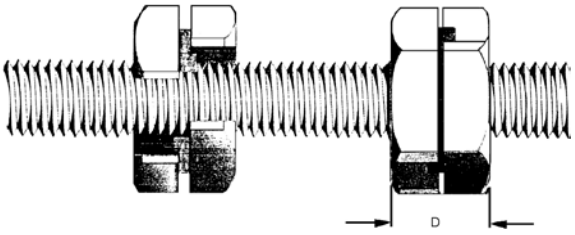


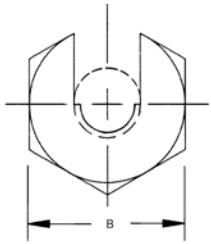
Two Piece Style

STOCK NUMBER				BORE (B)	O.D (D)	WIDTH (W)	FORGED CLAMP SCREW	REC.MAX SCREW TOR. N•m
COLD ROLLED STEEL		STAINLESS STEEL						
ONE-PIECE STYLE	TWO-PIECE STYLE	ONE-PIECE STYLE	TWO-PIECE STYLE					
CG8M-3	CG8SM-3	CG8M-3SS	CG8SM-3SS	3	16	9	M3x8	2.1
CG8M-4	CG8SM-4	CG8M-4SS	CG8SM-4SS	4	16	9	M3x8	2.1
CG8M-5	CG8SM-5	CG8M-5SS	CG8SM-5SS	5	16	9	M3x8	2.1
CG8M-6	CG8SM-6	CG8M-6SS	CG8SM-6SS	6	16	9	M3x8	2.1
CG8M-7	CG8SM-7	CG8M-7SS	CG8SM-7SS	7	18	9	M3x8	2.1
CG8M-8	CG8SM-8	CG8M-8SS	CG8SM-8SS	8	18	9	M3x8	2.1
CG8M-9	CG8SM-9	CG8M-9SS	CG8SM-9SS	9	24	9	M3x10	2.1
CG8M-10	CG8SM-10	CG8M-10SS	CG8SM-10SS	10	24	9	M3x10	2.1
CG8M-11	CG8SM-11	CG8M-11SS	CG8SM-11SS	11	28	11	M4x12	4.6
CG8M-12	CG8SM-12	CG8M-12SS	CG8SM-12SS	12	28	11	M4x12	4.6
CG8M-13	CG8SM-13	CG8M-13SS	CG8SM-13SS	13	30	11	M4x14	4.6
CG8M-14	CG8SM-14	CG8M-14SS	CG8SM-14SS	14	30	11	M4x14	4.6
CG8M-15	CG8SM-15	CG8M-15SS	CG8SM-15SS	15	34	13	M5x16	9.5
CG8M-16	CG8SM-16	CG8M-16SS	CG8SM-16SS	16	34	13	M5x16	9.5
CG8M-17	CG8SM-17	CG8M-17SS	CG8SM-17SS	17	36	13	M5x16	9.5
CG8M-18	CG8SM-18	CG8M-18SS	CG8SM-18SS	18	36	13	M5x16	9.5
CG8M-19	CG8SM-19	CG8M-19SS	CG8SM-19SS	19	40	15	M6x16	16
CG8M-20	CG8SM-20	CG8M-20SS	CG8SM-20SS	20	40	15	M6x16	16
CG8M-21	CG8SM-21	CG8M-21SS	CG8SM-21SS	21	42	15	M6x16	16
CG8M-22	CG8SM-22	CG8M-22SS	CG8SM-22SS	22	42	15	M6x16	16
CG8M-23	CG8SM-23	CG8M-23SS	CG8SM-23SS	23	45	15	M6x16	16
CG8M-24	CG8SM-24	CG8M-24SS	CG8SM-24SS	24	45	15	M6x16	16
CG8M-25	CG8SM-25	CG8M-25SS	CG8SM-25SS	25	45	15	M6x16	16
CG8M-26	CG8SM-26	CG8M-26SS	CG8SM-26SS	26	48	15	M6x16	16

THREADED SHAFT CLAMPS

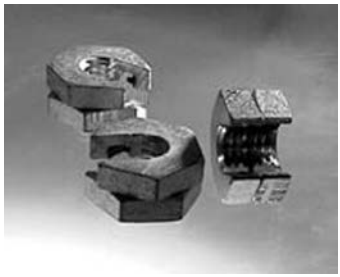
THREAD SIZE	MATERIAL
M8 X 1.25 TO M20 X 2.50	STEEL DIN 1.0718





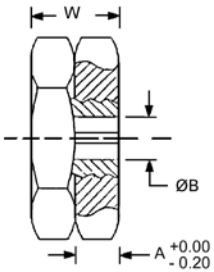
STOCK NO.	THREAD	B	D (APPROX)	REC.* LOAD (kg)
TSC-8M	M8 X 1.25	19	9	295
TSC-10M	M10 X 1.50	22	12	900
TSC-12M	M12 X 1.75	28	15	1815
TSC-16M	M16 X 2.00	33	15	2265
TSC-20M	M20 X 2.50	41	20	3625

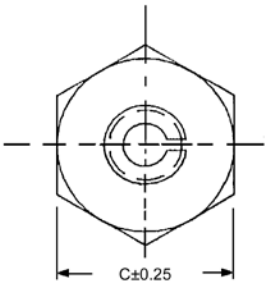
* Or as limited by rod.



SQUEEZE CLAMPS

SHAFT SIZE	MATERIAL
3MM TO 12MM	NUT - STAINLESS STEEL DIN 1.4005 BUSHING - SINTERED BRONZE





STOCK NO.	BORE ØB	A	WIDTH W	REF. D	C	SPLIT HUB I.D. (REF.)
SCL-3M-1 SCL-3M-2	4.6	2.4 3.2	4.8 6.4	18.1	15.8	3
SCL-4M-1 SCL-4M-2	5.6	2.4 3.2	4.8 6.4	18.1	15.8	4
SCL-5M-1 SCL-5M-2	6.6	2.4 3.2	4.8 6.4	18.1	15.8	5
SCL-6M-1 SCL-6M-2	7.6	2.4 3.2	4.8 6.4	18.1	15.8	6
SCL-7M-1 SCL-7M-2	8.6	2.4 3.2	4.8 6.4	23.8	20.8	7
SCL-8M-1 SCL-8M-2	9.6	2.4 3.2	4.8 6.4	23.8	20.8	8
SCL-9M	10.6	3.2	6.4	27.2	23.8	9
SCL-10M	11.6	3.2	6.4	27.2	23.8	10
SCL-11M	12.6	3.2	6.4	27.2	23.8	11
SCL-12M	13.6	4.0	8.0	27.2	23.8	12

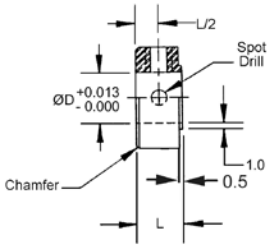
- High clamping force
- Clamp directly to shafting or over a split hub
- Dynamically balance
- Higher holding torques
- Smaller outline
- Low moment of intertia
- Eliminates costly machining of keyways
- Eliminates the marking of shafts with set screws

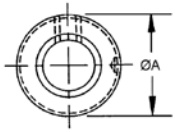
1. The Squeeze Clamp consists of an externally threaded & slotted bushing with two internally threaded nuts. By tightening one nut against the other, the bushing is squeezed onto a clamp hub or shaft thereby retaining the part on the shaft.
2. The dynamically balanced Squeeze Clamp is dimensionally smaller in comparison with conventional clamps, but has a higher holding torque due to its unique shaft holding mechanism.
3. Shaft size 3mm to 12 mm can be accommodated.

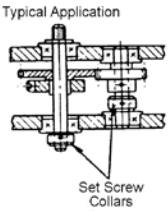
Material:
- Nut - Stainless Steel
- Bushing - Bronze

SET SCREW COLLARS

BORE SIZE	MATERIAL
3MM TO 19MM PRECISION BORE	STAINLESS STEEL DIN 1.4305 WITH INTEGRAL BEARING SHIM SPACER



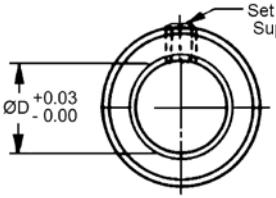


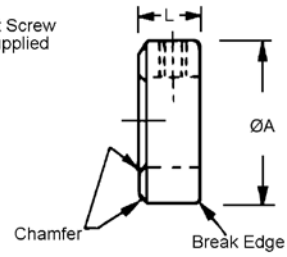


STOCK NUMBER	SHAFT SIZE	ØD	L	ØA
CSM-1	3	3.003	4	8
CSM-2	4	4.003	5	10
CSM-3	5	5.003	5	12
CSM-4	6	6.003	6	12
CSM-5	7	7.003	6	16
CSM-6	8	8.003	6	16
CSM-7	10	10.003	10	19
CSM-8	12	12.003	10	19
CSM-9	16	16.003	12	32
CSM-10	19	19.003	14	38

- No shim spacers required
- Used to pre-load bearing

BORE SIZE	MATERIAL
3MM TO 32MM COMMERCIAL BORE	COLD ROLLED STEEL ZINC PLATED

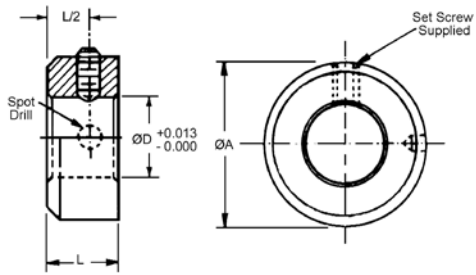




STOCK NO.	ØD	ØA	L
CSM-19	3.01	10	6
CSM-20	4.01	10	6
CSM-21	6.01	12	8
CSM-22	8.01	16	8
CSM-23	10.01	16	10
CSM-24	12.01	19	10
CSM-25	16.01	29	12
CSM-26	19.01	32	12
CSM-27	25.01	38	16
CSM-28	32.01	44	18

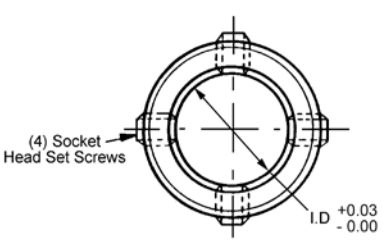
SET SCREW COLLARS

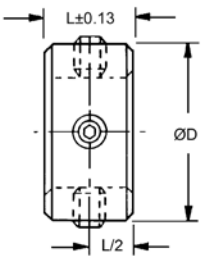
BORE SIZE	MATERIAL
3MM TO 12MM PRECISION BORE	STAINLESS STEEL DIN 1.4305



STOCK NUMBER	SHAFT SIZE	ØD	L	ØA
CSM-11	3	3.003	4	8
CSM-12	4	4.003	5	10
CSM-13	5	5.003	5	12
CSM-14	6	6.003	6	12
CSM-15	7	7.003	6	16
CSM-16	8	8.003	6	16
CSM-17	10	10.003	10	19
CSM-18	12	12.003	10	19

BORE SIZE	MATERIAL
3MM TO 12MM COMMERCIAL BORE SCREW TYPE	STAINLESS STEEL DIN 1.4305 OR ALUMINUM ANODIZED DIN 3.1355



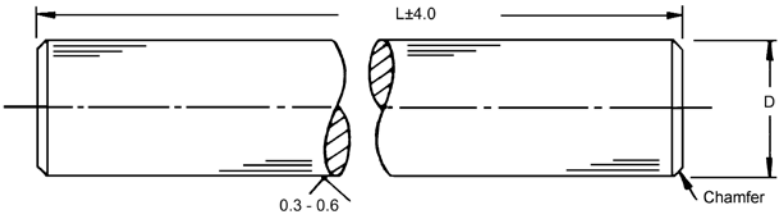


STAINLESS DIN 1.4305 STOCK NO.	ALUMINUM DIN 3.1355 STOCK NO.	I.D.	ØD	L	SPLIT HUB I.D. (Ref.)
CSM-29	CSM-29A	4.60	6.4	9.53	3.00
CSM-30	CSM-30A	6.60	6.4	12.70	5.00
CSM-31	CSM-31A	8.60	6.4	12.70	7.00
CSM-32	CSM-32A	11.60	7.9	19.05	10.00
CSM-33	CSM-33A	13.60	7.9	19.05	12.00

I

CASE HARDENED GROUND SHAFTS

DIAMETER	MATERIAL
6MM TO 50MM	STAINLESS STEEL DIN 1.4005 HARDENED OR STEEL DIN 1.0601 HARDENED



STOCK NOS.		NOM. DIA.	D	L
ST/ST DIN 1.4005	STEEL DIN 1.0601			
S416-6M-900	–	6	5.987/6.000	900
– –	LMS-8M-300 LMS-8M-900	8	7.991/8.000	300 900
S416-10M-900	–	10	9.992/10.000	900
– –	LMS-12M-300 LMS-12M-900	12	11.989/11.999	300 900
S416-13M-900	–	13	12.989/13.000	900
– –	LMS-16M-300 LMS-16M-900	16	15.989/15.999	300 900
– S416-20M-900	LMS-20M-300 LMS-20M-900	20	19.987/20.000	300 900
– S416-25M-900	LMS-25M-300 LMS-25M-900	25	24.989/25.000	300 900
– S416-30M-900	LMS-30M-300 LMS-30M-900	30	29.987/30.000	300 900
– –	LMS-40M-300 LMS-40M-900	40	39.987/40.000	300 900
– –	LMS-50M-300 LMS-50M-900	50	49.985/50.000	300 900

Straightness:
6MM - Best Efforts Basis
8MM To 50MM - Within 0.08 - 0.17 mm/Meter

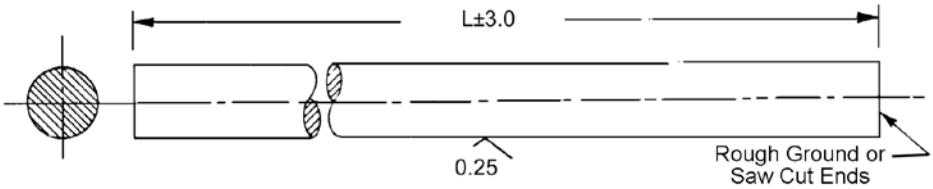
- Shafting available in other lengths.

Specify by similar stock number and length required.

Example: LMS-25M-1000 (25mm Diameter, 1000mm long).

STAINLESS GROUND SHAFTS

DIAMETER	MATERIAL
3MM TO 30MM	STAINLESS STEEL DIN 1.4305

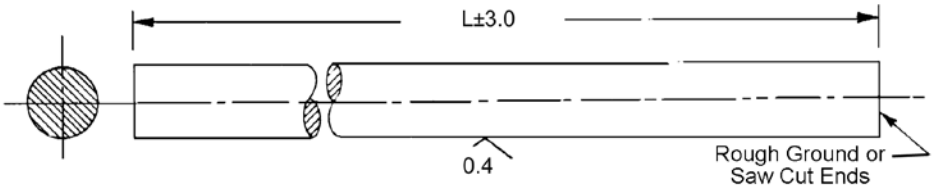


STOCK NO.	FRACT. DIA. REF.	ACTUAL DIA.	DIAMETER TOL.	L
S1-103	3	2.992	+0.000 -0.005	600
S1-131		3.000		600
S1-132		3.003		300
S1-133		3.003		600
S1-104	4	3.992		600
S1-134		3.999		600
S1-105	5	4.991		900
S1-135		5.000		600
S1-106	6	5.992		900
S1-136		6.000		900
S1-137	7	6.992		900
S1-138		6.992		600
S1-139		7.000		900
S1-140		7.000		600
S1-108	8	7.993		900
S1-141		8.000		600
S1-109	9	8.992		900
S1-110	10	9.992	+0.000 -0.005	900
S1-142		10.000		400
S1-143		10.000		900
S1-144	12	11.991		400
S1-112		11.991		900
S1-145		12.000		400
S1-146		12.000		900
S1-149	13	12.993		400
S1-113		12.993		900
S1-114	14	13.993	+0.000 -0.008	900
S1-116	16	15.974		900
S1-147		16.000		900
S1-120	20	19.992		900
S1-125	25	24.993		900
S1-148		25.000		900
S1-130	30	29.992		900

* Straightness: 10 mm diameter and above .0101 mm/mm. 9mm diameter and below on best efforts basis.

GROUND SHAFTS

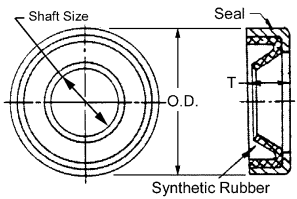
DIAMETER	MATERIAL
3MM TO 32MM	CARBON STEEL DIN 1.0718 SURFACE FINISH



STOCK NO.	FRACT. DIA. REF.	ACTUAL DIA.	DIAMETER TOL.	L
S20M-1	3	2.993	+0.000 -0.005	900
S20M-2	4	3.993		
S20M-3	6	5.993		
S20M-4	8	7.993		
S20M-5	10	9.993		
S20M-6	12	11.993	+0.000 -0.010	900
S20M-7	16	15.993		
S20M-8	19	18.993		
S20M-9	25	24.993		
S20M-10	32	31.993		

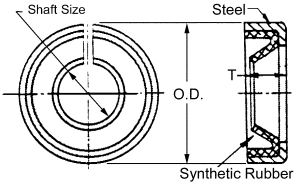
SHAFT SEALS

STYLE	FOR SHAFT SIZES
REGULAR	**6mm TO 30mm**



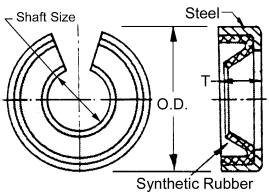
STOCK NO.	SHAFT SIZE	OUTSIDE DIA.	T
LMGM-R-5	6	12	2
LMGM-R-6	10	19	7
LMGM-R-1	13	23	7
LMGM-R-2	20	32	7
LMGM-R-3	25	40	5
LMGM-R-4	30	45	5

STYLE	FOR SHAFT SIZES
ADJUSTABLE	**6mm TO 30mm**



STOCK NO.	SHAFT SIZE	OUTSIDE DIA.	T
LMGM-A-5	6	12	2
LMGM-A-6	10	19	7
LMGM-A-1	13	23	7
LMGM-A-2	20	32	7
LMGM-A-3	25	40	5
LMGM-A-4	30	45	5

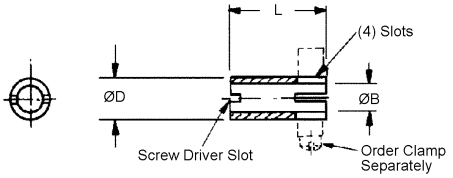
STYLE	FOR SHAFT SIZES
OPEN	**6mm TO 30mm**



STOCK NO.	SHAFT SIZE	OUTSIDE DIA.	T
LMGM-P-5	6	12	2
LMGM-P-6	10	19	7
LMGM-P-1	13	23	7
LMGM-P-2	20	32	7
LMGM-P-3	25	40	5
LMGM-P-4	30	45	5

SHAFT ADAPTERS

BORE	STYLE	MATERIAL
3MM TO 10MM	CLAMP	STAINLESS STEEL DIN 1.4305

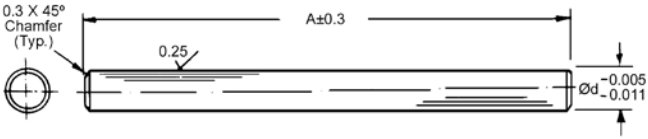


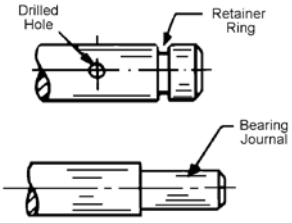
STOCK NUMBER	ØB +0.03	ØD -0.03	L
SAM-10	3.00	4.00	11
SAM-11	3.00	5.00	10
SAM-12 SAM-13 SAM-14	3.00 4.00 5.00	6.00	11
SAM-15 SAM-16	5.00 6.00	8.00	11
SAM-18 SAM-19	6.00 8.00	10.00	13
SAM-20 SAM-21 SAM-22	6.00 8.00 10.00	12.00	13

Modifications and specials are available upon request.

