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 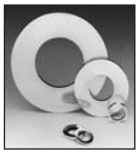
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 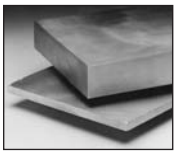
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 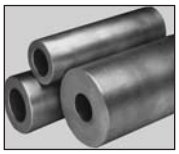
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 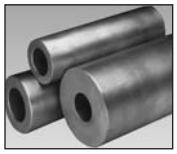
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 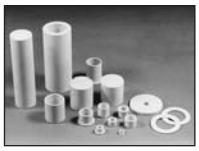
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 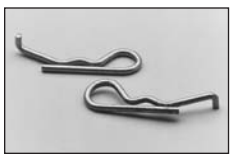
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 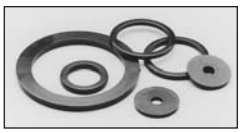
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 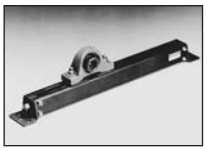
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 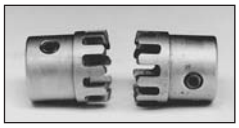
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 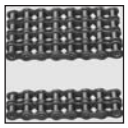
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 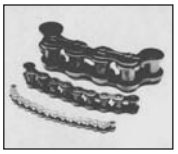
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 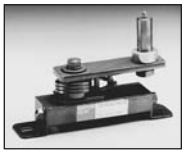
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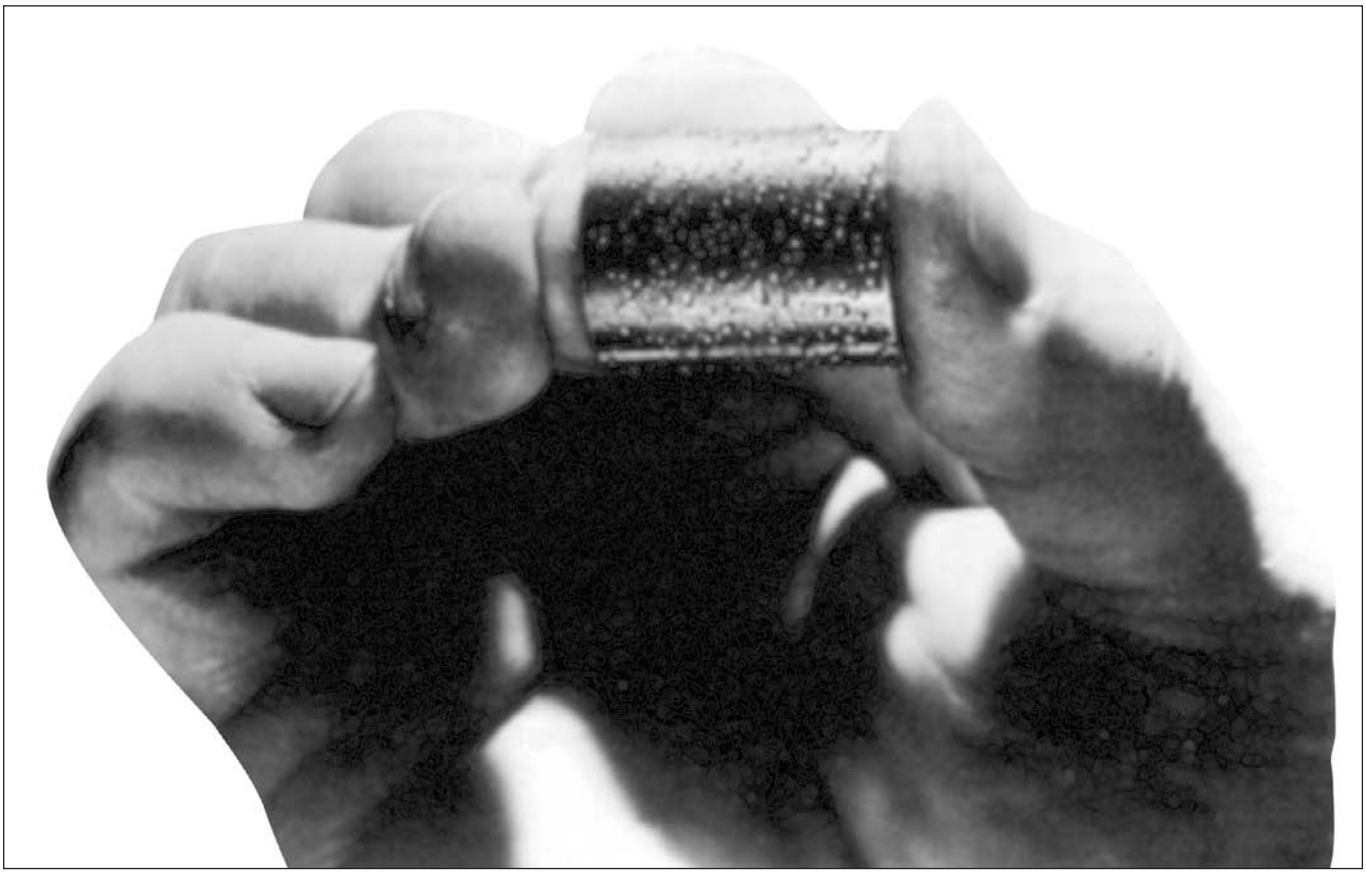
BOST-BRONZ OIL-IMPREGNATED SINTERED BRONZE BEARINGS