STAINLESS GROUND SHAFTS

DIAMETER	MATERIAL
3MM AND 4MM	STAINLESS STEEL DIN 1.4305





TYPICAL MODIFICATIONS

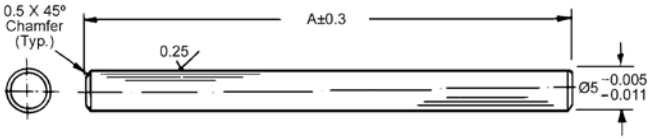
- Precision ground finish
- Straightness within .0076 mm/mm
- Send sketch for quotation on modifications

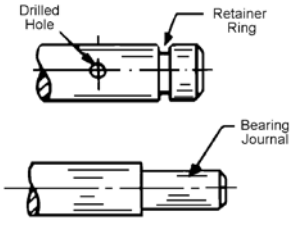
Available on request:
- Retainer ring grooves
- Special shaft lengths
- Journals
- Drilled holes
- Milled flats

STOCK NO. Ød = 3	STOCK NO. Ød = 4	A
S3M-20	S4M-20	20.0
S3M-25	S4M-25	25.0
S3M-30	S4M-30	30.0
S3M-35	S4M-35	35.0
S3M-40	S4M-40	40.0
S3M-45	S4M-45	45.0
S3M-50	S4M-50	50.0
S3M-55	S4M-55	55.0
S3M-60	S4M-60	60.0
S3M-65	S4M-65	65.0
S3M-70	S4M-70	70.0
S3M-75	S4M-75	75.0
S3M-80	S4M-80	80.0
S3M-85	S4M-85	85.0
S3M-90	S4M-90	90.0
S3M-95	S4M-95	95.0
S3M-100	S4M-100	100.0
S3M-105	S4M-105	105.0
S3M-110	S4M-110	110.0
S3M-115	S4M-115	115.0
S3M-120	S4M-120	120.0
S3M-125	S4M-125	125.0
S3M-130	S4M-130	130.0
S3M-135	S4M-135	135.0
S3M-140	S4M-140	140.0
S3M-145	S4M-145	145.0
S3M-150	S4M-150	150.0
S3M-155	S4M-155	155.0
S3M-160	S4M-160	160.0
S3M-165	S4M-165	165.0
S3M-170	S4M-170	170.0
S3M-175	S4M-175	175.0
S3M-180	S4M-180	180.0
S3M-185	S4M-185	185.0
S3M-190	S4M-190	190.0
S3M-195	S4M-195	195.0
S3M-200	S4M-200	200.0
S3M-210	S4M-210	210.0
S3M-220	S4M-220	220.0
S3M-230	S4M-230	230.0
S3M-240	S4M-240	240.0
S3M-250	S4M-250	250.0
S3M-260	S4M-260	260.0
S3M-270	S4M-270	270.0
S3M-280	S4M-280	280.0
S3M-290	S4M-290	290.0
S3M-300	S4M-300	300.0
S3M-310	S4M-310	310.0
S3M-320	S4M-320	320.0
S3M-330	S4M-330	330.0
S3M-340	S4M-340	340.0
S3M-350	S4M-350	350.0
S3M-360	S4M-360	360.0
S3M-370	S4M-370	370.0
S3M-380	S4M-380	380.0
S3M-390	S4M-390	390.0
S3M-400	S4M-400	400.0
S3M-420	S4M-420	420.0
S3M-440	S4M-440	440.0
S3M-460	S4M-460	460.0
S3M-480	S4M-480	480.0
S3M-500	S4M-500	500.0
S3M-520	S4M-520	520.0
S3M-540	S4M-540	540.0
S3M-560	S4M-560	560.0
S3M-580	S4M-580	580.0
S3M-600	S4M-600	600.0

STAINLESS GROUND SHAFTS

DIAMETER	MATERIAL
5MM	STAINLESS STEEL DIN 1.4305





TYPICAL MODIFICATIONS

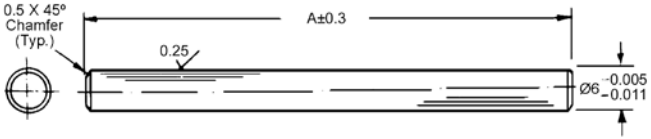
- Precision ground finish
- Straightness within .0076 mm/mm
- Send sketch for quotation on modifications

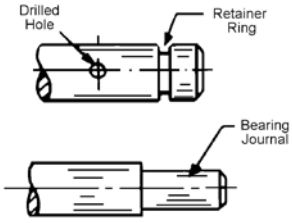
Available on request:
- Retainer ring grooves
- Special shaft lengths
- Journals
- Drilled holes
- Milled flats

STOCK NO.	A
S5M-20	20.0
S5M-25	25.0
S5M-30	30.0
S5M-35	35.0
S5M-40	40.0
S5M-45	45.0
S5M-50	50.0
S5M-55	55.0
S5M-60	60.0
S5M-65	65.0
S5M-70	70.0
S5M-75	75.0
S5M-80	80.0
S5M-85	85.0
S5M-90	90.0
S5M-95	95.0
S5M-100	100.0
S5M-105	105.0
S5M-110	110.0
S5M-115	115.0
S5M-120	120.0
S5M-125	125.0
S5M-130	130.0
S5M-135	135.0
S5M-140	140.0
S5M-145	145.0
S5M-150	150.0
S5M-155	155.0
S5M-160	160.0
S5M-165	165.0
S5M-170	170.0
S5M-175	175.0
S5M-180	180.0
S5M-185	185.0
S5M-190	190.0
S5M-195	195.0
S5M-200	200.0
S5M-210	210.0
S5M-220	220.0
S5M-230	230.0
S5M-240	240.0
S5M-250	250.0
S5M-260	260.0
S5M-270	270.0
S5M-280	280.0
S5M-290	290.0
S5M-300	300:0
S5M-310	310.0
S5M-320	320.0
S5M-330	330.0
S5M-340	340.0
S5M-350	350.0
S5M-360	360.0
S5M-370	370.0
S5M-380	380.0
S5M-390	390.0
S5M-400	400.0
S5M-420	420.0
S5M-440	440.0
S5M-460	460.0
S5M-480	480.0
S5M-500	500.0
S5M-520	520.0
S5M-540	540.0
S5M-560	560.0
S5M-580	580.0
S5M-600	600.0

STAINLESS GROUND SHAFTS

DIAMETER	MATERIAL
6MM	STAINLESS STEEL DIN 1.4305





TYPICAL MODIFICATIONS

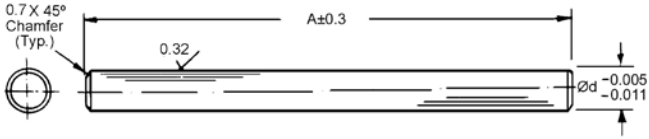
- Precision ground finish
- Straightness within .0076 mm/mm
- Send sketch for quotation on modifications

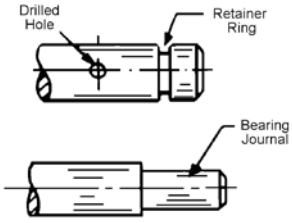
Available on request:
- Retainer ring grooves
- Special shaft lengths
- Journals
- Drilled holes
- Milled flats

STOCK NO.	A
S6M-20	20.0
S6M-25	25.0
S6M-30	30.0
S6M-35	35.0
S6M-40	40.0
S6M-45	45.0
S6M-50	50.0
S6M-55	55.0
S6M-60	60.0
S6M-65	65.0
S6M-70	70.0
S6M-75	75.0
S6M-80	80.0
S6M-85	85.0
S6M-90	90.0
S6M-95	95.0
S6M-100	100.0
S6M-105	105.0
S6M-110	110.0
S6M-115	115.0
S6M-120	120.0
S6M-125	125.0
S6M-130	130.0
S6M-135	135.0
S6M-140	140.0
S6M-145	145.0
S6M-150	150.0
S6M-155	155.0
S6M-160	160.0
S6M-165	165.0
S6M-170	170.0
S6M-175	175.0
S6M-180	180.0
S6M-185	185.0
S6M-190	190.0
S6M-195	195.0
S6M-200	200.0
S6M-210	210.0
S6M-220	220.0
S6M-230	230.0
S6M-240	240.0
S6M-250	250.0
S6M-260	260.0
S6M-270	270.0
S6M-280	280.0
S6M-290	290.0
S6M-300	300.0
S6M-310	310.0
S6M-320	320.0
S6M-330	330.0
S6M-340	340.0
S6M-350	350.0
S6M-360	360.0
S6M-370	370.0
S6M-380	380.0
S6M-390	390.0
S6M-400	400.0
S6M-420	420.0
S6M-440	440.0
S6M-460	460.0
S6M-480	480.0
S6M-500	500.0
S6M-525	525.0
S6M-550	550.0
S6M-575	575.0
S6M-600	600.0

STAINLESS GROUND SHAFTS

DIAMETER	MATERIAL
7MM AND 8MM	STAINLESS STEEL DIN 1.4305





TYPICAL MODIFICATIONS

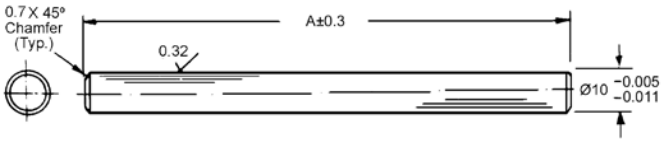
- Precision ground finish
- Straightness within .00101 mm/mm
- Send sketch for quotation on modifications

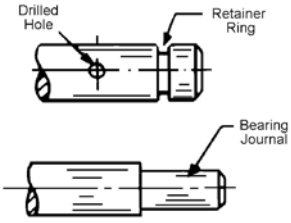
Available on request:
- Retainer ring grooves
- Special shaft lengths
- Journals
- Drilled holes
- Milled flats

STOCK NO. Ød = 7	STOCK NO. Ød = 8	A
S7M-35	S8M-35	35.0
S7M-40	S8M-40	40.0
S7M-45	S8M-45	45.0
S7M-50	S8M-50	50.0
S7M-55	S8M-55	55.0
S7M-60	S8M-60	60.0
S7M-65	S8M-65	65.0
S7M-70	S8M-70	70.0
S7M-75	S8M-75	75.0
S7M-80	S8M-80	80.0
S7M-85	S8M-85	85.0
S7M-90	S8M-90	90.0
S7M-95	S8M-95	95.0
S7M-100	S8M-100	100.0
S7M-105	S8M-105	105.0
S7M-110	S8M-110	110.0
S7M-115	S8M-115	115.0
S7M-120	S8M-120	120.0
S7M-125	S8M-125	125.0
S7M-130	S8M-130	130.0
S7M-135	S8M-135	135.0
S7M-140	S8M-140	140.0
S7M-145	S8M-145	145.0
S7M-150	S8M-150	150.0
S7M-155	S8M-155	155.0
S7M-160	S8M-160	160.0
S7M-165	S8M-165	165.0
S7M-170	S8M-170	170.0
S7M-175	S8M-175	175.0
S7M-180	S8M-180	180.0
S7M-185	S8M-185	185.0
S7M-190	S8M-190	190.0
S7M-195	S8M-195	195.0
S7M-200	S8M-200	200.0
S7M-210	S8M-210	210.0
S7M-220	S8M-220	220.0
S7M-230	S8M-230	230.0
S7M-240	S8M-240	240.0
S7M-250	S8M-250	250.0
S7M-260	S8M-260	260.0
S7M-270	S8M-270	270.0
S7M-280	S8M-280	280.0
S7M-290	S8M-290	290.0
S7M-300	S8M-300	300.0
S7M-310	S8M-310	310.0
S7M-320	S8M-320	320.0
S7M-330	S8M-330	330.0
S7M-340	S8M-340	340.0
S7M-350	S8M-350	350.0
S7M-360	S8M-360	360.0
S7M-370	S8M-370	370.0
S7M-380	S8M-380	380.0
S7M-390	S8M-390	390.0
S7M-400	S8M-400	400.0
S7M-425	S8M-425	425.0
S7M-450	S8M-450	450.0
S7M-475	S8M-475	475.0
S7M-500	S8M-500	500.0
S7M-550	S8M-550	550.0
S7M-600	S8M-600	600.0

STAINLESS GROUND SHAFTS

DIAMETER	MATERIAL
10MM	STAINLESS STEEL DIN 1.4305





TYPICAL MODIFICATIONS

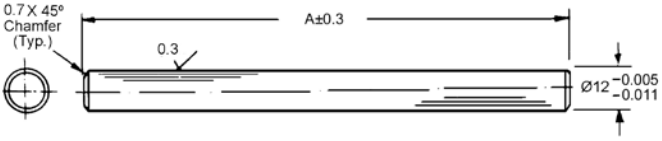
- Precision ground finish
- Straightness within .00101 mm/mm
- Send sketch for quotation on modifications

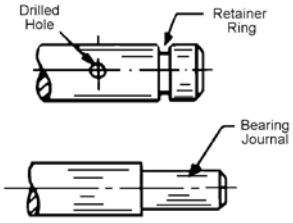
Available on request:
- Retainer ring grooves
- Special shaft lengths
- Journals
- Drilled holes
- Milled flats

STOCK NO.	A
S10M-55	55.0
S10M-60	60.0
S10M-65	65.0
S10M-70	70.0
S10M-75	75.0
S10M-80	80.0
S10M-85	85.0
S10M-90	90.0
S10M-95	95.0
S10M-100	100.0
S10M-105	105.0
S10M-110	110.0
S10M-115	115.0
S10M-120	120.0
S10M-125	125.0
S10M-130	130.0
S10M-135	135.0
S10M-140	140.0
S10M-145	145.0
S10M-150	150.0
S10M-155	155.0
S10M-160	160.0
S10M-165	165.0
S10M-170	170.0
S10M-175	175.0
S10M-180	180.0
S10M-185	185.0
S10M-190	190.0
S10M-195	195.0
S10M-200	200.0
S10M-210	210.0
S10M-220	220.0
S10M-230	230.0
S10M-240	240.0
S10M-250	250.0
S10M-260	260.0
S10M-270	270.0
S10M-280	280.0
S10M-290	290.0
S10M-300	300.0
S10M-310	310.0
S10M-320	320.0
S10M-330	330.0
S10M-340	340.0
S10M-350	350.0
S10M-360	360.0
S10M-370	370.0
S10M-380	380.0
S10M-390	390.0
S10M-400	400.0
S10M-420	420.0
S10M-440	440.0
S10M-460	460.0
S10M-480	480.0
S10M-500	500.0
S10M-600	600.0
S10M-700	700.0
S10M-800	800.0
S10M-900	900.0

STAINLESS GROUND SHAFTS

DIAMETER	MATERIAL
12MM	STAINLESS STEEL DIN 1.4305





TYPICAL MODIFICATIONS

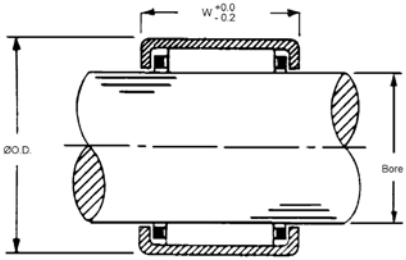
- Precision ground finish
- Straightness within .00101 mm/mm
- Send sketch for quotation on modifications

Available on request:
- Retainer ring grooves
- Special shaft lengths
- Journals
- Drilled holes
- Milled flats

STOCK NO.	A
S12M-60	60.0
S12M-65	65.0
S12M-70	70.0
S12M-75	75.0
S12M-80	80.0
S12M-85	85.0
S12M-90	90.0
S12M-95	95.0
S12M-100	100.0
S12M-105	105.0
S12M-110	110.0
S12M-115	115.0
S12M-120	120.0
S12M-125	125.0
S12M-130	130.0
S12M-135	135.0
S12M-140	140.0
S12M-145	145.0
S12M-150	150.0
S12M-155	155.0
S12M-160	160.0
S12M-165	165.0
S12M-170	170.0
S12M-175	175.0
S12M-180	180.0
S12M-185	185.0
S12M-190	190.0
S12M-195	195.0
S12M-200	200.0
S12M-220	220.0
S12M-230	230.0
S12M-240	240.0
S12M-250	250.0
S12M-260	260.0
S12M-270	270.0
S12M-280	280.0
S12M-290	290.0
S12M-300	300.0
S12M-310	310.0
S12M-320	320.0
S12M-330	330.0
S12M-340	340.0
S12M-350	350.0
S12M-360	360.0
S12M-370	370.0
S12M-380	380.0
S12M-390	390.0
S12M-400	400.0
S12M-420	420.0
S12M-440	440.0
S12M-460	460.0
S12M-480	480.0
S12M-500	500.0
S12M-600	600.0
S12M-700	700.0
S12M-800	800.0

DYNA-SPEED NEEDLE ROLLER BEARINGS

TYPE	MATERIAL
DRAWN CUP DESIGN FOR 3MM TO 25MM HARDENED SHAFTS	ROLLER CUP - CASE HARDENED STEEL NEEDLE ROLLERS - HARDENED CHROME STEEL BEARING CAGE - PLASTIC



STOCK NO.	BORE	BRG. O.D.	HOUSING BORE DIA.	BRG W	MAX.* SPEED RPM	LOAD CAPACITIES	
						DYNAMIC (N)	STATIC (N)
NRB-3	3	6.5	6.481-6.496	6.0	48.000	1230	840
NRB-4	4	8.0	7.981-7.996	8.0	43.000	1740	1270
NRB-5	5	9.0	8.981-8.996	9.0	39.000	2400	1990
NRB-6	6	10.0	9.981-9.996	9.0	37.000	2850	2600
NRB-7	7	11.0	10.997-10.995	9.0	33.000	3100	2950
NRB-8	8	12.0	11.977-11.995	10.0	29.000	3800	3950
NRB-9	9	13.0	12.977-12.995	10.0	27.000	4250	4650
NRB-10	10	14.0	13.977-13.995	10.0	24.000	4400	5100
NRB-12	12	16.0	15.977-15.995	10.0	21.000	4950	6200
NRB-13	13	19.0	18.972-18.993	12.0	19.000	6800	7900
NRB-14	14	20.0	19.972-19.993	12.0	18.000	7100	8500
NRB-15	15	21.0	20.972-20.993	12.0	16.000	7900	9400
NRB-16	16	22.0	21.972-21.993	12.0	16.000	7600	9700
NRB-17	17	23.0	22.972-22.993	12.0	15.000	7900	10300
NRB-18	18	24.0	23.972-23.993	12.0	14.000	8100	10900
NRB-20	20	26.0	25.972-25.993	12.0	13.000	8600	12100
NRB-22	22	28.0	27.972-27.993	12.0	12.000	9100	13400
NRB-25	25	32.0	31.967-31.992	12.0	10.000	11000	15200

* Represents speed values of bearing submerged in Oil.

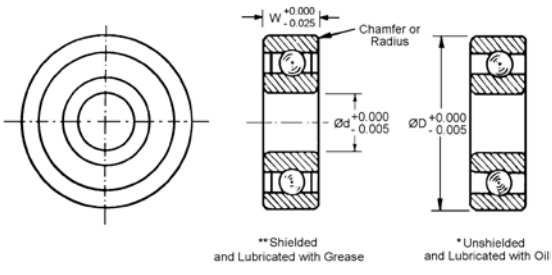
- Extremely high speed
- High load capacity
- Low profile, Light weight
- Caged needle bearings offer up to 3 times the speed of uncaged designs
- Extremely low rolling friction
- High lubrication capacity
- Low sensitivity to misalignment

Mounting Tolerances:
Housing: N7
Shaft: h6

I

BALL BEARINGS

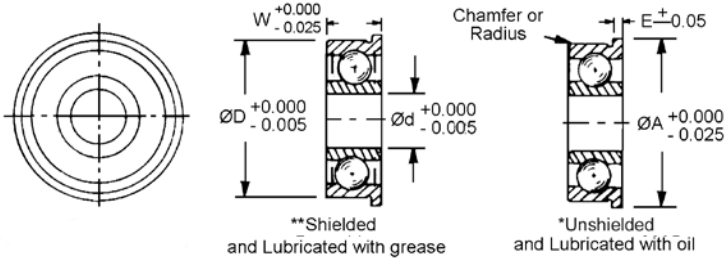
BORE SIZE	TYPE	MATERIAL
3MM TO 10MM	PLAIN PRECISION ABEC-7	STAINLESS STEEL DIN 1.4112



STOCK NO.	Ød	ØD	W	SHIELD DATA	DYNAMIC LOAD (N)	STATIC LOAD (N)
B1-50 B1-50-S	3.000	7.000	2.000 3.000	* **	206	108
B1-51 B1-51-S		8.000	3.000 4.000	* **	333	196
B1-52 B1-52-S		10.000	4.000 4.000	* **	383	216
B1-104-7 B1-104-S-7	4.000	9.000	2.500 4.000	* **	353	196
B1-53 B1-53-S	5.000	11.000	3.000 5.000	* **	392	216
B1-54 B1-54-S		13.000	4.000 4.000	* **	451	284
B1-55 B1-55-S		16.000	5.000 5.000	* **	1480	746
B1-106-7 B1-106-S-7	6.000	13.000	3.500 5.000	* **	579	353
B1-56 B1-56-S		15.000	5.000 5.000	* **	628	402
B1-57 B1-57-S		19.000	6.000 6.000	* **	1890	991
B1-108-7 B1-108-S-7	8.000	16.000	4.000 6.000	* **	951	628
B1-110-7 B1-110-S-7	10.000	19.000	5.000 7.000	* **	1020	696

BALL BEARINGS

BORE SIZE	TYPE	MATERIAL
3MM TO 10MM	SINGLE ROW - FLANGED PRECISION ABEC-7	STAINLESS STEEL DIN 1.4112

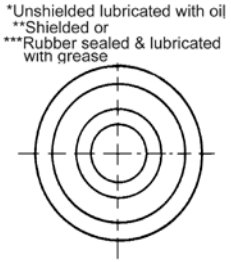


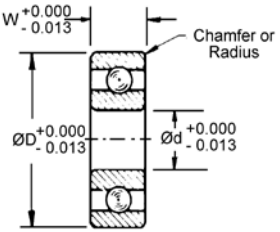
STOCK NO.	Ød	ØD	W	A	SHIELD AND LUBE DATA	E	DYNAMIC LOADS (N) CAPACITY	STATIC LOADS (N) CAPACITY
B2-50 B2-50-S	3.000	7.000	2.000 3.000	8.100	* **	0.50 0.80	206	108
B2-51 B2-51-S		8.000	3.000 4.000	9.500	* **	0.70 0.90	333	196
B2-52 B2-52-S		10.000	4.000 4.000	11.500	* **	1.00 1.00	383	216
B2-104-7 B2-104-S7	4.000	9.000	2.500 4.000	10.300	* **	0.60 1.00	353	196
B2-53 B2-53-S	5.000	11.000	3.000 5.000	12.500	* **	0.80 1.00	392	216
B2-54 B2-54-S		13.000	4.000 4.000	15.000	* **	1.00 1.00	451	284
B2-55 B2-55-S		16.000	5.000 5.000	18.000	* **	1.00 1.00	1480	746
B2-106-7 B2-106-S7	6.000	13.000	3.500 5.000	15.000	* **	1.00 1.10	579	353
B2-56 B2-56-S		15.000	5.000 5.000	17.000	* **	1.20 1.20	628	402
B2-57 B2-57-S		19.000	6.000 6.000	22.000	* **	1.50 1.50	1890	991
B2-108-7 B2-108-S7	8.000	16.000	4.000 6.000	18.000	* **	1.00 1.30	951	628
B2-58 B2-58-S	10.000	19.000	5.000 5.000	21.000	* **	1.00 1.00	1020	696

I

BALL BEARINGS

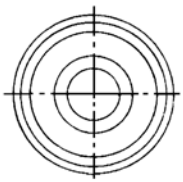
BORE SIZE	TYPE	MATERIAL
3MM TO 10MM	ABEC-1	STAINLESS STEEL DIN 1.3505

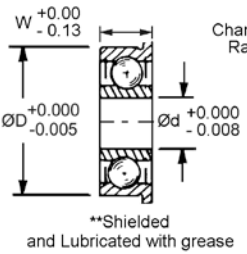


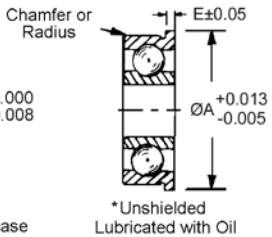


STOCK NO.	Ød	ØD	W	SHIELD AND LUBE DATA	DYNAMIC LOAD (N) CAPACITY	STATIC LOAD (N) CAPACITY
B11M-1 B11M-2 B11M-3	3.000	10.000	4.00	* ** ***	382	216
B11M-4 B11M-5 B11M-6	5.000	16.000	5.00	* ** ***	1480	746
B11M-7 B11M-8 B11M-9	6.000	19.000	6.00	* ** ***	1890	991
B11M-10 B11M-11 B11M-12	10.000	19.000	5.00	* ** ***	1020	696

BORE SIZE	TYPE	MATERIAL
3MM TO 10MM	FLANGED ABEC-1	STAINLESS STEEL DIN 1.3505



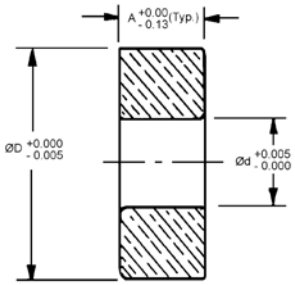




STOCK NO.	Ød	ØD	W	A	SHIELD AND LUBE DATA	E	DYNAMIC LOAD (N) CAPACITY	STATIC LOAD (N) CAPACITY
B13-103 B13-103-S	3.000	10.000	4.0	11.50	* **	1.00	383	216
B13-105 B13-105-S	5.000	16.000	5.0	18.00	* **	1.00	1480	749
B13-106 B13-106-S	6.000	19.000	6.0	22.00	* **	1.50	1890	991
B13-110 B13-110-S	10.000	19.000	5.0 7.0	22.00	* **	1.00 1.50	1020	696

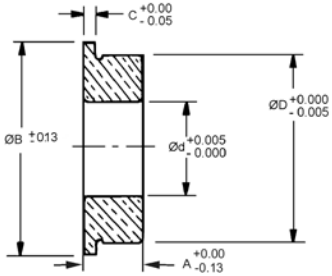
OIL-LESS BEARINGS

BORE SIZE	TYPE	MATERIAL
3MM TO 12MM	PLAIN ULTRA PRECISION	SINTERED BRONZE



STOCK NO.	SHAFT SIZE	Ød	ØD	A
B3M-1	3	3.000	6.000	2.50
B3M-2	3	3.000	8.000	3.00
B3M-3	3	3.000	10.000	4.00
B3M-4	4	4.000	8.000	4.00
B3M-5	5	5.000	12.000	4.00
B3M-6	5	5.000	13.000	5.00
B3M-7	5	5.000	10.000	5.00
B3M-8	6	6.000	16.000	5.00
B3M-9	6	6.000	10.000	5.00
B3M-10	8	8.000	16.000	6.00
B3M-11	10	10.000	19.000	7.00
B3M-12	12	12.000	20.000	8.00

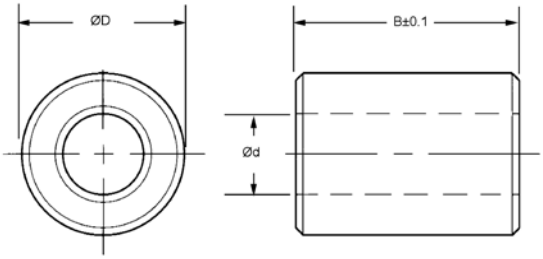
BORE SIZE	TYPE	MATERIAL
3MM TO 12MM	FLANGED ULTRA PRECISION	SINTERED BRONZE



STOCK NO.	SHAFT SIZE	Ød	ØD	A	ØB	C
B4M-1	3	3.000	6.000	2.50	8.00	0.50
B4M-2	3	3.000	8.000	3.00	10.00	0.50
B4M-3	3	3.000	10.000	4.00	12.00	1.00
B4M-4	4	4.000	8.000	4.00	10.00	1.00
B4M-5	5	5.000	12.000	4.00	14.00	1.00
B4M-6	5	5.000	13.000	5.00	14.00	1.00
B4M-7	5	5.000	10.000	5.00	12.00	1.00
B4M-8	6	6.000	16.000	5.00	18.00	1.00
B4M-9	6	6.000	10.000	5.00	12.00	1.00
B4M-10	8	8.000	16.000	6.00	18.00	1.00
B4M-11	10	10.000	19.000	7.00	21.00	1.50
B4M-12	12	12.000	20.000	8.00	22.00	1.50

OIL-LESS BEARINGS

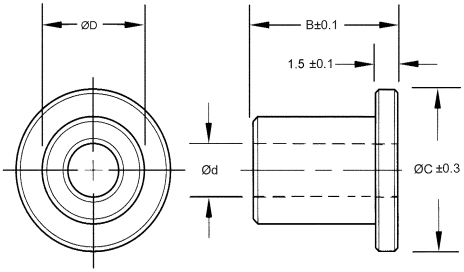
SHAFT SIZE	TYPE	MATERIAL
3MM TO 10MM	PLAIN	SINTERED BRONZE



STOCK NO.	SHAFT SIZE	Ød +.02	ØD -.03	B
B6M-1 B6M-2 B6M-3	3	3.01	6.04	4 6 10
B6M-4 B6M-5	4	4.01	8.04	4 10
B6M-6 B6M-7 B6M-8 B6M-9	5	5.01	8.04	5 8 12 16
B6M-10 B6M-11 B6M-12	6	6.01	10.04	6 10 12
B6M-13 B6M-14 B6M-15	8	8.01	12.05	8 12 16
B6M-16 B6M-17 B6M-18	10	10.01	13.05	10 16 20

OIL-LESS BEARINGS

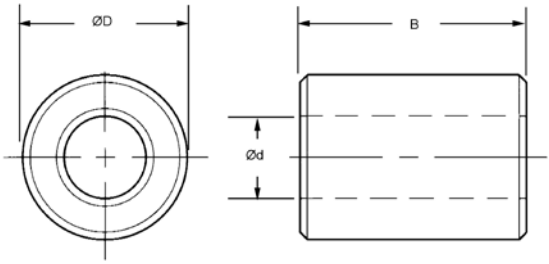
SHAFT SIZE	TYPE	MATERIAL
3MM TO 10MM	FLANGED	SINTERED BRONZE



STOCK NO.	SHAFT SIZE	Ød +.02	ØD -.03	B	ØC
B7M-1 B7M-2 B7M-3	3	3.01	6.04	4 6 10	9
B7M-4 B7M-5	4	4.01	8.04	4 10	11
B7M-6 B7M-7 B7M-8 B7M-9	5	5.01	8.04	4 8 12 16	11
B7M-10 B7M-11 B7M-12	6	6.01	10.04	6 10 12	13
B7M-13 B7M-14 B7M-15	8	8.01	12.05	8 12 16	14
B7M-16 B7M-17 B7M-18	10	10.01	13.05	10 16 20	16

OIL-LESS BEARINGS

SHAFT SIZE	TYPE	MATERIAL
3MM TO 12MM	PLAIN	TEFLON

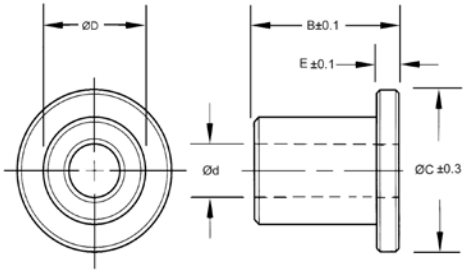


STOCK NO.	SHAFT SIZE	Ød +.13	ØD -.008	B ±0.13
B8M-1 B8M-2 B8M-3	3	3.02	6.04	4 6 10
B8M-4 B8M-5 B8M-6	5	5.02	8.04	4 8 12
B8M-7 B8M-8 B8M-9 B8M-10	6	6.02	10.04	6 10 12 16
B8M-11 B8M-12 B8M-13	8	8.02	12.05	8 12 16
B8M-14 B8M-15 B8M-16 B8M-17	10	10.02	13.05	8 10 16 20
B8M-18 B8M-19 B8M-20 B8M-21	12	12.02	16.05	10 12 20 25

- Long life
- Smooth operation
- No lubrication required
- Minimal breakaway torque resistance

OIL-LESS BEARINGS

SHAFT SIZE	TYPE	MATERIAL
3MM TO 12MM	FLANGED	TEFLON



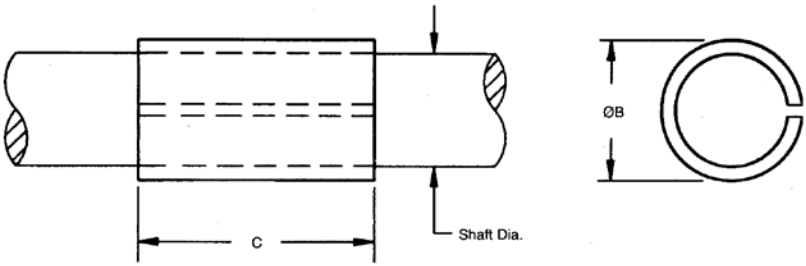
STOCK NO.	SHAFT SIZE	Ød +0.13	ØD -0.08	B ±0.13	ØC	E
B9M-1 B9M-2 B9M-3	3	3.02	6.04	4 6 10	8	1.2
B9M-4 B9M-5 B9M-6	5	5.02	8.04	4 8 12	10	1.2
B9M-7 B9M-8 B9M-9 B9M-10	6	6.02	10.04	6 10 12 16	12	1.2
B9M-11 B9M-12 B9M-13	8	8.02	12.05	8 12 16	16	1.5
B9M-14 B9M-15 B9M-16 B9M-17	10	10.02	13.05	8 10 16 20	16	1.5
B9M-18 B9M-19 B9M-20 B9M-21	12	12.02	16.05	10 12 20 25	19.0	1.5

- Long life
- Smooth operation
- No lubrication required
- Minimal breakaway torque resistance

I

LONG-LIFE® BEARINGS

SHAFT SIZE	TYPE	MATERIAL
3MM TO 25MM	DRY PFTE-LEAD LUBRICATING	STEEL BACKED POROUS BRONZE



- Lasts up to 10 times longer than oil impregnated porous bronze bearings
- High loads
- Runs cool - excellent heat dissipation
- Extremely low coefficient of friction
- Operates in extreme temperatures
- Reduce costs - lower maintenance - eliminate hardened shafting and expensive shaft preparations
- Excellent for rotating sliding or oscillating motion and both trust and radial loads
- In fully lubricated environments provides protection during dry starts and from lubrication system failure

Max. Cont. Load = 1.7 PV's ($\frac{N}{mm^2}$ x $\frac{M}{sec}$) Unlubricated
70 PV's ($\frac{N}{mm^2}$ x $\frac{M}{sec}$) Lubricated
Max. Cont. Speed = 5 M/sec Unlubricated
10 M/sec Lubricated
Temp. Range = -200°C to +280°C
Compressive Strength = 310 N/mm²

STOCK NO.	NORMAL SHAFT SIZE	ACTUAL SHAFT SIZE	NOMINAL O.D. ØB	HOUSING BORE	C	SHAFT STOCK NO.
DU14M-1 DU14M-2	3	3.000/2.994	4.5	4.508/4.500	3 6	S1-131
DU14M-3 DU14M-4 DU14M-5	5	4.991/4.979	7	7.016/7.001	5 8 10	S1-105
DU14M-6 DU14M-7	6	5.992/5.980	8	8.017/8.002	6 10	S1-106
DU14M-8 DU14M-9	8	7.993/7.978	10	10.021/10.006	8 12	S1-108
DU14M-10 DU14M-11 DU14M-12	10	9.992/9.977	12	12.023/12.005	8 12 20	S1-110
DU14M-13 DU14M-14 DU14M-15	12	11.991/11.973	14	14.025/14.007	8 12 25	S1-112
DU14M-16 DU14M-17 DU14M-18	16	15.984/15.966	18	18.018/18.00	12 15 25	S1-116
DU14M-19 DU14M-20 DU14M-21	20	19.992/19.971	23	23.033/23.012	15 20 30	S1-120
DU14M-22 DU14M-23 DU14M-24	25	24.993/24.972	28	28.034/28.013	15 25 50	S1-125

THERMOPLASTIC BEARINGS

REFERENCE CHART

The B15/16 Series is a thick-walled light-duty bearing used in many types of machinery to dampen vibration and shock loads. They are dimensionally interchangeable with most sintered metal bearings, and can be retro-fitted without changing the housing bore or shaft. Typically they're used in agricultural and exercise equipment and machinery such as woodworking, packaging, and welding equipment.

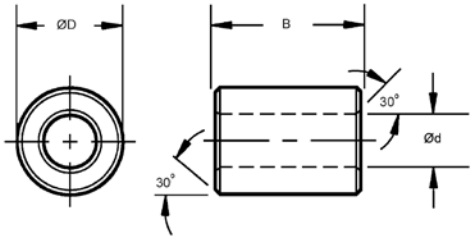
The B17/18 Series is available for situations where even the excellent abrasion resistance of the B19/20 Series is insufficient. It's superior characteristics are especially well suited for high performance requirements. Applications include, for example, pneumatic cylinders, lifting equipment, fitness machinery, industrial brakes, clutches and automotive components in general.

The B19/20 Series was initially designed for applications in chemical processing equipment. This material is a unique combination of exotic materials best suited for high load, temperature and speed applications. It is resistant to virtually any substance except for concentrated sulfuric acids. At present, this material is unique and unequalled. Applications include chemical mountings and pumps, oven manufacture, semi-conductors, film developing equipment, equipment for industrial-sized kitchens, etc.