BOST-BRONZ is Boston Gear's all-purpose, oil-impregnated porous bronze bearing material. It is manufactured of highest purity metal powders by the powder metallurgy process. This process provides uniformly distributed pores between the metal particles which absorb oil by capillary action. BOST-BRONZ has a self-contained oil supply (approximately 20% by volume) which provides a uniform, protective film over the entire bearing surface. Composition and physical properties are as follows: –

BOST-BRONZ can be used for production and replacement requirements in practically every known industry. It has proven to be efficient under heavy loads at moderate speeds and also under light loads at high speeds. It is ideally suited for applications where normal lubrication is difficult or impossible to provide.

Coeifficent of Friction	
Static	.1 - .3
Dynamic	.02 - .04

ACCURACY

The close tolerances of BOST-BRONZ bearings are made possible through expertly controlled manufacturing methods. In addition, the lubricating features of BOST-BRONZ permit reduced shaft clearances — a precision product with precision performance.

PERFORMANCE

Because of its porous construction, BOST-BRONZ bearings have an oil reservoir when idle — an oil film to start on — an oil film to run on, assuring low starting torque and smooth, quiet positive performance.

ADAPTABILITY

BOST-BRONZ bearings are designed for immediate installation and may be used in most applications without additional machining. Oil holes or grooves are not required and turning or boring bearing diameters is normally unnecessary.

Composition %	Density in Grams per Cu. Cent. Impregnated	Tensile Strength Lbs. per Sq. In.	Yield Strength in Compression (0.2% Offset) Lbs. per Sq. In.	Elongation in One Inch %	Porosity by Volume %
Copper (Cu) 87.5-90.5 Iron 1.0 Max. Lead (a) Carbon (Graphite Max.) 1.75 Max. Tin 9.5-10.5 Total Other Elements .05	6.4/6.8	14,000	11,000	1.0	19 Min.
Conforms to ASTM B438-73 Grade 1, Type 2, and SAE-841 Mil-B-5687C TYPE 1 comp A (Ref:Oil is a SAE 20-30 weight)					Does not include oil

(a) Included in other elements

NON-LISTED SIZES

The stock sizes of BOST-BRONZ bearings listed in this catalog will satisfy the majority of industrial applications. Tooling is available for many metric and additional inch sizes. Where tooling is not available, special sizes can be made to order.

SPECIAL SHAPES

Many special shapes can be made economically by the powdered metal process. This process is particularly economical for the production of comparatively simple shapes in large volume. More complicated shapes may also be economical to produce by this process when the savings in machining justify the cost of more expensive tooling.