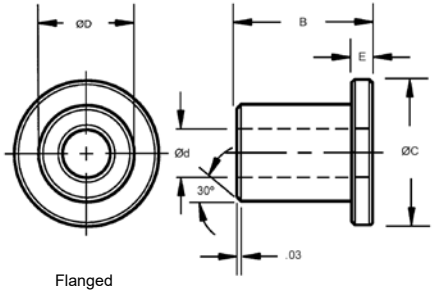
DATA	B15/16 SERIES	B17/18 SERIES	B19/20 SERIES
MAX. LOAD (KG/CM^2)	161	662	1529
TEMP. RANGE FOR CONTINUOUS OPERATION	-40°F to 135°F 200°F	-40°F to 135°F 210°F	-149°F to 250°F 315°F
MAX. PV (NO LUB.)	208	594	2122
SPEEDS (MPM) OSCILLATING (CONTINUOUS) OSCILLATING (SHORT TERM) ROTATIONAL (CONTINUOUS) ROTATIONAL (SHORT TERM) LINEAR (CONTINUOUS) LINEAR (SHORT TERM)	 59 119 59 119 178 297	 119 180 90 149 297 359	 178 238 90 209 297 356
COEFFICIENT OF FRICTION. DYNAMIC STEEL. DRY.	.18-.30	.08-.15	.11-.17
MAINTENANCE FREE	YES	YES	YES
DRY OPERATION	YES	YES	YES
COMPRESSIVE STRENGTH (KG/CM^2)	183	662	1529
SPACE REQUIREMENTS	MEDIUM WALL THICKNESS	THIN WALLED	THIN WALLED
DENSITY (KG/CM^2)	.0010	.0012	.0012
MODULUS OF ELASTICITY (KG/CM^2)	17.331	56.071	67.285
H20 ABSORPTION @50% HUM. & 23° C (%)	1.6	.65	.10

THERMOPLASTIC BEARINGS

BORE SIZE	SHAFT SIZE	TYPE
1MM TO 12MM	1MM TO 12MM	SLEEVE AND FLANGED



Sleeve

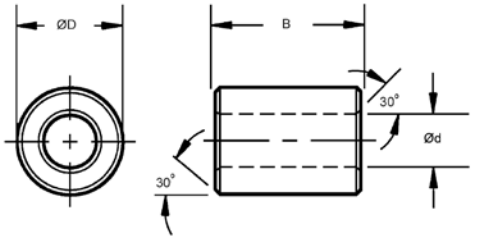


Flanged

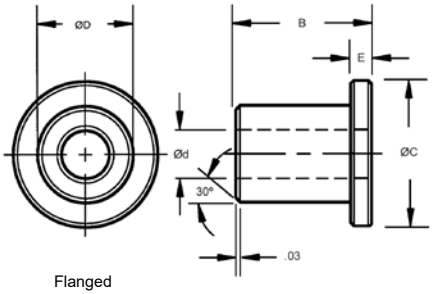
SLEEVE STOCK NO.	FLANGED STOCK NO.	NOMINAL SIZES					I.D. AFTER PRESS FIT		HOUSING BORE		SHAFT SIZE	
		Ød	ØD	ØC	B	E (+0/-.140)	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
B15M-1	B16M-1	1	3	5	2	1	1.080	1.020	3.080	3.000	1.000	0.975
B15M-2	B16M-2	1.5	4	6	2	1	1.580	1.520	4.012	4.000	1.500	1.475
B15M-3	B16M-3	2	5	8	3	1.5	2.080	2.020	5.012	5.000	2.000	1.975
B15M-4	B16M-4	3	6	9	4	1.5	3.080	3.020	6.012	6.000	3.000	2.975
B15M-5	B16M-5	4	8	12	6	2	4.105	4.030	8.015	8.000	4.000	3.970
B15M-6	B16M-6	5	9	13	5	2	5.105	5.030	9.015	9.000	5.000	4.970
B15M-7	B16M-7	5	9	13	8	2	5.105	5.030	9.015	9.000	5.000	4.970
B15M-8	B16M-8	6	10	14	4	2	6.105	6.030	10.015	10.000	6.000	5.970
B15M-9	B16M-9	6	10	14	6	2	6.105	6.030	10.015	10.000	6.000	5.970
B15M-11	B16M-11	6	12	14	6	3	6.105	6.030	12.018	12.000	6.000	5.970
B15M-12	B16M-12	6	12	14	10	3	6.105	6.030	12.018	12.000	6.000	5.970
B15M-13	B16M-13	8	11	13	8	2	8.130	8.040	11.018	11.000	8.000	7.964
B15M-14	B16M-14	8	12	16	6	2	8.130	8.040	12.018	12.000	8.000	7.964
B15M-15	B16M-15	8	12	16	8	2	8.130	8.040	12.018	12.000	8.000	7.964
B15M-16	B16M-16	8	12	16	12	2	8.130	8.040	12.018	12.000	8.000	7.964
B15M-17	B16M-17	8	14	18	6	3	8.130	8.040	14.018	14.000	8.000	7.964
B15M-18	B16M-18	8	14	18	10	3	8.130	8.040	14.018	14.000	8.000	7.964
B15M-19	B16M-19	10	16	20	6	3	10.130	10.040	16.018	16.000	10.000	9.964
B15M-20	B16M-20	10	16	22	10	3	10.130	10.040	16.018	16.000	10.000	9.964
B15M-21	B16M-21	10	16	22	16	3	10.130	10.040	16.018	16.000	10.000	9.964
B15M-22	B16M-22	12	18	24	8	3	12.160	12.050	18.018	18.000	12.000	11.957
B15M-23	B16M-23	12	18	22	10	3	12.160	12.050	18.018	18.000	12.000	11.957
B15M-24	B16M-24	12	18	22	15	3	12.160	12.050	18.018	18.000	12.000	11.957
B15M-25	B16M-25	12	18	22	20	3	12.160	12.050	18.018	18.000	12.000	11.957

THERMOPLASTIC BEARINGS

BORE SIZE	SHAFT SIZE	TYPE
3MM TO 12MM	3MM TO 14MM	SLEEVE AND FLANGED



Sleeve

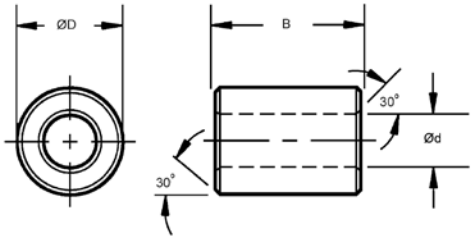


Flanged

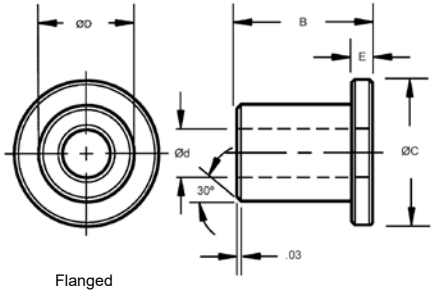
SLEEVE STOCK NO.	FLANGED STOCK NO.	NOMINAL SIZES					I.D. AFTER PRESS FIT		HOUSING BORE		SHAFT SIZE	
		Ød	ØD	ØC	B	E (+0/-.140)	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
B17M-1	B18M-1	3	4.5	7.5	3	0.75	3.054	3.014	4.512	4.500	3.000	2.975
B17M-2	B18M-2	3	4.5	7.5	5	0.75	3.054	3.014	4.512	4.500	3.000	2.975
B17M-3	B18M-3	4	5.5	9.5	4	0.75	4.068	4.020	5.512	5.500	4.000	3.970
B17M-4	B18M-4	4	5.5	9.5	6	0.75	4.068	4.020	5.512	5.500	4.000	3.970
B17M-5	B18M-5	5	7	11	5	1	5.068	5.020	7.015	7.000	5.000	4.970
B17M-6	B18M-6	6	8	12	6	1	6.068	6.020	8.015	8.000	6.000	5.970
B17M-7	B18M-7	6	8	12	8	1	6.068	6.020	8.015	8.000	6.000	5.970
B17M-8	B18M-8	6	8	12	10	1	6.068	6.020	8.015	8.000	6.000	5.970
B17M-9	B18M-9	7	9	15	12	1	7.083	7.025	9.015	9.000	7.000	6.964
B17M-10	B18M-10	8	10	15	5.5	1	8.083	8.025	10.015	10.000	8.000	7.964
B17M-11	B18M-11	8	10	15	7.5	1	8.083	8.025	10.015	10.000	8.000	7.964
B17M-12	B18M-12	8	10	15	10	1	8.083	8.025	10.015	10.000	8.000	7.964
B17M-13	B18M-13	10	12	18	6	1	10.083	10.025	12.018	12.000	10.000	9.964
B17M-14	B18M-14	10	12	18	9	1	10.083	10.025	12.018	12.000	10.000	9.964
B17M-15	B18M-15	10	12	18	10	1	10.083	10.025	12.018	12.000	10.000	9.964
B17M-16	B18M-16	10	12	18	12	1	10.083	10.025	12.018	12.000	10.000	9.964
B17M-17	B18M-17	10	12	18	15	1	10.083	10.025	12.018	12.000	10.000	9.964
B17M-18	B18M-18	10	12	18	17	1	10.083	10.025	12.018	12.000	12.000	9.964
B17M-19	B18M-19	12	14	20	10	1	12.102	12.032	14.018	14.000	12.000	11.957
B17M-20	B18M-20	12	14	20	11	1	12.102	12.032	14.018	14.000	12.000	11.957

THERMOPLASTIC BEARINGS

BORE SIZE	SHAFT SIZE	TYPE
4MM TO 14MM	4MM TO 12MM	SLEEVE AND FLANGED



Sleeve



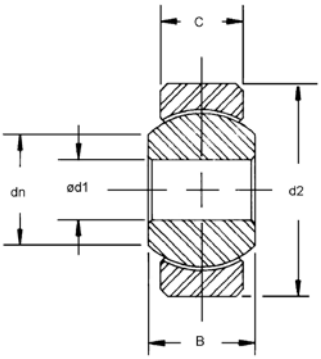
Flanged

SLEEVE STOCK NO.	FLANGED STOCK NO.	NOMINAL SIZES					I.D. AFTER PRESS FIT		HOUSING BORE		SHAFT SIZE	
		Ød	ØD	ØC	B	E (+0/-.140)	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
B19M-1	B20M-1	4	5.5	9.5	4	0.75	4.058	4.010	5.512	5.500	4.000	3.970
B19M-2	B20M-2	5	7	11	5	1	5.058	5.010	7.015	7.000	5.000	4.970
B19M-3	B20M-3	6	8	12	8	1	6.058	6.010	8.015	8.000	6.000	5.970
B19M-4	B20M-4	8	10	15	*	1	8.071	8.013	10.015	10.000	8.000	7.964
B19M-5	B20M-5	10	12	18	6	1	10.071	10.013	12.018	12.000	10.000	9.964
B19M-6	B20M-6	10	12	18	*	1	10.071	10.013	12.018	12.000	10.000	9.964
B19M-7	B20M-7	12	14	20	*	1	12.086	12.016	14.018	14.000	12.000	11.957
B19M-8	B20M-8	14	16	22	12	1	12.086	12.016	16.018	16.000	12.000	11.957

* Nominal Size for Sleeve version is 10, for Flanged version is 9.

SPHERICAL BEARINGS

BORE SIZE	TYPE	MATERIAL
5MM TO 25MM	SELF LUBRICATING	REINFORCED THERMOPLASTIC HOUSING, BALL BEARING THERMOPLASTIC



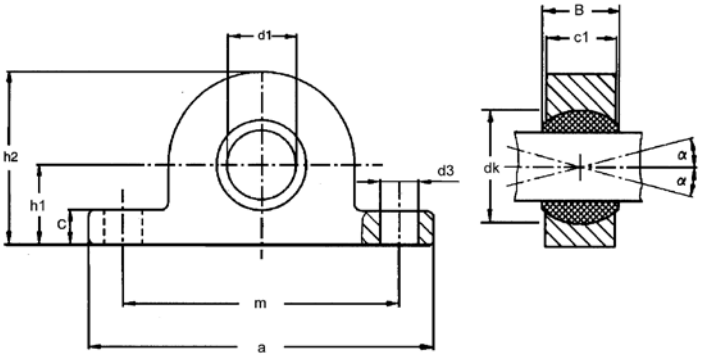
STOCK NO.	Ød1	d2	B	C	dn
SKGLM-05	5	13	8	6	7.7
SKGLM-06	6	16	9	6.5	8.9
SKGLM-08	8	19	12	9	10.3
SKGLM-10	10	22	14	10.5	12.9
SKGLM-12	12	26	16	12	15.4
SKGLM-14	14	28	19	13.5	16.8
SKGLM-16	16	32	21	15	19.3
SKGLM-18	18	35	23	16.5	21.8
SKGLM-20	20	40	25	18	24.3
SKGLM-22	22	42	28	20	25.8
SKGLM-25	25	47	31	22	29.5

- High radial and thrust load
- Long life cycle

I

SPHERICAL PILLOW BLOCK BEARINGS

BORE SIZE	MATERIAL
5MM TO 25MM	REINFORCED THERMOPLASTIC HOUSING, BALL BEARING THERMOPLASTIC



STOCK NO.	d1	B	c1	dk	h1	m	d3	a	c	h2
PSJAM-05	5	8	6	11.1	7	25	4.5	36	3	14
PSJAM-06	6	9	7	12.7	10	33	4.5	44	4	20
PSJAM-08	8	12	9	15.8	10	33	4.5	44	4	20
PSJAM-10	10	14	10.5	19.0	14	35	5.5	60	6	28
PSJAM-12	12	16	12	22.2	14	35	5.5	60	6	28
PSJAM-14	14	19	13.5	25.4	18	60	6.5	80	6	36
PSJAM-16	16	21	15	28.5	18	60	6.5	80	6	36
PSJAM-18	18	23	16.5	31.7	22	68	8.5	88	9	44
PSJAM-20	20	25	18	34.9	22	68	8.5	88	9	44
PSJAM-22	22	28	20	38.1	24	74	8.5	97	9	48
PSJAM-25	25	31	22	42.8	27	86	8.5	110	10	54

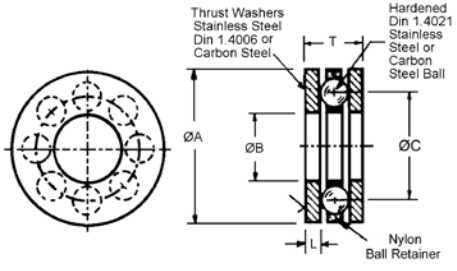
THRUST BEARINGS

BORE SIZE	MATERIAL
5MM TO 25MM	STAINLESS STEEL

STOCK NO.	ØB +0.13 -0.00	ØA +0.00 -0.13	ØC	L	Tolerance	T	NO. OF BALLS	LOAD RATING AT 15 RPM
B5M-2-SS	5.00	12.00	8.7	1.27	±0.05	4.98	7	323 N
B5M-3-SS	6.00	14.00	10.3			4.98	8	371 N
B5M-4-SS	7.00	17.00	11.9			4.98	9	418 N
B5M-5-SS	8.00	16.00	11.9			4.98	6	418 N
B5M-6-SS	10.00	21.00	15.1	1.57	+0.06 / -0.05	6.38	6	467 N
B5M-7-SS	12.00	24.00	18.3			6.38	8	618 N
B5M-8-SS	16.00	28.00	22.2	2.36	±0.08	8.80	6	755 N
B5M-9-SS	19.00	32.00	25.4			8.80	8	1002 N
B5M-10-SS	25.00	41.00	33.3	3.18	+0.12 / -0.13	11.12	10	1544 N

BORE SIZE	MATERIAL
5MM TO 25MM	CARBON STEEL

STOCK NO.	ØB +0.13 -0.00	ØA +0.00 -0.13	ØC	L	Tolerance	T	NO. OF BALLS	LOAD RATING AT 15 RPM
B5M-2	5.00	12.00	8.7	1.27	±0.05	4.98	7	461 N
B5M-3	6.00	14.00	10.3			4.98	8	530 N
B5M-4	7.00	17.00	11.9			4.98	9	598 N
B5M-5	8.00	16.00	11.9			4.98	6	598 N
B5M-6	10.00	21.00	15.1	1.57	+0.06 / -0.05	6.38	6	667 N
B5M-7	12.00	24.00	18.3			6.38	8	883 N
B5M-8	16.00	28.00	22.2	2.36	±0.08	8.80	6	1079 N
B5M-9	19.00	32.00	25.4			8.80	8	1432 N
B5M-10	25.00	41.00	33.3	3.18	+0.12 / -0.13	11.12	10	2207 N



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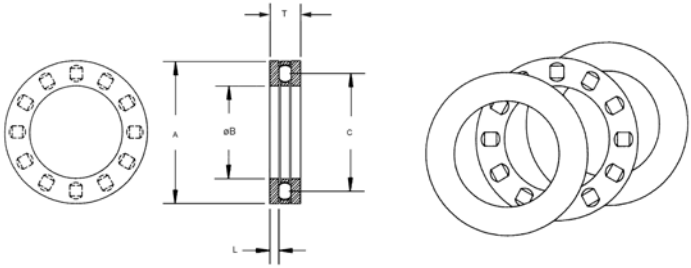
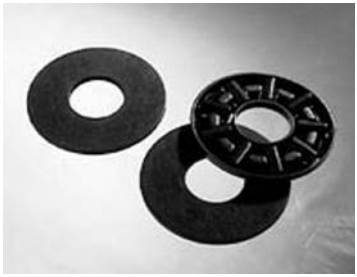
ROLLER THRUST BEARINGS

BORE SIZE	MATERIAL
4MM TO 25MM	ROLLERS 52100 CHROME STEEL CAGE CARBON STEEL, WASHERS 1074 STEEL



PART NO.	DIMENSIONS ØB	A Tol. E10	T Tol. a12	L +0.000 -0.075	C	LOAD RATINGS		SPEED RATING rpm
						DYN. N	STAT. N	
BR5M-1	4	14	4.0	1.00	9.0	4450	8000	18000
BR5M-2*	5	15	4.0	1.00	10.0	4750	9200	17000
BR5M-3*	6	19	7.5	2.75	12.5	6800	15500	16000
BR5M-4*	8	21	7.5	2.75	14.5	7800	19400	15000
BR5M-5	10	24	7.5	2.75	17.5	9200	25500	14000
BR5M-6	12	26	7.5	2.75	19.5	9900	29000	13000
BR5M-7	15	28	7.5	2.75	22.0	11300	36000	11000
BR5M-8	17	30	7.5	2.75	24.0	11900	39500	10000
BR5M-9	20	35	7.5	2.75	28.0	13100	46500	8500
BR5M-10	25	42	8.0	3.00	35.0	14700	58000	7000

* These part numbers contain a plastic cage and limit operating temp. to 120° Cont. 150° intermittently.



REFERENCE & TECHNICAL DATA

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GEAR REFERENCE GUIDE

WM Berg manufactures several styles of gears. Each gear has and serves its own particular application. Listed below are brief descriptions and application notes for the variety of available styles. Further information can be obtained from numerous gear and mechanical design handbooks, or by contacting our engineering department.

Gear Types

Spur Gears are the most recognized style of gear. Spur gears are used exclusively to transmit rotary motion between parallel shafts, while maintaining uniform speed and torque. The involute tooth form, being the simplest to generate, permits high manufacturing tolerances to be attained.

Internal Gears, unlike spur gears, have teeth cut on the inside diameter (I.D.) of the gear blank. They are generally stronger and more efficient than the mating pinion gear. The pitch diameter (P.D.) of the internal gear must be at least 1.5 times the P.D. of the mating pinion. If this condition is not met, interferences between the tips of the teeth will occur. Internal gears provide the designer with the ability to achieve higher contact and drive ratios than standard spur gears at shorter center distances. They also enable a velocity change without a directional change. This would require an idler gear with standard spurs.

Helical Gears are similar to spur gears with the exception that the teeth are cut at an angle to the axis of the shaft (helix angle). The helix cut creates a wider contact area enabling higher strengths and torques to be achieved. Though helical gearsets operate quieter and smoother than spur gears, they are slightly less efficient. Helical gears can run on parallel shafts or may be offset as much as the helix angle will permit. Axial thrust loads are developed during operation and must be considered when selecting bearings and mounting arrangements.

Gear Racks are best described as spur gears of infinite pitch radius. They will translate rotary motion to linear motion (rack driven by pinion) and vice versa. Gear racks will mate pinions of the same pitch.

Anti-Backlash Gears are the most widely used and most inexpensive method of eliminating the inaccuracies encountered in low torque gear trains, where precise positioning is essential to an application.

The split gear design incorporates springs, which force the floating gear in a direction opposite the rotation of the fixed gear, effectively enlarging the tooth width and overcoming the space, or backlash, between the teeth of the gear with which it is meshed.

Two types of design are available, one utilizing scissor springs (Figure 1), and the second for larger diameter gears, utilizing extension springs (Figure 2). Anti-backlash gears are stocked in aluminum or stainless steel but can be supplied in other materials or to other configurations on request.

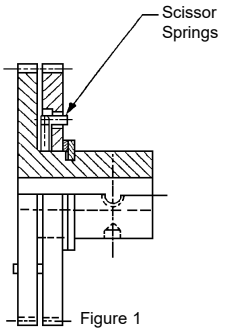


Figure 1

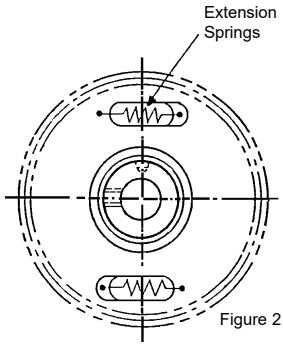
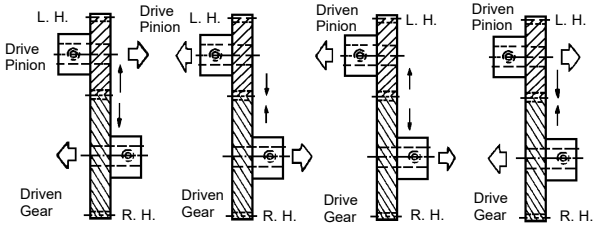


Figure 2

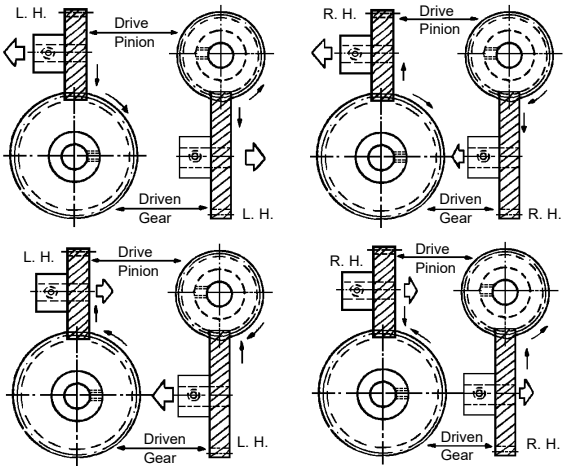
GEAR REFERENCE GUIDE

Helical Gears

Parallel Shafts



Right Angle Shafts



L. H. = Left Hand
R.H. = Right Hand
->. = Direction of Thrust

Special helical gears cut to order.

Bevel Gears are used exclusively to transmit rotary motion between intersecting shafts. Though commonly seen in right angle drives, bevel gears can be cut to drive any angle. A cross section of the gear tooth reveals a profile similar to a spur gear. However, as the tooth is generated, the cross section decreases the closer it gets to the center of the gear. Bevel gear sets will produce axial thrust loads which must be compensated for when selecting bearings and designing mounting fixtures. Bevel gears of 1:1 ratio are referred to as miter gears.

Worms & Worm Gears are the best choice of gearing when high drive reduction is required. Worm wheels resemble helical gears with the addition of a throat cut into the out diameter (O.D.) of the wheel. The throat permits the worm wheel to fully envelope the threads of the worm. Threads, not teeth, are cut on the worm. Adjusting the number of threads can achieve different ratios without altering mounting arrangements. A unique feature of worm and wheel assemblies is their ability to prohibit back driving. Certain pitches and leads of the worm will not permit the worm wheel to drive the worm. This is useful when an application requires the output to lock-up should the application operate in the opposite direction. The worm is self locking when the helix angle is less than 5°. The worm is back drivable when the helix angle is greater than 10°. Worm and worm wheel assemblies must be mounted on perpendicular, non-intersecting shafts.

GEAR REFERENCE GUIDE

While many gearing assemblies can be developed from our extensive inventory, our engineers have designed multiple styles of gearboxes that are “ready to install”. Refer to the catalog for styles and selection, then contact our sales department for availability and pricing.

TABLE 1: Gear Assembly Efficiencies

TYPE	EFFICIENCY RANGE %	RATIO RANGE	PITCH LINE VELOCITY (METERS/MIN)
SPUR	97 TO 99	1:1 TO 10:1	3,000
BEVEL	97 TO 99	1:1 TO 8:1	3,000
WORM	50 TO 90	5:1 TO 400:1	7,600
HELICAL	96 TO 98	1:1 TO 8:1	3,000

Special Bore
+ .0005
Tol. - .0000

Designator	Designator	Designator
.0781 = B	.1873 = H	.3748 = M
.0900 = V	.1875 = HH	.3750 = MM
.0937 = D	.2405 = J	.4998 = R
.1200 = E	.2498 = K	.5000 = RR
.1248 = F	.2500 = KK	.6248 = T
.1250 = FF	.3123 = L	.6250 = TT
.1562 = G	.3125 = LL	.6871 = W

Example:
Stock Number P48S28-120 (1/4” bore to be rebored to .3748)
Specify as follows: P48S28-120-M

Table 2 lists the standard metric motor shaft and bearing bore diameters that are most commonly used.

To modify US standard bore components to metric bores, select nearest standard to designed metric bore and modify bore. Modification charge will apply.

TABLE 2: Metric Motor Shaft & Bearing Bore Diameters

U.S. Standard Bore Diameters		Standard Metric System Bores		Recommended Rebore
Fractional	Decimal	mm	Metric Tolerances	Dimensions & Tolerances
1/8	.1248 + .0005	4	H7	.1573 + .0005
3/16	.1873 + .0005	5	H7	.1966 + .0005
3/16	.1873 + .0005	6	H7	.2360 + .0005
1/4	.2498 + .0005	7	H7	.2757 + .0006
1/4	.2498 + .0005	8	H7	.3148 + .0006
5/16	.3123 + .0005	9	H7	.3541 + .0006
3/8	.3748 + .0005	10	H7	.3935 + .0006
3/8	.3748 + .0005	12	H7	.4725 + .0007
1/2	.4998 + .0005	14	H7	.5510+ .0007
1/2	.4998 + .0005	15	H7	.5907+ .0007

Other basic Berg code designators

W = Worm Wheel
H = Helical Gears
M = Miter & Bevel Gears
R = Racks Spur
S = Shafting

AP = Anti-backlash Pin Hub
AC = Anti-backlash Clamp Hub
PH = Pin Hub
CH = Clamp Hub
CG = Clamps - Gears

NOTE: Most gears as specified by the Berg numbering system are stock. Any others, not listed in our catalogs, are considered specials and are gears cut to order using basic stock blanks.

All prices and quantity discounts are available on request. No exchanges or returns are expected on special non-stock parts as all such parts are made to your particular specification and have no resale value.

GEAR REFERENCE GUIDE

Gear Tooth Strength

Many factors must be considered when designing a gear train. The information listed on this page should be used as a general guideline for your application. We recommend consulting our engineering department if more critical strength calculation is required.

When a gear train is transmitting motion, it is safe to assume that all of the load is being carried by one tooth. This is because as the load approaches the end of the tooth, where the bending force would be the greatest, a second tooth comes into mesh to share the load. Simple results can be obtained from the Lewis bending strength equation.

$$W_t = \frac{SFY}{D.P.}$$

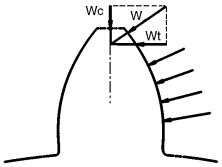
W_t = Maximum transmitted load (N)

S = Maximum bending tooth stress (taken as 1/3 of the tensile strength), see Mechanical Properties table

F = Face width of gear (mm)

D.P. = Diametral Pitch = 1/module (for equation only)

Y = Lewis Factor



NOTE: The maximum bending tooth stress (S) is valid for well lubricated, low shock applications. For high shock, poorly lubricated applications, the safe stress could be as low as .025S. If your design calls for an unfriendly environment for gears, you might want to lower S to assure a reasonable amount of gear life.

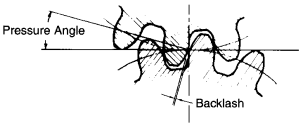
LEWIS FACTOR - Y	NO. OF TEETH	14 1/2° INVOLUTE	20° INVOLUTE
	10	0.176	0.201
	11	0.192	0.226
	12	0.210	0.245
	13	0.223	0.264
	14	0.236	0.276
	15	0.245	0.289
	16	0.255	0.295
	17	0.264	0.302
	18	0.270	0.308
	19	0.277	0.314
	20	0.283	0.320
	22	0.292	0.330
	24	0.302	0.337
	26	0.308	0.344
	28	0.314	0.352
	30	0.318	0.358
	32	0.322	0.364
	34	0.325	0.370
	36	0.329	0.377
	38	0.332	0.383
	40	0.336	0.389
	45	0.340	0.399
	50	0.346	0.408
	55	0.352	0.415
	60	0.355	0.421
	65	0.358	0.425
	70	0.360	0.429
	75	0.361	0.433
	80	0.363	0.436
	90	0.366	0.442
	100	0.368	0.446
	150	0.375	0.458
	200	0.378	0.463
	300	0.382	0.471
	RACK	0.390	0.484

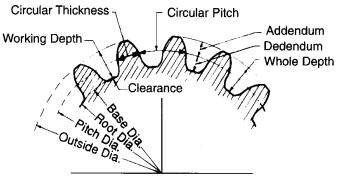
GEAR REFERENCE GUIDE

TABLE 3: Gear Tooth Proportions

MODULE	CIRCULAR PITCH	CIRCULAR THICKNESS	ADDENDUM	DEDENDUM	WORKING DEPTH	WHOLE DEPTH
1.5	4.712	2.356	1.5	2.1	3.0	3.6
1.25	3.927	1.963	1.25	1.75	2.5	3.0
1.0	3.142	1.571	1.0	1.4	2.0	2.4
0.8	2.513	1.257	0.8	1.12	1.6	1.92
0.6	1.885	0.942	0.6	0.84	1.2	1.44
0.5	1.571	0.785	0.5	0.70	1.0	1.20
0.4	1.257	0.628	0.4	0.56	0.8	0.96
0.3	0.942	0.471	0.3	0.42	0.6	0.72
0.25	0.785	0.393	0.25	0.35	0.5	0.60

Gear Terms & Abbreviations





Base Diameter - (B.D.) The diameter of the circle from which the involute is generated.

Backlash - Is the amount by which the width of a tooth space exceeds the thickness of the engaging tooth of a mating gear, when both gears are at nominal center distances.

Center Distance - (C.D.) Distance between the centers of mating gears.

Circular Pitch - (C.P.) The distance, along the Pitch Circle, between corresponding points of adjacent teeth.

Circular Thickness - Thickness of tooth on pitch circle.

Diametral Pitch - (D.P.) Number of teeth in a gear having one inch pitch diameter. Ex.: A gear having 48 teeth and a 1" pitch diameter is a 48 diametral pitch.

Number of Teeth - (N)

Outside Diameter - (O.D.) Diameter measuring on tops of teeth.

Pressure Angle - (P.A.) The angle between a line tangent to the pitch circle and a line perpendicular to the tooth profile at the point of contact.

Pitch Diameter - (P.D.) Diameter of the pitch circle.

Pitch Circle - An imaginary circle, whose diameter is equal to the number of teeth divided by diameter pitch.

Testing Diameter - (T.D.) A diameter, established by inspection with a master gear of known size. It is equal to twice the difference between the tight mesh center distance, and the sum of the master gear testing diameter, divided by 2.

$$T.D. = 2 \times \left(\frac{\text{Tight Mesh}}{\text{Center Distance}} - \frac{\text{T.D. Master Gear}}{2} \right)$$

Module - (M) A measurement of gear tooth size obtained by dividing the pitch diameter, in mm, by the number of teeth.

TABLE 4: Rules & Formulas for Standard Full Depth Spur Gears

To Get:	Having:	Formula
MODULE (m)	THE CIRCULAR PITCH (p)	$m = p / p$
	THE PITCH DIAMETER (d_p) AND THE NUMBER OF TEETH (z)	$m = d_p / z$
	THE OUTSIDE DIAMETER (d_a) AND THE NUMBER OF TEETH (z)	$m = d_a / (z + 2)$
PITCH DIAMETER (dp)	THE NUMBER OF TEETH (z) AND THE MODULE (m)	$d_p = z \times m$
	THE OUTSIDE DIAMETER (d_a) AND THE MODULE (m)	$d_p = d_a - (2 \times m)$
OUTSIDE DIAMETER (da)	THE NUMBER OF TEETH (z) AND THE MODULE (m)	$d_a = m \times (z + 2)$
	THE PITCH DIAMETER (d_p) AND THE NUMBER OF TEETH (z)	$d_a = d_p \times (1 + 2 / z)$
NUMBER OF TEETH (z)	THE PITCH DIAMETER (d_p) AND THE MODULE (m)	$z = d_p / m$
CIRCULAR PITCH (p)	THE MODULE (m)	$p = p \times m$
ADDENDUM (h_a)	THE MODULE (m)	$h_a = m$
DEDENDUM (h_f)	THE MODULE (m)	$h_f = 1.4m$
WORKING DEPTH (h')	THE ADDENDUM (h_a)	$h' = 2h_a$
WHOLE DEPTH (h)	THE ADDENDUM (h_a) AND THE DEDENDUM (h_f)	$h = h_a + h_f$
TOOTH THICKNESS (s)	THE MODULE (m)	$s = (p / 2) \times m$
STANDARD CENTER DISTANCE (a)	NUMBER OF TEETH (z) IN MATING GEARS AND MODULE (m)	$a = [(z1 + z_2) / 2] \times m$
BACKLASH (j)	PRESSURE ANGLE (b) AND CENTER DISTANCE (a_s) AND STANDARD MEASURED CENTER DISTANCE (a_m)	$j = (2 \tan b) \times (a_m - a_s)$

Explanation of Class “C” Backlash

The American Gear Manufacturers Association (AGMA) publishes gear standards which are recognized and accepted throughout the country. However, many designers tend to use tolerances much tighter than necessary to “play safe” in obtaining final backlash tolerance.

This practice can be costly and is not very realistic. There is not always a benefit in paying for AGMA quality 12 or 14 gears if quality 10 will do the job just as well. Of course, there are applications where the output backlash tolerances will require the use of more precise gears but their use and added cost will be justified.

You will notice that none of the gears in our catalog show a pitch diameter tolerance. The pitch diameter is theoretical, and therefore, should not be toleranced. Tolerancing of pitch diameter will usually cause binding between mating gears at one or more points which results in excessive gear tooth wear, improper lubrication, shaft distortion and bearing overload, shortening the unit’s life and drastically reducing accuracy.

Typically, a letter — A, B, C or D — is used to define the amount of tooth thinning to assure minimum backlash at standard center distance. This letter designation, along with the AGMA quality number and diametral pitch, are used in the “center distance inspection” of a gear. There is no possibility of interference between mating gears at standard distance with this evaluation method. However, the center distance tolerance will increase or decrease backlash values depending on whether they are plus or minus. Our gears are all cut to class “C” backlash in AGMA 10 quality and 20° pressure angles.

Standard AGMA Center Distance Inspection Procedure

The following shows the excursion of an indicating device when checking the total composite error and size of a gear on a variable center distance fixture, with a master of known accuracy.

It is recommended that the tolerances for tooth thickness shown in Table 5 be used in conjunction with pin measurements in order to obtain closer correlation with a size determination made by means of a master gear.

Column 1 gives the quality class. Column 2 gives the diametral pitch range for backlash values shown in column 8. Column 3 gives the backlash values for two gears of equal tooth thickness derived from column 8. Column 4 shows the total composite error for each of the classes shown in column 1.

Column 5 shows the minimum reduction in standard tooth thickness. This value is obtained by adding one half of the minimum value of column 2 (which gives the tooth thickness reduction per gear) to one half of the total composite error converted from a radial displacement to an equivalent tooth thickness. This is accomplished by multiplying the radial displacement to an equivalent tooth thickness. This is accomplished by multiplying the radial displacement by 2 tan x of operating pressure angle.

Column 6 gives the maximum deduction in standard tooth thickness obtained in a similar manner.

Column 7 gives the maximum indicator reading which is obtained by converting the values in column 5 to radial displacements and subtracting from them one half of the total composite error shown in column 4.

Column 8 gives the minimum indicator reading. This is obtained by converting the values in column 6 to radial displacements and adding one half of the total composite error.

The values in columns 5 and 6 are taken through the middle of the total composite error and are therefore in closer agreement with a determination of tooth thickness made by means of pins which ignore tooth to tooth error and runout.

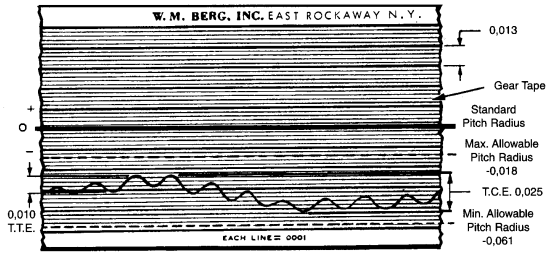
This procedure, along with the accompanying tables, is the method used to check all Berg precision gears. We have found this method, which takes into consideration most problems commonly encountered in gear train design (such as bind, backlash, center distance tolerance, runout, composite error, etc.) to be the one which gives the most realistic results. Of course, it does not take into account the fit of gears, shafts and bearings; these problems are dealt with later on in this section under “recommended practices”. All setups on gear checking fixtures are set up with “certified” master gears, and class “xx” accuracy carbide measuring wires are used.

TABLE 5: Tooth Thickness Tolerances for Class “C” Backlash Gears with 20° Pressure Angles

CLASS C BACKLASH							
BERG QUALITY CLASS	MODULE	BACKLASH IN MATING GEARS	TOTAL COMPOSITE ERROR	MINIMUM REDUCTION IN STD. TOOTH THICKNESS	MINIMUM REDUCTION IN STD. TOOTH THICKNESS	INDICATOR LIMITS (Gage Zeroed at Standard Pitch Radius All Values Minus)	
				(Δt Min.)	(Δt Max.)	Min.	Max.
10/DIN 7 12/DIN 5 14/DIN 3	1.5 to 0.5	.025 - .050	PER AGMA OR DIN STANDARD	0.023 0.018 0.015	0.036 0.030 0.028	0.018	0.061 0.048 0.041
10/DIN 7 12/DIN 5 14/DIN 3	0.4 to 0.25	.020 - .038		0.018 0.013 0.010	0.028 0.023 0.020	0.013	0.051 0.038 0.033

GEAR REFERENCE GUIDE

Typical Inspection Tape for a 48 D.P., 20° P.A. Quality 10C Gear



Recommended Practices

When specifying materials, it's recommended to have stainless steel pinions and aluminum mating gears. This is because pinions typically rotate through more cycles, thus experiencing greater tooth wear. Meshing stainless steel pinion with an aluminum gear tends to minimize this wear. The face widths of pinions are usually wider than face widths of mating gears to ensure full face contact without critical adjustment.

Where minimum backlash is a factor, it is important that fits between the bore of gears, inside diameter of bearings, and the outside diameter of shafting be held as close as possible. The accuracy of precision gears is lost unless these fits are held closely. This means that a form of selective fitting must be used because it is too costly, if not impossible, to hold tolerances that will allow perfect fit assembly. The extent of this selective fitting is determined by the accuracy requirements of the finished assembly.

Factors That Control Backlash

- Precision class of gears
- Center distance tolerance
- Type of fit between gears, shafts & bearings
- Precision accuracy of bearings
- Straightness & adequate support of shafts

It is important when drilling gears to shafts that the shafts be properly supported. Failure to do so can result in bending shafts with the resultant runout conditions.

NOTE: Gears with 14 1/2° pressure angle will not mesh properly with gears of 20° pressure angle.

It is imperative that the gears are not damaged in handling. Our gears are packaged to avoid handling damage. If they can be left in this package until used the danger should be minimized. If they are removed they should be put on tote boards and covered to prevent gears from contacting each other, and to keep them clean.

Gear Train Design

Determining appropriate backlash is a key challenge of designing fine pitch gear trains. Backlash in mating gears or in a gear train can be broken down into three basic factors:

- The AGMA quality of gears, i.e. quality 10, 12, or 14 (former precision standards 1, 2, or 3)
- The letter which designates backlash, i.e. "C"
- The center distance & tolerance on which these gears operate

NOTE: Berg precision stock gears are manufactured to AGMA quality 10C, unless otherwise specified.