SPECIAL COMPOSITIONS

In addition to our standard BOST-BRONZ, many special compositions can be furnished on a made-to-order basis.

APPLICATIONS

BOST-BRONZ bearings can be used on any application where the load-carrying capacity required falls within the capabilities of the material. BOST-BRONZ bearings operate efficiently under heavy loads at slow speeds. Because these bearings are supplied with oil impregnation, the original oil content provides long-lasting lubrication. For even longer life requirements, many applications incorporate impregnated felts or other reservoir techniques about the bearing.

SELECTION

In general, sleeve bearings should be selected with a length of one to two times the shaft diameter and an O.D. approximately 25% larger than the shaft diameter.

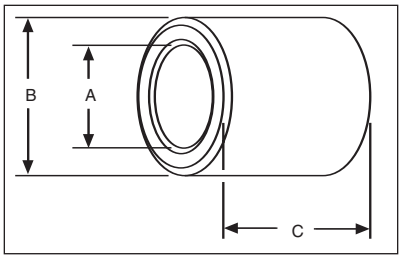
A general guide to determination of limiting load and velocity values for sleeve bearings has been established by the use of PV calculations. PV represents Pressure x Velocity, for example 100 psi x 20 fpm yields a PV of 2000.

Maximum PV values for BOST-BRONZ bearings:

Cylindrical & Flange Bearings - 50,000
Thrust Bearings - 10,000

For complete selection and application information, see Engineering Section, Pages 46-54.

PLAIN CYLINDRICAL BEARINGS



STANDARD TOLERANCES

Dimensions		Tolerance
A	1/8 – 1 1/2	+.000, – .001
	1 3/4 – 2 1/2	+.000, – .0015
B	2 3/4 - 3 1/2	+.000,– .002
C	1/8 – 1-1/2	± .005
	1 3/4 – 3	± .0075
	4	± .010

CONCENTRICITY

Dimensions		Tolerance
A	1/8 – 1 1/2	.003
	1 5/8 – 3	.004
	3 1/4 – 3 1/2	.005

Prices on unlisted sizes and other Boston Gear powder metal parts provided on request.

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	Catalog Number	Item Code
1/8 .127	1/4 .252	1/8	B24-1	34504
		1/4	B24-2	34506
		3/8	B24-3	34508
		1/2	B24-4	34510
	5/16 .315	1/8	B25-1	34512
		1/4	B25-2	34514
		3/8	B25-3	34516
		1/2	B25-4	34518
		5/8	B25-5	34520
3/16 .189	1/4 .252	1/4	B34-2	34522
		3/8	B34-3	34524
		1/2	B34-4	34526
		5/8	B34-5	34528
		3/4	B34-6	34530
	5/16 .314	1/4	B35-2	34532
		3/8	B35-3	34534
		1/2	B35-4	34536
		5/8	B35-5	34538
		3/4	B35-6	34540
	3/8 .377	3/8	B36-3	13561
		1/2	B36-4	13563
		5/8	B36-5	13565
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1/4 .252	5/16 .315	1/4	B45-2	13569
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		3/4	B47-6	34566
		7/8	B47-7	34568
		1	B47-8	34570
	1/2 .502	3/8	B48-3	34572
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		5/8	B56-5	34590
		3/4	B56-6	34592
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		1	B56-8	34596
	7/16 .439	1/4	B57-2	34598
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		3/4	B612-6	34694
		1	B612-8	34696
		1-1/4	B612-10	34698
7/16 .439	9/16 .5645	3/8	B79-3	34662
		1/2	B79-4	34664
		5/8	B79-5	34666
		3/4	B79-6	34668
		7/8	B79-7	34670
		1	B79-8	34672
		1-1/4	B79-10	34674
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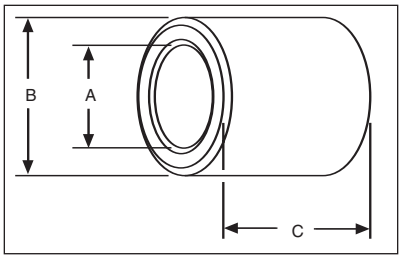
		3/4	B911-6	34796
		1	B911-8	34798
		1-1/2	B911-12	34800

On A and B dimensions, tolerances apply to actual (decimal) dimensions.