The accepted definition of backlash is "the amount by which the width of a tooth space exceeds the tooth thickness of the engaging tooth on the pitch circles." At first glance this meaning might lead us to think that backlash is a function of the gear cutting operation only. However, the teeth of a gear contribute very little to its overall backlash value.

A complete understanding of all the elements that induce backlash is mandatory in order to properly and economically design a gear train. The following factors must be individually considered for their own parameter:

- Standard center distance
- Center distance tolerance
- Size & tolerance of mating gears
- Total composite error of gears
- Fits between bores, shafts & bearings
- Bearing accuracy
- Radial play of bearing
- Shaft straightness & alignment
- Fits between electrical &/or mechanical component pilot diameters & housing bores
- Eccentricity & radial play of electrical &/or mechanical component shafts

Each factor, except standard center distance, tends to induce a "change in the center distance" which will push together or pull apart mating gears. Consequently, this push pull action produces two backlash values, minimum at the point of tightest mesh and maximum at the point of loosest mesh.

GEAR REFERENCE GUIDE

Standard Center Distance

Standard center distance can be considered the starting point in the calculation of overall backlash values. Standard (theoretical) center distance is calculated by taking one-half (1/2) the sum of the (theoretical) pitch diameters of mating gears.

$$\text{Example: C.D.} = \frac{\text{P.D.}^1 + \text{P.D.}^2}{2}$$

Two gears having theoretical P.D.s of one inch (1") and two inches (2") respectively have a standard center distance of:

$$\text{C.D.} = \frac{1" + 2"}{2} = 1{,}500 \text{ C.D.}$$

Center Distance Tolerance

The problem of center distance and its tolerance is usually an extremely important area for consideration. It is important to remember that the minimum and maximum backlash values between mating gears, as outlined in the previous tables, are based on “standard” center distance mountings. Thus, if the center distance is in excess of the standard value, backlash will be increased. By the same token, if the C.D. is less than standard, backlash will be decreased. However, caution must be exercised to avoid interference between mating gears as a result of this decrease.

TABLE 6: Relationship of Change in C.D. to Backlash

ΔC (difference between standard & actual center distance)	B (backlash in mm)
0.0025	0.0018
0.0051	0.0037
0.0076	0.0055
0.0102	0.0074
0.0127	0.0092
0.0152	0.0111
0.0178	0.0130
0.0203	0.0148
0.0229	0.0163
0.0254	0.0185
0.0279	0.0203
0.0305	0.0222
0.0330	0.0240
0.0356	0.0259
0.0381	0.0277
0.0406	0.0296
0.0432	0.0314
0.0457	0.0333
0.0483	0.0352
0.0508	0.0370

The relationship of “change in center distance,” which can be positive or negative depending upon C.D. tolerance, to backlash is expressed by the formula:

$B = 2 \tan ø \times \Delta C$ (1)

In which:

B = backlash in inches

ø = pressure angle

ΔC = difference between standard (theoretical) and actual center distance (ex. tan20° = .36397)

1. Standard centers + .001 tolerance
   B = 2 tan 20° x ΔC
   B = .72794 x .001 = + .00073 backlash

2. Standard centers - .0005 tolerance
   B = 2 tan 20° x ΔC
   B = .72794 x .0005 = - .00036 backlash

Backlash calculations can be divided into two categories:

- Systems where backlash is not critical
- Systems where backlash is critical & exact totals must be known

Section 1: Backlash Calculations for Non-Critical Gear Trains

Let us set up two test problems falling into the non-critical category. These two problems will deal with center distance tolerance, size and tolerance of mating gears, and total composite error of gears as they collectively contribute the greatest amount of change in center distance.

1. Two mating gears, 96 D.P. -20° P.A. having standard centers with A + .001 -.000 tolerance.
   Step A: Referring to Berg quality 10 gears yield a maximum of .0015 backlash at standard centers.
   Step B: With an actual center distance .001 greater than standard, an additional .0073 backlash is introduced (see Table 6).
   Step C: The total probable maximum backlash would be .0015 + .00073 = .00223

2. Again two mating gears, 96 D.P. -20° P.A. must have no more than .0015 backlash measured at the loosest point of mesh (see Table 5).
   Step A: Referring to Berg quality 10C gears yield a maximum of .0015 backlash at standard centers.
   Step B: Actual center distance .0005 greater than standard yields an additional .00036 backlash.
   Step C: The total probable backlash would be .0015 + .00036 = .008186 or .00036 above limit.

One solution would be to use quality 12C gears with the same center distance and tolerance. Again we find that the maximum backlash for quality 12C gears is .00109 and the center distance tolerance results in an additional .00036 for a total of .00145 or .00005 below limit.

Another means of overcoming this problem would be to incorporate anti-backlash or spring loaded gears. When this type of gear is used, center distance tolerance can be increased thereby reducing the cost of machining the housing. The increase in center distance when using anti-backlash gears should not exceed oz./D.P.

Before deciding on either of these two possibilities, let us see what can be done using quality 10C gears.

Referring to the minimum backlash value we have .0008. This indicates that there is a minimum of .0011 clearance (see Table 6). Now, because the center distance was dimensioned +.0000/-.0005 minimum backlash would be reduced to .00036/.00044 and the maximum could still be .00109 or .0045 below the limit, using Berg gears.

Section 2: Backlash Critical Gear Trains

If the previous section does not pinpoint the amount for backlash that your system will possess accurately enough for you then there are many steps that can be employed during the manufacturing process that can limit the amount of backlash in a gear train. These include cutting gears to class “D” or “E” backlash, and/or AGMA quality 12 or 14.

If backlash is critical and Berg anti-backlash gears will not suffice, consult our engineering department for how these changes will influence backlash.

Fine Pitch Gear Inspection Procedure

There has been much discussion and confusion regarding the center distance method of testing fine pitch gears. The Berg center distance method of testing uses the limits and tolerances as outlined in AGMA standards.

Figures 3 and 4 are schematic diagrams showing the basic requirements for making a center distance check. The diagrams are not to be interpreted as a recommended or suggested means of construction.

In order to make this check, the following items are required:

- Rolling Fixture
  - This fixture must incorporate provisions for accurately mounting both the master and the gear to be tested.
  - A means of accurately adjusting the weights to the correct testing pressure.
- Master Gear
  - With a maximum total composite error of .0001 and a standard pitch diameter of ± .0001 tolerance over wires.
- Hardened or ground pins or carbide lapped pins (preferred) for mounting both the master and gear to be inspected.

Let’s assume that we wish to inspect a gear having the following characteristics:

64	Diametral pitch
20°	Pressure angle
.2500	+.0000/-.0002 bore
80	Teeth
1.2500	Theoretical pitch diameter
AGMA quality 12C	

First, select the proper master gear and correct size carbide gage pin to fit this master. Since the masters we use have a .5000" + .0001/-.0000 bore, we use a lapped pin of .4995 diameter to assure free movement without wobble.

We follow the same procedure in selecting a pin on which to mount the gear to be inspected. In this case, the lapped pin diameter would be .24975. The studs or pins are then mounted on the rolling fixture and caution is used to assure parallelism between the studs after mounting.

Next, set the rolling fixture to the proper testing pressure which in the case of 64 C.P. is 12 ounces, per gear standards. The testing pressure is an important factor in the rolling check to assure uniform pressure and correct mesh during the entire test.

The rolling fixture must now be set to the proper center distance by the uses of “jo-blocks”. The master gear we are using has a pitch diameter of 1.5000 and the gear to be inspected has a theoretical pitch diameter of 1.2500. These two pitch diameters are added together and divided by two. This gives us a figure of 1.375. Then, add together and divide by two the pin diameters on which the master gear and the test gear (.49995 + .24975 respectively) are mounted. This gives us a figure of .3749. The figure is subtracted from the 1.375 figure to arrive at our “jo-block” setting of 1.001”.

While holding the “jo-blocks” between the two studs or pins on the rolling fixture, the dial indicator is set to zero. This setting is the nominal or set up center distance and is made under the “testing pressure”. All gears being tested must read to the minus side of the indicator otherwise interference between mating gears, with a standard distance, may result at assembly.

Because the gear to be tested is 64 diametral pitch AGMA quality 12C, we refer to our data section to obtain the dial indicators limits.

We find in column 7 that the maximum limit is -.0005 and in column 8 the minimum is -.0015. Please note that all figures given are minus values. These limits can never be exceeded or the gears will not be in tolerance.

Figure 4 shows these limits as seen on a dial indicator as well as how they would be recorded on a paper chart. For the sake of clarity, however, we have not drawn the .0001" graduation lines across the chart.

It must be remembered that although our dial limits have a range of from -.0005 to -.0015, the total composite error of an AGMA 12C gear is .0005 as shown in column 4. This means that our dial fluctuation cannot exceed .0005 within the -.0005 to -.0015 dial limit range. Should the pointer movement not exceed the .0005 maximum total composite error, the gear would be an AGMA quality 10C. This is true even though the gear is within the dial limits on a quality 12C.

Figure 3 shows the limits for AGMA quality 10C gear. The same procedure as used to test for 12C is followed. It must be remembered that the dial indicator limits and the total composite error are greater (refer to previous page for limits).

Measuring & Checking Forces

When making measurement-over-wire measurements or when checking the gears on a variable-center-distance device, the amount of force applied to the measuring wires or applied to maintain intimate contact between the gear to be checked and the master gear shall be as listed in the table below.

Metric	
Module	**Checking Force - N**
1.5	7.23 to 8.34
1.25	7.23 to 8.34
1.0	7.23 to 8.34
0.8	5.00 to 6.12
0.6	5.00 to 6.12
0.5	5.00 to 6.12
0.4	2.78 to 3.89
0.3	1.67 to 2.78
0.25	1.95 to 2.50

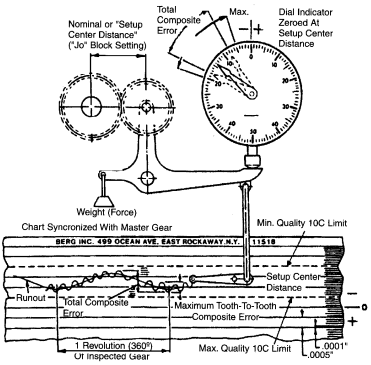


Figure 3 - AGMA Quality 10C Chart

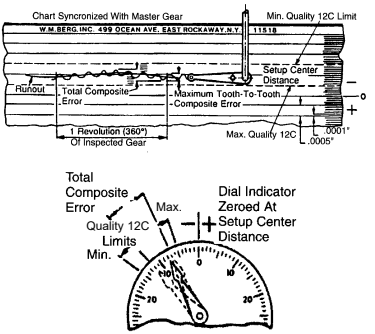
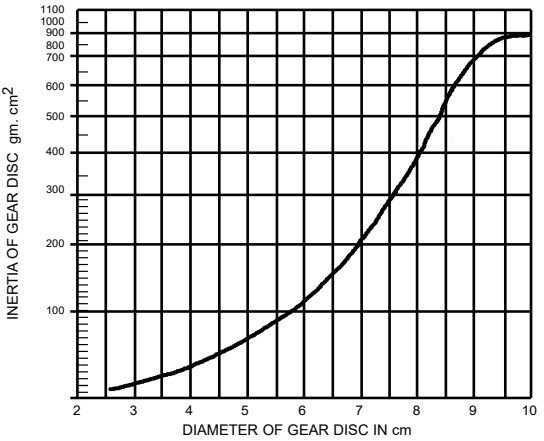


Figure 4 - AGMA Quality 12C Chart

GEAR REFERENCE GUIDE

Inertia of Gears

To obtain the inertia of 3 mm face width aluminum alloy gears up to 10 cm diameter, read directly from the graph.



Diameter of Gear Discs

To obtain the inertia of gears with other face and/or made of stainless steel, read from the graph at the given diameter then multiply by the appropriate factor.

TABLE 7: Gear Discs in Milimeters

FACE WIDTH (mm)	3	5	6	10	13	19
MULTIPLIER	1	1.7	2	3.3	4.3	6.3

MATERIAL	ALUMINUM	STAINLESS STEEL
MULTIPLIER	1	2.9

Example: 7 cm diameter - 13 mm face width stainless steel material from graph 7 cm diameter is 208 gm cm^2
208 x 4 x 2.9 = 2413 gm cm^2

TABLE 8: Interia of Gear Clamps

CLAMP STK NO.	INERTIA gm cm^2	CLAMP STK NO.	INERTIA gm cm^2	CLAMP STK. NO.	INERTIA gm cm^2
CG1M-2	1.9	CG1M-17	61.6	CG3M-1	2.0
CG1M-3	2.3	CG1M-18	61.6	CG3M-2	2.0
CG1M-9	8.9	CG2M-1	2.0	CG3M-3	2.0
GG1M-10	11.8	CG2M-4	2.0	CG3M-4	4.0
CG1M-12	8.9	CG2M-2	2.9	CG3M-5	4.0
CG1M-13	11.8	CG2M-5	2.9	CG3M-6	4.0
CG1M-14	32.4	CG2M-3	5.0	CG3M-7	5.0
CG1M-15	61.6	CG2M-6	5.0	CG3M-8	5.0
CG1M-16	32.4			CG4M-9	5.0

TABLE OF PITCH DIAMETERS

TABLE 9: Pitch Diameters 6 to 70 Teeth

Outside diameter = 2M = P.D. (pitch diameter is a theoretical dimension only).

NOTE: Applies to spur and bevel gears only (not to helical gears).

NO. OF TEETH	MODULE (M)									NO. OF TEETH
	1.5	1.25	1.0	0.8	0.6	0.5	0.4	0.3	0.25	
6	9.00	7.50	6.00	4.80	3.60	3.00	2.40	1.80	1.50	6
7	10.50	8.75	7.00	5.60	4.20	3.50	2.80	2.10	1.75	7
8	12.00	10.00	8.00	6.40	4.80	4.00	3.20	2.40	2.00	8
9	13.50	11.25	9.00	7.20	5.40	4.50	3.60	2.70	2.25	9
10	15.00	12.50	10.00	8.00	6.00	5.00	4.00	3.00	2.50	10
11	16.50	13.75	11.00	8.80	6.60	5.50	4.40	3.30	2.75	11
12	18.00	15.00	12.00	9.60	7.20	6.00	4.80	3.60	3.00	12
13	19.50	16.25	13.00	10.40	7.80	6.50	5.20	3.90	3.25	13
14	21.00	17.50	14.00	11.20	8.40	7.00	5.60	4.20	3.50	14
15	22.50	18.75	15.00	12.00	9.00	7.50	6.00	4.50	3.75	15
16	24.00	20.00	16.00	12.80	9.60	8.00	6.40	4.80	4.00	16
17	25.50	21.25	17.00	13.60	10.20	8.50	6.80	5.10	4.25	17
18	27.00	22.50	18.00	14.40	10.80	9.00	7.20	5.40	4.50	18
19	28.50	23.75	19.00	15.20	11.40	9.50	7.60	5.70	4.75	19
20	30.00	25.00	20.00	16.00	12.00	10.00	8.00	6.00	5.00	20
21	31.50	26.25	21.00	16.80	12.60	10.50	8.40	6.30	5.25	21
22	33.00	27.50	22.00	17.60	13.20	11.00	8.80	6.60	5.50	22
23	34.50	28.75	23.00	18.40	13.80	11.50	9.20	6.90	5.75	23
24	36.00	30.00	24.00	19.20	14.40	12.00	9.60	7.20	6.00	24
25	37.50	31.25	25.00	20.00	15.00	12.50	10.00	7.50	6.25	25
26	39.00	32.50	26.00	20.80	15.60	13.00	10.40	7.80	6.50	26
27	40.50	33.75	27.00	21.60	16.20	13.50	10.80	8.10	6.75	27
28	42.00	35.00	28.00	22.40	16.80	14.00	11.20	8.40	7.00	28
29	43.50	36.25	29.00	23.20	17.40	14.50	11.60	8.70	7.25	29
30	45.00	37.50	30.00	24.00	18.00	15.00	12.00	9.00	7.50	30
31	46.50	38.75	31.00	24.80	18.60	15.50	12.40	9.30	7.75	31
32	48.00	40.00	32.00	25.60	19.20	16.00	12.80	9.60	8.00	32
33	49.50	41.25	33.00	26.40	19.80	16.50	13.20	9.90	8.25	33
34	51.00	42.50	34.00	27.20	20.40	17.00	13.60	10.20	8.50	34
35	52.50	43.75	35.00	28.00	21.00	17.50	14.00	10.50	8.75	35
36	54.00	45.00	36.00	28.80	21.60	18.00	14.40	10.80	9.00	36
37	55.50	46.25	37.00	29.60	22.20	18.50	14.80	11.10	9.25	37
38	57.00	47.50	38.00	30.40	22.80	19.00	15.20	11.40	9.50	38
39	58.50	48.75	39.00	31.20	23.40	19.50	15.60	11.70	9.75	39
40	60.00	50.00	40.00	32.00	24.00	20.00	16.00	12.00	10.00	40
41	61.50	51.25	41.00	32.80	24.60	20.50	16.40	12.30	10.25	41
42	63.00	52.50	42.00	33.60	25.20	21.00	16.80	12.60	10.50	42
43	64.50	53.75	43.00	34.40	25.80	21.50	17.20	12.90	10.75	43
44	66.00	55.00	44.00	35.20	26.40	22.00	17.60	13.20	11.00	44
45	67.50	56.25	45.00	36.00	27.00	22.50	18.00	13.50	11.25	45
46	69.00	57.50	46.00	36.80	27.60	23.00	18.40	13.80	11.50	46
47	70.50	58.75	47.00	37.60	28.20	23.50	18.80	14.10	11.75	47
48	72.00	60.00	48.00	38.40	28.80	24.00	19.20	14.40	12.00	48
49	73.50	61.25	49.00	39.20	29.40	24.50	19.60	14.70	12.25	49
50	75.00	62.50	50.00	40.00	30.00	25.00	20.00	15.00	12.50	50
51	76.50	63.75	51.00	40.80	30.60	25.50	20.40	15.30	12.75	51
52	78.00	65.00	52.00	41.60	31.20	26.00	20.80	15.60	13.00	52
53	79.50	66.25	53.00	42.40	31.80	26.50	21.20	15.90	13.25	53
54	81.00	67.50	54.00	43.20	32.40	27.00	21.60	16.20	13.50	54
55	82.50	68.75	55.00	44.00	33.00	27.50	22.00	16.50	13.75	55
56	84.00	70.00	56.00	44.80	33.60	28.00	22.40	16.80	14.00	56
57	85.50	71.25	57.00	45.60	34.20	28.50	22.80	17.10	14.25	57
58	87.00	72.50	58.00	46.40	34.80	29.00	23.20	17.40	14.50	58
59	88.50	73.75	59.00	47.20	35.40	29.50	23.60	17.70	14.75	59
60	90.00	75.00	60.00	48.00	36.00	30.00	24.00	18.00	15.00	60
61	91.50	76.25	61.00	48.80	36.60	30.50	24.40	18.30	15.25	61
62	93.00	77.50	62.00	49.60	37.20	31.00	24.80	18.60	15.50	62
63	94.50	78.75	63.00	50.40	37.80	31.50	25.20	18.90	15.75	63
64	96.00	80.00	64.00	51.20	38.40	32.00	25.60	19.20	16.00	64
65	97.50	81.25	65.00	52.00	39.00	32.50	26.00	19.50	16.25	65
66	99.00	82.50	66.00	52.80	39.60	33.00	26.40	19.80	16.50	66
67	100.50	83.75	67.00	53.60	40.20	33.50	26.80	20.10	16.75	67
68	102.00	85.00	68.00	54.40	40.80	34.00	27.20	20.40	17.00	68
69	103.50	86.25	69.00	55.20	41.40	34.50	27.60	20.70	17.25	69
70	105.00	87.50	70.00	56.00	42.00	35.00	28.00	21.00	17.50	70

TABLE OF PITCH DIAMETERS

TABLE 10: Pitch Diameters 71 to 135 Teeth

Outside diameter = 2M = P.D. (pitch diameter is a theoretical dimension only).