PLAIN CYLINDRICAL BEARINGS



STANDARD TOLERANCES

Dimensions		Tolerance
A	1/8 – 1 1/2	+.000, – .001
	1 3/4 – 2 1/2	+.000, – .0015
B	2 3/4 – 3 1/2	+.000, – .002
C	1/8 – 1 1/2	± .005
	1 3/4 – 3	± .0075
	4	± .010

CONCENTRICITY

Dimensions		Tolerance
A	1/8 – 1 1/2	.003
	1 5/8 – 3	.004
	3 1/4 – 3 1/2	.005

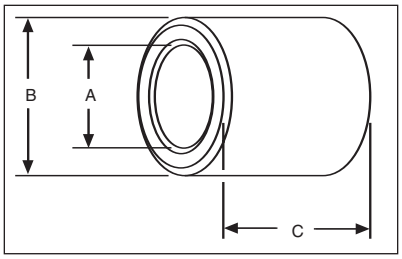
Prices on unlisted sizes and other Boston Gear powder metal parts provided on request.

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	Catalog Number	Item Code
9/16 .565	3/4 .753	1/2	B912-4	34802
		3/4	B912-6	34804
		1	B912-8	34806
		1-1/2	B912-12	34808
	13/16 .815	1/2	B913-4	34810
		3/4	B913-6	34812
		1	B913-8	34814
		1-1/4	B913-10	34816
		1-1/2	B913-12	34818
5/8 .627	3/4 .753	1/2	B1012-4	34820
		5/8	B1012-5	34822
		3/4	B1012-6	34824
		7/8	B1012-7	34826
		1	B1012-8	34828
		1-1/8	B1012-9	34830
		1-1/4	B1012-10	34834
		1-1/2	B1012-12	34832
	13/16 .815	1/2	B1013-4	34836
		5/8	B1013-5	34838
		3/4	B1013-6	34840
		7/8	B1013-7	35400
		1	B1013-8	34842
		1-1/4	B1013-10	34844
		1-1/2	B1013-12	34846
		2	B1013-16	34848
	7/8 .878	5/8	B1014-5	34850
		3/4	B1014-6	34852
		7/8	B1014-7	34854
		1	B1014-8	34856
		1-1/4	B1014-10	34858
		1-1/2	B1014-12	34860
		1-3/4	B1014-14	34862
		2	B1014-16	34864
5/8 .628	1 1.003	1/2	B1016-4	34866
		5/8	B1016-5	34868
		3/4	B1016-6	34870
		7/8	B1016-7	34872
		1	B1016-8	34874
		1-1/4	B1016-10	34876
		1-1/2	B1016-12	34878
		1-3/4	B1016-14	34880
		2	B1016-16	34882
11/16 .690	7/8 .878	3/4	B1114-6	34884
		1	B1114-8	34886
		1-1/4	B1114-10	34888
		1-1/2	B1114-12	34890
		1-3/4	B1114-14	34892
		2	B1114-16	34894
3/4 .753	7/8 .878	1/2	B1214-4	34896
		5/8	B1214-5	34898
		3/4	B1214-6	34900
		7/8	B1214-7	34902
		1	B1214-8	34904
		1-1/4	B1214-10	34906
		1-1/2	B1214-12	34908
		1-5/8	B1214-13	34910
	15/16 .9405	1/2	B1215-4	34912
		5/8	B1215-5	34914
		3/4	B1215-6	34916
		7/8	B1215-7	34918
		1	B1215-8	34920
		1-1/4	B1215-10	34922
		1-1/2	B1215-12	34924
		1-3/4	B1215-14	34926
		2	B1215-16	34928
	1 1.003	1/2	B1216-4	34930
		5/8	B1216-5	34932
		3/4	B1216-6	34934
		7/8	B1216-7	34936
		1	B1216-8	34938
		1-1/8	B1216-9	34940
		1-1/4	B1216-10	34942
		1-1/2	B1216-12	34944
		1-3/4	B1216-14	34946
		2	B1216-16	34948