NOTE: Applies to spur and bevel gears only (not to helical gears).

NO. OF TEETH	MODULE (M)									NO. OF TEETH
	1.5	1.25	1.0	0.8	0.6	0.5	0.4	0.3	0.25	
71	106.50	88.75	71.00	56.80	42.60	35.50	28.40	21.30	17.75	71
72	108.00	90.00	72.00	57.60	43.20	36.00	28.80	21.60	18.00	72
73	109.50	91.25	73.00	58.40	43.80	36.50	29.20	21.90	18.25	73
74	111.00	92.50	74.00	59.20	44.40	37.00	29.60	22.20	18.50	74
75	113.50	93.75	75.00	60.00	45.00	37.50	30.00	22.50	18.75	75
76	115.00	95.00	76.00	60.80	45.60	38.00	30.40	22.80	19.00	76
77	116.50	96.25	77.00	61.60	46.20	38.50	30.80	23.10	19.25	77
78	118.00	97.50	78.00	62.40	46.80	39.00	31.20	23.40	19.50	78
79	119.50	98.75	79.00	63.20	47.40	39.50	31.60	23.70	19.75	79
80	120.00	100.00	80.00	64.00	48.00	40.00	32.00	24.00	20.00	80
81	121.50	101.25	81.00	64.80	48.60	40.50	32.40	24.30	20.25	81
82	123.00	102.50	82.00	65.60	49.20	41.00	32.80	24.60	20.50	82
83	124.50	103.75	83.00	66.40	49.80	41.50	33.20	24.90	20.75	83
84	126.00	105.00	84.00	67.20	50.40	42.00	33.60	25.20	21.00	84
85	127.50	106.25	85.00	68.00	51.00	42.50	34.00	25.50	21.25	85
86	129.00	107.50	86.00	68.80	51.60	43.00	34.40	25.80	21.50	86
87	130.50	108.75	87.00	69.60	52.20	43.50	34.80	26.10	21.75	87
88	132.00	110.00	88.00	70.40	52.80	44.00	35.20	26.40	22.00	88
89	133.50	111.25	89.00	71.20	53.40	44.50	35.60	26.70	22.25	89
90	135.00	112.50	90.00	72.00	54.00	45.00	36.00	27.00	22.50	90
91	136.50	113.75	91.00	72.80	54.60	45.50	36.40	27.30	22.75	91
92	138.00	115.00	92.00	73.60	55.20	46.00	36.80	27.60	23.00	92
93	139.50	116.25	93.00	74.40	55.80	46.50	37.20	27.90	23.25	93
94	141.00	117.50	94.00	75.20	56.40	47.00	37.60	28.20	23.50	94
95	142.50	118.75	95.00	76.00	57.00	47.50	38.00	28.50	23.75	95
96	144.00	120.00	96.00	76.80	57.60	48.00	38.40	28.80	24.00	96
97	145.50	121.25	97.00	77.60	58.20	48.50	38.80	29.10	24.25	97
98	147.00	122.50	98.00	78.40	58.80	49.00	39.20	29.40	24.50	98
99	148.50	123.75	99.00	79.20	59.40	49.50	39.60	29.70	24.75	99
100	150.00	125.00	100.00	80.00	60.00	50.00	40.00	30.00	25.00	100
101	151.50	126.25	101.00	80.80	60.60	50.50	40.40	30.30	25.25	101
102	153.00	127.50	102.00	81.60	61.20	51.00	40.80	30.60	25.50	102
103	154.50	128.75	103.00	82.40	61.80	51.50	41.20	30.90	25.75	103
104	156.00	130.00	104.00	83.20	62.40	52.00	41.60	31.20	26.00	104
105	157.50	131.25	105.00	84.00	63.00	52.50	42.00	31.50	26.25	105
106	159.00	132.50	106.00	84.80	63.60	53.00	42.40	31.80	26.50	106
107	160.50	133.75	107.00	85.60	64.20	53.50	42.80	32.10	26.75	107
108	162.00	135.00	108.00	86.40	64.80	54.00	43.20	32.40	27.00	108
109	163.50	136.25	109.00	87.20	65.40	54.50	43.60	32.70	27.25	109
110	165.00	137.50	110.00	88.00	66.00	55.00	44.00	33.00	27.50	110
111	166.50	138.75	111.00	88.80	66.60	55.50	44.40	33.30	27.75	111
112	168.00	140.00	112.00	89.60	67.20	56.00	44.80	33.60	28.00	112
113	169.50	141.25	113.00	90.40	67.80	56.50	45.20	33.90	28.25	113
114	171.00	142.50	114.00	91.20	68.40	57.00	45.60	34.20	28.50	114
115	172.50	143.75	115.00	92.00	69.00	57.50	46.00	34.50	28.75	115
116	174.00	145.00	116.00	92.80	69.60	58.00	46.40	34.80	29.00	116
117	175.50	146.25	117.00	93.60	70.20	58.50	46.80	35.10	29.25	117
118	177.00	147.50	118.00	94.40	70.80	59.00	47.20	35.40	29.50	118
119	178.50	148.75	119.00	95.20	71.40	59.50	47.60	35.70	29.75	119
120	180.00	150.00	120.00	96.00	72.00	60.00	48.00	36.00	30.00	120
121	181.50	151.25	121.00	96.80	72.60	60.50	48.40	36.30	30.25	121
122	183.00	152.50	122.00	97.60	73.20	61.00	48.80	36.60	30.50	122
123	184.50	153.75	123.00	98.40	73.80	61.50	49.20	36.90	30.75	123
124	186.00	155.00	124.00	99.20	74.40	62.00	49.60	37.20	31.00	124
125	187.50	156.25	125.00	100.00	75.00	62.50	50.00	37.50	31.25	125
126	189.00	157.50	126.00	100.80	75.60	63.00	50.40	37.80	31.50	126
127	190.50	158.75	127.00	101.60	76.20	63.50	50.80	38.10	31.75	127
128	192.00	160.00	128.00	102.40	76.80	64.00	51.20	38.40	32.00	128
129	193.50	161.25	129.00	103.20	77.40	64.50	51.60	38.70	32.25	129
130	195.00	162.50	130.00	104.00	78.00	65.00	52.00	39.00	32.50	130
131	196.50	163.75	131.00	104.80	78.60	65.50	52.40	39.30	32.75	131
132	198.00	165.00	132.00	105.60	79.20	66.00	52.80	39.60	33.00	132
133	199.50	166.25	133.00	106.40	79.80	66.50	53.20	39.90	33.25	133
134	201.00	167.50	134.00	107.20	80.40	67.00	53.60	40.20	33.50	134
135	202.50	168.75	135.00	108.00	81.00	67.50	54.00	40.50	33.75	135

TABLE OF PITCH DIAMETERS

TABLE 11: Pitch Diameters 136 to 197 Teeth

Outside diameter = 2M = P.D. (pitch diameter is a theoretical dimension only).

NOTE: Applies to spur and bevel gears only (not to helical gears).

NO. OF TEETH	MODULE (M)									NO. OF TEETH
	1.5	1.25	1.0	0.8	0.6	0.5	0.4	0.3	0.25	
136	204.00	170.00	136.00	108.80	81.60	68.00	54.40	40.80	34.00	136
137	205.50	171.25	137.00	109.60	82.20	68.50	54.80	41.10	34.25	137
138	207.00	172.50	138.00	110.40	82.80	69.00	55.20	41.40	34.50	138
139	208.50	173.75	139.00	111.20	83.40	69.50	55.60	41.70	34.75	139
140	210.00	175.00	140.00	112.00	84.00	70.00	56.00	42.00	35.00	140
141	211.50	176.25	141.00	112.80	84.60	70.50	56.40	42.30	35.25	141
142	213.00	177.50	142.00	113.60	85.20	71.00	56.80	42.60	35.50	142
143	214.50	178.75	143.00	114.40	85.80	71.50	57.20	42.90	35.75	143
144	216.00	180.00	144.00	115.20	86.40	72.00	57.60	43.20	36.00	144
145	217.50	181.25	145.00	116.00	87.00	72.50	58.00	43.50	36.25	145
146	219.00	182.50	146.00	116.80	87.60	73.00	58.40	43.80	36.50	146
147	220.50	183.75	147.00	117.60	88.20	73.50	58.80	44.10	36.75	147
148	222.00	185.00	148.00	118.40	88.80	74.00	59.20	44.40	37.00	148
149	223.50	186.25	149.00	119.20	89.40	74.50	59.60	44.70	37.25	149
150	225.00	187.50	150.00	120.00	90.00	75.00	60.00	45.00	37.50	150
151	226.50	188.75	151.00	120.80	90.60	75.50	60.40	45.30	37.75	151
152	228.00	190.00	152.00	121.60	91.20	76.00	60.80	45.60	38.00	152
153	229.50	191.25	153.00	122.40	91.80	76.50	61.20	45.90	38.25	153
154	231.00	192.50	154.00	123.20	92.40	77.00	61.60	46.20	38.50	154
155	232.50	193.75	155.00	124.00	93.00	77.50	62.00	46.50	38.75	155
156	234.00	195.00	156.00	124.80	93.60	78.00	62.40	46.80	39.00	156
157	235.50	196.25	157.00	125.60	94.20	78.50	62.80	47.10	39.25	157
158	237.00	197.50	158.00	126.40	94.80	79.00	63.20	47.40	39.50	158
159	238.50	198.75	159.00	127.20	95.40	79.50	63.60	47.70	39.75	159
160	240.00	200.00	160.00	128.00	96.00	80.00	64.00	48.00	40.00	160
161	241.50	201.25	161.00	128.80	96.60	80.50	64.40	48.30	40.25	161
162	243.00	202.50	162.00	129.60	97.20	81.00	64.80	48.60	40.50	162
163	244.50	203.75	163.00	130.40	97.80	81.50	65.20	48.90	40.75	163
164	246.00	205.00	164.00	131.20	98.40	82.00	65.60	49.20	41.00	164
165	247.50	206.25	165.00	132.00	99.00	82.50	66.00	49.50	41.25	165
166	249.00	207.50	166.00	132.80	99.60	83.00	66.40	49.80	41.50	166
167	250.50	208.75	167.00	133.60	100.20	83.50	66.80	50.10	41.75	167
168	252.00	210.00	168.00	134.40	100.80	84.00	67.20	50.40	42.00	168
169	253.50	211.25	169.00	135.20	101.40	84.50	67.60	50.70	42.25	169
170	255.00	212.50	170.00	136.00	102.00	85.00	68.00	51.00	42.50	170
171	256.50	213.75	171.00	136.80	102.60	85.50	68.40	51.30	42.75	171
172	258.00	215.00	172.00	137.60	103.20	86.00	68.80	51.60	43.00	172
173	259.50	216.25	173.00	138.40	103.80	86.50	69.20	51.90	43.25	173
174	261.00	217.50	174.00	139.20	104.40	87.00	69.60	52.20	43.50	174
175	262.50	218.75	175.00	140.00	105.00	87.50	70.00	52.50	43.75	175
176	264.00	220.00	176.00	140.80	105.60	88.00	70.40	52.80	44.00	176
177	265.50	221.25	177.00	141.60	106.20	88.50	70.80	53.10	44.25	177
178	267.00	222.50	178.00	142.40	106.80	89.00	71.20	53.40	44.50	178
179	268.50	223.75	179.00	143.20	107.40	89.50	71.60	53.70	44.75	179
180	270.00	225.00	180.00	144.00	108.00	90.00	72.00	54.00	45.00	180
181	271.50	226.25	181.00	144.80	108.60	90.50	72.40	54.30	45.25	181
182	273.00	227.50	182.00	145.60	109.20	91.00	72.80	54.60	45.50	182
183	274.50	228.75	183.00	146.40	109.80	91.50	73.20	54.90	45.75	183
184	276.00	230.00	184.00	147.20	110.40	92.00	73.60	55.20	46.00	184
185	277.50	231.25	185.00	148.00	111.00	92.50	74.00	55.50	46.25	185
186	279.00	232.50	186.00	148.80	111.60	93.00	74.40	55.80	46.50	186
187	280.50	233.75	187.00	149.60	112.20	93.50	74.80	56.10	46.75	187
188	282.00	235.00	188.00	150.40	112.80	94.00	75.20	56.40	47.00	188
189	283.50	236.25	189.00	151.20	113.40	94.50	75.60	56.70	47.25	189
190	285.00	237.50	190.00	152.00	114.00	95.00	76.00	57.00	47.50	190
191	286.50	238.75	191.00	152.80	114.60	95.50	76.40	57.30	47.75	191
192	288.00	240.00	192.00	153.60	115.20	96.00	76.80	57.60	48.00	192
193	289.50	241.25	193.00	154.40	115.80	96.50	77.20	57.90	48.25	193
194	291.00	242.50	194.00	155.20	116.40	97.00	77.60	58.20	48.50	194
195	292.50	243.75	195.00	156.00	117.00	97.50	78.00	58.50	48.75	195
196	294.00	245.00	196.00	156.80	117.60	98.00	78.40	58.80	49.00	196
197	295.50	246.25	197.00	157.60	118.20	98.50	78.80	59.10	49.25	197

GEAR WEAR & LUBRICATION

Wear

Another factor to consider in the successful design of a gear train is tooth surface wear. It can take on many forms but always leads to reduced accuracy and loss of smooth operation. Wear can eventually cause enough deterioration to introduce dynamic forces that are strong enough to break or bend gear teeth. The most common types of wear are pitting, scuffing and scoring.

Pitting is caused by localized metal fatigue on the surface of the gear. Microscopic cracks are forced to propagate which causes small metal chunks to break off. The best ways to avoid this are:

- Reduce contact stress
- Use hardened gears
- Use proper lubrication

Scuffing is caused by small surface irregularities that can rub each other as gear teeth come into and out of mesh. It is caused by the plastic deformation of microscopic surface protrusion. The best ways to avoid scuffing are:

- Use gears that are cut to a high quality surface finish
- “Run in” with 1/2 load for the first 10 hours
- Use proper lubrication at all times

Scoring is caused by small particles in the lubrication that get caught in the meshing teeth. This causes scratches that can extend from the roof to the tip. These can be quite deep. The best ways to avoid scoring are:

- Proper high quality lubrication
- Change the lubrication after the “run in” period
- Change or filter the lubrication as needed

Lubrication

Using the proper lubrication can extend the life of your gear train by a factor of 4 or more. The lubrication will form a thin layer between the teeth in contact. This will reduce all types of tooth wear which will keep your gear running smoothly. This is especially important with worm gear sets and helical gear sets as these types of gears operate with more of a sliding motion than a rolling motion (as in spur gears).

There are many lubrications that work extremely well with gear sets. The one you choose depends on your application.

For lightly loaded, low speed systems, a light coating of grease can be brushed on during assembly. The grease will not fly oil or overheat, and should be replaced regularly to ensure optimal life.

For higher speed systems, an oil bath is recommended. Oil is more effective than other lubrications at dissipating heat. The gears will always be in contact with the oil, so flying off is not a problem. The oil should be replaced after the “run in” period and regularly thereafter.

Many other lubricants exist for applications in which oil and greases could present a problem. They vary greatly in price, durability, thickness, consistency and lubricity. For low torque and low speed systems where dry running is essential, you might make use of plastic gears against a metal pinion. Generally, this offers a low enough co-efficient of friction to ensure long life.

GEAR MOUNTING

There are several ways to mount a gear to a shaft. The method you choose will depend on your application. Berg supplies gears that will accommodate a variety of mounting methods. Our pin hub gears can be mounted in three ways:

1. We suggest using the set screw to secure the gear in the proper location, then using the spot drill to drill through the hub and shaft. Then the gear can be mounted with any one of a variety of pins (Berg carries a full line of pins).

2. For light load applications, you can rely solely on the set screw. This works best if the shaft is a relatively soft material so that the screw can form its own seat.

3. For precision applications, a light press fit could be appropriate. This would insure good concentricity between the gear, shaft and indirectly, the bearings. You must take precaution not to damage the gear during the press procedure.

Formula for Press Fit

$$P_{max} = \frac{e_{max} E}{2d}\left(1 - \left(\frac{d}{D}\right)^2\right) \qquad P_{max} = \frac{e_{min} E}{2d}\left(1 - \left(\frac{d}{D}\right)^2\right)$$

$T = 1/2\ p\ f P_{min}\ l d^2$

P = Unit pressure of max. or min. interfering surfaces (psi)
T = Torque required to slip (in lbs.)
e = Max. or min. interference (in.)
E = Modulus of elasticity of the softer material (psi), see Mechanical Properties table
d = Shaft diameter (in.)
D = Hub diameter (in.)
f = Coefficient of static friction (approximately 0.1 -0.15)
l = Length of fit (in.)

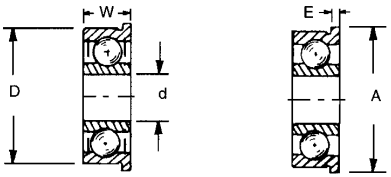
It is important to keep the maximum interfering pressure less than the yield strength in order for these formulae to remain valid. A good rule of thumb is for each 1" of diameter the interfering distance (e) should be about .001". This number tends to get smaller as d gets larger. For example, a 3" diameter uses an allowance of approximately .0025".

Our clamp hub gears allow you to securely mount a gear with the ability to reposition it as required. Consult catalog section MI to determine which clamp of our large variety will work best with your gear selection.

BEARING TOLERANCES

The Annular Bearing Engineers Committee (ABEC) has established standards that divide precision ball bearings into quality classes. For most applications, ABEC 1 or ABEC 3 bearings will offer significant accuracy. However, there are times when highly precise position is required. In these applications, ABEC 5 or ABEC 7 bearings should be specified.

This page refers to ABEC tolerances that affect the mounting dimensions of ball bearings. The following page discusses tolerances that influence the operation of the bearings.



Outer Ring Tolerances

Outside Diameter (D)		Tolerance															
		D +0.0000				W +0.0000				A				E +0.0000			
OVER	INCL.	ABEC 1	ABEC 3	ABEC 5	ABEC 7	ABEC 1	ABEC 3	ABEC 5	ABEC 7	ABEC 1	ABEC 3	ABEC 5	ABEC 7	ABEC 1	ABEC 3	ABEC 5	ABEC 7
0	.7087	-.0003	-.0003	-.0002	-.0002	-.0050	-.0050	-.0010	-.0010	—	+.0050 -.0020	+.0000 -.0010	+.0000 -.0010	—	-.0020	-.0020	-.0020
.7087	1.1811	-.0004	-.0003	-.0002	-.0002	-.0050	-.0050	-.0010	-.0010	—	+.0050 -.0020	+.0000 -.0010	+.0000 -.0010	—	-.0020	-.0020	-.0020
1.1811	1.9685	-.0005	-.0003	-.0002	-.0002	-.0050	-.0050	-.0010	-.0010	—	+.0050 -.0020	+.0000 -.0010	+.0000 -.0010	—	-.0020	-.0020	-.0020
1.9685	3.1496	-.0005	-.0004	-.0003	-.0002	-.0050	-.0050	-.0015	-.0010	—	—	—	—	—	—	—	—

Inner Ring Tolerances

Bore Diameter (d)		Tolerance							
		d +0.0000				W +0.0000			
OVER	INCL.	ABEC 1	ABEC 3	ABEC 5	ABEC 7	ABEC 1	ABEC 3	ABEC 5	ABEC 7
0	.3937	-.0003	-.0002	-.0002	-.0002	-.0050	-.0050	-.0010	-.0010
.3937	.7087	-.0003	-.0002	-.0002	-.0002	-.0050	-.0050	-.0010	-.0010
.7087	1.1811	-.0004	-.0002	-.0002	-.0002	-.0050	-.0050	-.0010	-.0010
1.1811	1.9685	-.0005	-.0003	-.0002	-.0002	-.0050	-.0050	-.0010	-.0010

BEARING TOLERANCES

The following tolerances illustrate the differences between ABEC quality classes that could affect the performance of your assembly. These tolerances should be strongly considered if a high precision gear train is your goal.

Outer Ring Tolerances

Outside Diameter (D)		Tolerance													
		Radial Runout (max.)				Width Variation (max.)		Outside Cylindrical Surface Runout with Reference Side (max.)		Groove Runout with Reference Side (max.)		Outer Diameter 2 Point Out Of Round (max.)		Outer Diameter Taper (max.)	
OVER	INCL.	ABEC 1	ABEC 3	ABEC 5	ABEC 7	ABEC 5	ABEC 7	ABEC 5	ABEC 7	ABEC 5	ABEC 7	ABEC 5	ABEC 7	ABEC 5	ABEC 7
0	.7087	.0006	.0004	.0002	.00015	.0002	.0001	.0003	.00015	.0003	.0002	.0001	.0001	.0001	.0001
.7087	1.1811	.0006	.0004	.0002	.00015	.0002	.0001	.0003	.00015	.0003	.0002	.0001	.0001	.0001	.0001
1.1811	1.9685	.0008	.0004	.0002	.00015	.0002	.0001	.0003	.00015	.0003	.0002	.0001	.0001	.0001	.0001
1.9685	3.1496	.0010	.0005	.0003	.0002	.0002	.00015	.0003	.00015	.0004	.0002	—	—	—	—

Inner Ring Tolerances

Bore Diameter (d)		Tolerance													
		Radial Runout (max.)				Width Variation (max.)		Reference Runout with Bore (max.)		Groove Runout with Reference Side (max.)		Bore 2-Point Out Of Round (max.)		Bore Taper (max.)	
OVER	INCL.	ABEC 1	ABEC 3	ABEC 5	ABEC 7	ABEC 5	ABEC 7	ABEC 5	ABEC 7	ABEC 5	ABEC 7	ABEC 5	ABEC 7	ABEC 5	ABEC 7
0	.3937	.0003	.0002	.00015	.0001	.0002	.0001	.0003	.0001	.0003	.0001	.0001	.0001	.0001	.0001
.3937	.7087	.0004	.0003	.00015	.0001	.0002	.0001	.0003	.0001	.0003	.0001	.0001	.0001	.0001	.0001
.7087	1.1811	.0005	.0003	.00015	.00015	.0002	.0001	.0003	.00015	.0003	.00015	.0001	.0001	.0001	.0001
1.1811	1.9685	.0006	.0004	.0002	.00015	.0002	.0001	.0003	.00015	.0003	.00015	—	—	—	—

METRIC CONVERSIONS & QUALITY SPECIFICATIONS

FRACTIONAL INCHES CONVERTED TO DECIMAL INCHES AND MILLIMETERS

Fraction of Inch	Decimal of Inch	Decimal Millimeters	Fraction of Inch	Decimal of Inch	Decimal Millimeters
1/64	.015625	0,39688	33/64	.515625	13,09688
1/32	.03125	0,79375	17/64	.53125	13,49375
3/64	.046875	1,19063	35/64	.546875	13,89063
1/16	.0625	1,5875	9/16	.5625	14,2875
5/64	.078125	1,98438	37/64	.578125	14,68438
3/32	.09375	2,38125	19/32	.59375	15,08125
7/64	.109375	2,77813	39/64	.609375	15,47813
1/8	.125	3,175	5/8	.625	15,875
9/64	.140625	3,57188	41/64	.640625	16,27188
5/32	.15625	3,96875	21/32	.65626	16,66875
11/64	.171875	4,36563	43/64	.671875	17,06563
3/16	.1875	4,7625	11/16	.6875	17,4625
13/64	.203125	5,15938	45/64	.703125	17,85938
7/32	.21875	5,55625	23/32	.71875	18,25625
15/64	.234375	5,95313	47/64	.734375	18,65313
1/4	.25	6,35	3/4	.75	19,05
17/64	.265625	6,74688	49/64	.765625	19,44688
9/32	.28125	7,14375	25/32	.78125	19,84375
19/64	.296875	7,54063	51/64	.796875	20,24063
5/16	.3125	7,9375	13/16	.8125	20,6375
21/64	.328125	8,33438	53/64	.828125	21,03438
11/32	.34375	8,73125	27/32	.84375	21,43125
23/64	.359375	9,12813	55/64	.859375	21,82813
3/8	.375	9,525	7/8	.875	22,225
25/64	.390625	9,92188	57/64	.890625	22,62188
13/32	.40625	10,31875	29/32	.90625	23,01875
27/64	.421875	10,71563	59/64	.921875	23,41563
7/16	.4375	11,1125	15/16	.9375	23,8125
29/64	.453125	11,50938	61/64	.953125	24,20938
15/32	.46875	11,90625	31/32	.96875	24,60625
31/64	.484375	12,30313	63/64	.984375	25,00313
1/2	.5	12,7	1"	1.0	25,4

Gears

BERG QUALITY CLASS	AGMA 390.03	DIN SPECIFICATIONS
QA	4	12
QD	7	10
QE	8	9
QF	9	8
QG	10	7
QJ	12	5
QM	14	3

Bearings

BERG QUALITY CLASS	AGMA ABEC	ISO 492 SPECIFICATIONS
QU	5	CLASS 5
QW	7	CLASS 4

AGMA - American Gear Manufacturers Association
DIN - Deutsches Instit fur Normung
AFBNA - Anti Friction Bearings Manufacturers Association
ABEC - Annular Bearing Engineering Committee
ISO - International Organization for Standardization

Conversion Factors

39.37	INCHES/METER	14.223	LBS/IN^2
0.3937	INCHES/CM		KG/CM^2
0.03937	INCHES/mm	1.4503×10^4	PSI/Pascal
3.2808	FT/M	5.71×10^3	LBS/IN
1×10^6	METERS/MICRON		N/M
1×10^3	mm/MICRON	8.85	LBS-INCHES
2.2046	LBS/KG		N-M
2.204×10^3	LBS/GM	0.0885	LBS-INCHES
3.527×10^2	OZ/GM		N-CM
0.0108	OZ/FT	1.416	OZ-INCHES
	GM/M		N-CM
0.2248	LBS/N	0.0338	OZ/CC
0.102	KG/N	5.4668×10^3	$OZ\text{-}IN^2/GM\text{-}CM^3$

DRILL & TAP REFERENCE DATA

MAJOR THREAD DIAMETER	PITCH		TAP DRILL DIAMETER	CLEARANCE HOLE		
	COARSE	FINE		TIGHT	NORMAL	LOOSE
1.60	0.35	0.20	1.25	1.7	1.8	2.0
2.00	0.40	0.25	1.60	2.2	2.4	2.6
2.50	0.45	0.35	2.05	2.7	2.9	3.1
3.00	0.50	0.35	2.50	3.2	3.4	3.6
3.50	0.60	0.35	2.09	3.7	3.9	4.2
4.00	0.70	0.50	3.30	4.3	4.5	4.8
5.00	0.80	0.50	4.20	5.3	5.5	5.8
6.00	1.00	0.75	5.00	6.4	6.6	7.0
7.00	1.00	0.75	6.00	7.4	7.6	8.0
8.00	1.25	7.00	6.80	8.4	9.0	10.0
10.00	1.50	1.25	8.50	10.5	11.0	12.0
12.00	1.75	1.25	10.20	13.0	13.5	14.5

METRIC DRILL LIST				
DIAMETER	DIAMETER	DIAMETER	DIAMETER	DIAMETER
0.30	0.80	1.55	2.30	3.60
0.32	0.85	1.60	2.35	3.70
0.35	0.90	1.65	2.40	3.80
0.38	0.95	1.70	2.45	3.90
0.40	1.00	1.75	2.50	4.00
0.42	1.05	1.80	2.60	4.10
0.45	1.10	1.85	2.70	4.20
0.48	1.15	1.90	2.80	4.30
0.50	1.20	1.95	2.90	4.40
0.55	1.25	2.00	3.00	4.50
0.60	1.30	2.05	3.10	4.60
0.62	1.35	2.10	3.20	4.70
0.65	1.40	2.15	3.30	4.80
0.70	1.45	2.20	3.40	4.90
0.78	1.50	2.25	3.50	5.00

MECHANICAL PROPERTIES

Mechanical Properties from "Machine Design in Mechanical Design" by Robert L. Mott

Material	Hardness (Rockwell)	Tension Modulus (E)	Tensile Strength	Yield Strength	Shear Strength	Endurance Limit
303 Stainless Steel	B75-90	28 X 10^6 PSI 194 GPA	90 X 10^3 PSI 623 MPA	35 X 10^3 PSI 242 MPA	75 X 10^3 PSI 517 MPA	35 X 10^3 PSI 242 MPA
17-4 PH Stainless Steel	C28-35	28.5 X 10^6 PSI 197 GPA	150 X 10^3 PSI 1040 MPA	125 X 10^3 PSI 865 MPA	83 X 10^3 PSI 574 MPA	90 X 10^3 PSI 623 MPA
416 Stainless Steel	C26-36	29 X 10^6 PSI 201 GPA	75 X 10^3 PSI 519 MPA	40X 10^3 PSI 277 MPA	75 X 10^3 PSI 517 MPA	40 X 10^3 PSI 277 MPA
416 Stainless Steel - Hardened	C36-42	29 X 10^6 PSI 201 GPA	135 X 10^3 PSI 930 MPA	105 X 10^3 PSI 725 MPA	75 X 10^3 PSI 517 MPA	40 X 10^3 PSI 277 MPA
12 L14 Steel	B75-90	30 X 10^6 PSI 208 GPA	78 X 10^3 PSI 540 MPA	60 X 10^3 PSI 415 MPA	50 X 10^3 PSI 345 MPA	–
2024T4 Aluminum	–	10.6 X 10^6 PSI 73.4 GPA	68 X 10^3 PSI 470 MPA	47 X 10^3 PSI 325 MPA	40 X 10^3 PSI 276 MPA	–
464 Brass Alloy	–	18 X 10^6 PSI 125 GPA	57 X 10^3 PSI 395 MPA	25 X 10^3 PSI 173 MPA	40 X 10^3 PSI 276 MPA	–
360 Brass Alloy	–	14 X 10^6 PSI 97 GPA	49 X 10^3 PSI 339 MPA	18 X 10^3 PSI 125 MPA	30 X 10^3 PSI 205 MPA	–

MILITARY SPECIFICATIONS & MANUFACTURING TOLERANCES

MATERIAL		FINISH		USED ON
MATERIAL DESIGNATION	MIL. or FED. SPECIFICATION	BERG FINISH DESIGNATION	MIL. FINISH SPECIFICATION	
303 STAINLESS STEEL (BAR)	ASTM A484 ASTM A582	—	QQ-P-35	GEARS, SHAFTS
302 STAINLESS STEEL (Spring Temp.)	MIL-W-6713 Comp. B	—	QQ-P-35	SPRINGS, RETAINER RINGS
416 STAINLESS STEEL (BAR)	ASTM A484 ASTM A582	—	QQ-P-35	RACKS-HEAT TREATABLE
440 STAINLESS STEEL (BAR)	QQ-S-763/C Class 10 Type A	CLEAR PASSIVATE	QQ-P-35	BALL BEARINGS (Hardened)
2024 ALUMINUM (BAR)	QQ-A-225/6 Cond. T4	CHROMIC ACID ANODIZED	MIL-A-8625 Type 1	GEARS, HANGERS, ETC.
2024 ALUMINUM (SHEET)	QQ-A-268 Cond. T4	BLACK ANODIZED	MIL-A-8625 Type 11	DIALS
108 ALUMINUM (CAST)	QQ-A-601 Comp. 8 Cond. T55	CHROMIC ACID OR BLACK ANODIZED	MIL-A-8625 Type 1 + Type 11	BREADBOARD COMPONENT
BRONZE (NAVAL BRASS)	QQ-B-637 Alloy 464	—	—	WORM WHEELS
BRASS-POROUS (OIL LESS)	MIL-B-5687 Type 1 Comp. A	LUBRICATED WITH S.A.E. 40 OIL	—	BEARINGS
BRASS (LAMINATED)	MIL-S-22499 Comp. 2CL.1	—	—	SHIMS
BERYLLIUM COPPER	MIL-C-6942	—	—	RETAINER RINGS
NYLON	MIL-M-20693 Type 1 Comp. A	—	—	GEARS
POLYURETHANE	—	—	—	GEARS, ROLLERS, BRG'S
PLEXIGLASS (CLEAR)	MIL-P-5425 Finish A	—	—	DIAL INDEX'S
STAINLESS STEEL CABLE	MIL-W-83420	—	—	BELTS & CHAINS
GALVANIZED ST CABLE	MIL-C-1511A-4	GALVANIZED	—	—
OIL	MIL-L-6085	—	—	GEARS & BEARINGS -65°F TO +250°F
GREASE	MIL-G-23827	—	—	GEARS & BEARINGS -65°F TO +250°F

Manufacturing Tolerances (unless otherwise specified):
0 or 1 Decimal Place = ±0.5 mm
2 or more Decimal Places = ±0.15

NOTE: Certification for materials and finishes are available on request - charges may apply.

MATERIAL SPECIFICATIONS

AISI; AA Material Designation	DIN Specs	U.S. Specs	UNS	ISO
STAINLESS STEEL				
303 Stainless Steel Rockwell B75-B90	1.4305	MIL-S-862	S30300	–
302 Stainless Steel (18-8)	1.4300	MIL-S-862	S30200	–
302 Stainless Steel - Spring Temper	–	MIL-W-6713	–	–
17-7PH Rockwell C38-C44	–	–	S17700	–
17-4PH Rockwell C32-C38	–	–	S17400	–
416 Rockwell C26 to C36	1.4005	MIL-S-862	S41600	–
416 Rockwell C36 to C42	–	–	–	–
410 Stainless Steel	1.4006	MIL-S-862	S41000	–
440 Stainless Steel	1.4112	MIL-S-763	S41003	–
420 Stainless Steel	1.4021	MIL-S-862	S42000	–
301 Stainless Steel	1.4310	MIL-S-5059	S30100	–
304 Stainless Steel	1.4301	MIL-S-862	S30400	–
316 Stainless Steel, Sintered	–	–	–	–
316 Stainless Steel, Sintered	1.4401	MIL-S-5059	S31600	–
NON-FERROUS METALS				
2024 T4 Aluminum	3.1355	–	–	AlCu4Mgl
2024 T351 Aluminum	–	–	–	–
6063 T5 Aluminum	3.3206	–	–	AlMgSi
6061 T6 Aluminum	–	–	–	AlMglSiCu
Phosphor Bronze	–	–	C50500	–
Bronze, Sintered	–	MIL-B-5687	–	–
Brass, Naval, Alloy 464	–	QQ-B-637	C46200	–
713.0 Aluminum Casting, Tenzaloy	–	–	–	–
Zinc Alloy B86, AG40A (Zamak-3)	–	–	–	–
Beryllium Copper	–	MIL-C-6942	–	–
STEEL				
52100 Chrome Steel, Rockwell 062-C66	1.3505	MIL-S-980	G52986	–
12L14 Steel	1.0718	–	G12144	–
4140 Steel, Rockwell C48-C52	–	–	G41400	–
1095 Steel	–	–	G10750	–
1060 Steel Rockwell C60-C63	1.0601	MIL-S-16974	G10600	–
8620 Steel	1.6523	MIL-S-16974	G86200	–
PLASTIC				
Polyacetal Polyacetal, with lubricant fibers Polycarbonate Polycarbonate, Glass filled-10%, Black				

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BRASS SOFT TIP HEX SOCKET. . . . . MF 9
SILVER SOLDER TIP SLOTTED HEAD & HEX SOCKET . . . . . MF 10
SOFT TIP SOCKET HEAD . . . . . .MF 11 - MF 12

SHAFTS
CASE HARDENED GROUND SHAFTS . . . . . MI 14
STAINLESS GROUND SHAFTS . . . . . MI 15, MI 19 - MI 24
GROUND SHAFTS . . . . . MI 16
SHAFT SEALS . . . . . MI 17
SHAFT ADAPTERS . . . . . MI 18

SHAFT ADAPTERS . . . . . MG 29

SHOULDER SCREWS
SLOTTED HEAD. . . . . .MF 13 - MF 14
HEX SOCKET HEAD . . . . . .MF 15 - MF 16

SLIP CLUTCHES . . . . . MG 34 - MG 37

SLIP CLUTCHES & COUPLINGS. . . . . MG 39

SLIP COUPLINGS . . . . . MG 29 - MG 31

SPACERS
INNER RACE SHIM . . . . . MF 41
OUTER RACE SHIM. . . . . MF 41
SHAFT SPACERS . . . . . MF 42

SPRINGS
COMPRESSION . . . . . .MF 45 - MF 46
EXTENSION - FULL TWIST LOOPS CLOSE WOUND . . . . . MF 46
TORSION LEFT HAND WOUND . . . . . MF 47

SPRING WASHERS
BELLEVILLE . . . . . MF 31
CURVED . . . . . MF 31
BEARING PRE-LOADED . . . . . MF 32

SPUR GEARS
HUBLESS - 1.5 MODULE. . . . . MB 21
HUBLESS - 1.25 MODULE. . . . . MB 25
HUBLESS - 1.0 MODULE. . . . . MB 29 - MB 30
HUBLESS - 0.8 MODULE. . . . . MB 41 - MB 44
HUBLESS - 0.5 MODULE. . . . . MB 67 - MB 68
HUBLESS - 0.4 MODULE. . . . . MB 85 - MB 86
HUBLESS - 0.3 MODULE. . . . . MB 105
HUBLESS - 0.25 MODULE. . . . . MB 117
PIN HUB - 1.5 MODULE. . . . . MB 2
PIN HUB - 1.25 MODULE. . . . . MB 3
PIN HUB - 1.0 MODULE. . . . . MB 4, MB 31 - MB 34
PIN HUB - 0.8 MODULE. . . . . MB 5, MB 45 - MB 48
PIN HUB - 0.6 MODULE. . . . . MB 6, MB 56
PIN HUB - 0.5 MODULE. . . . . MB 7, MB 69 - MB 75
PIN HUB - 0.4 MODULE. . . . . MB 8, MB 87 - MB 92
PIN HUB - 0.3 MODULE. . . . . MB 9, MB 106 - MB 108
PIN HUB - 0.25 MODULE. . . . . MB 10, MB 118
CLAMP HUB - 1.5 MODULE. . . . . MB 22
CLAMP HUB - 1.25 MODULE. . . . . MB 26
CLAMP HUB - 1.0 MODULE. . . . . MB 35
CLAMP HUB - 0.8 MODULE. . . . . MB 49 - MB 50
CLAMP HUB - 0.6 MODULE. . . . . MB 57 - MB 59
CLAMP HUB - 0.4 MODULE. . . . . MB 93 - MB 95
CLAMP HUB - 0.3 MODULE. . . . . MB 109 - MB 110
CLAMP HUB - 0.25 MODULE. . . . . MB 119

SPUR GEAR STOCKS
0.4 MODULE. . . . . MB 104

SYNCRO MOUNT CLAMPS . . . . . MD 13 - MD 16

TELESCOPIC UNIVERSAL JOINTS. . . . . MG 28

THREADED STUDS . . . . . .MF 25 - MF 26

THRUST WASHERS. . . . . MF 30

THUMB NUTS . . . . . MF 24

THUMB SCREWS
PLASTIC HEAD, KNURLED . . . . . .MF 19 - MF 20
STRAIGHT KNURLED . . . . . .MF 21 - MF 22
KNURLED SOCKET HEAD . . . . . MF 23

UNIVERSAL JOINTS . . . . . MG 27

WASHERS . . . . . MF 28

WORM & WORM WHEEL GEARBOXES
SHAFT SIZE 3MM, 4MM & 6MM . . . . . MC 3 - MC 4

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