		2-1/2	B1216-20	34950
3/4 .753	1-1/8 1.128	1/2	B1218-4	34952
		3/4	B1218-6	34954
		1	B1218-8	34956
		1-1/4	B1218-10	34958
		1-1/2	B1218-12	34960
		1-3/4	B1218-14	34962
		2	B1218-16	34964
	1-1/4 1.253	3/4	B1220-6	34966
		1	B1220-8	34968
		1-1/4	B1220-10	34970
		1-1/2	B1220-12	34972
		1-3/4	B1220-14	34974
		2	B1220-16	34976
13/16 .8155	1 1.003	3/4	B1316-6	34978
		1	B1316-8	34980
		1-1/4	B1316-10	34982
		1-1/2	B1316-12	34984
		1-3/4	B1316-14	34986
		2	B1316-16	34988
7/8 .878	1 1.003	3/4	B1416-6	34990
		7/8	B1416-7	34992
		1	B1416-8	34994
		1-1/4	B1416-10	34996
		1-1/2	B1416-12	34998
	1-1/8 1.128	3/4	B1418-6	35000
		7/8	B1418-7	35002
		1	B1418-8	35004
		1-1/8	B1418-9	35006
		1-1/4	B1418-10	35008
		1-3/8	B1418-11	35010
		1-1/2	B1418-12	35012
		1-3/4	B1418-14	35014
		2	B1418-16	35016
		2-1/2	B1418-20	35018
	1-1/4 1.253	3/4	B1420-6	35020
		1	B1420-8	35022
		1-1/4	B1420-10	35024
		1-1/2	B1420-12	35026
		2	B1420-16	35028
15/16 .9405	1-3/16 1.1905	3/4	B1519-6	35030
		1	B1519-8	35032
		1-1/4	B1519-10	35034
		1-1/2	B1519-12	35036
		2	B1519-16	35038
	1-1/4 1.253	3/4	B1520-6	35040
		1	B1520-8	35042
		1-1/4	B1520-10	35044
		1-1/2	B1520-12	35046
		1-3/4	B1520-14	35048
		2	B1520-16	35050
1 1.004	1-1/8 1.128	3/4	B1618-6	35052
		1	B1618-8	35054
		1-1/4	B1618-10	35056
		1-1/2	B1618-12	35058
		1-3/4	B1618-14	35060
		2	B1618-16	35062
	1-3/16 1.190	3/4	B1619-6	13593
		1	B1619-8	13595
		1-1/4	B1619-10	13597
		1-1/2	B1619-12	13599
		1-3/4	B1619-14	13601
		2	B1619-16	13603
	1-1/4 1.253	3/4	B1620-6	35064
		7/8	B1620-7	35066
		1	B1620-8	35068
		1-1/4	B1620-10	35070
		1-3/8	B1620-11	35072
		1-1/2	B1620-12	35074
		1-3/4	B1620-14	35076
		2	B1620-16	35078
		2-1/4	B1620-18	35080
		2-1/2	B1620-20	35082
		3	B1620-24	35084
	1-5/16 1.3155	1	B1621-8	35086
		1-1/4	B1621-10	35088
		1-1/2	B1621-12	35090
		1-3/4	B1621-14	35092
		2	B1621-16	35094
		2-1/2	B1621-20	35096
		3	B1621-24	35098

On A and B dimensions, tolerances apply to actual (decimal) dimensions.

PLAIN CYLINDRICAL BEARINGS



STANDARD TOLERANCES

	Dimensions	Tolerance
A	1/8 – 1 1/2	+.000, – .001
	1 3/4 – 2 1/2	+.000, – .0015
B	2 3/4 – 3 1/2	+.000, – .002
C	1/8 – 11/2	± .005
	1 3/4 – 3	± .0075
	4	± .010

CONCENTRICITY

	Dimensions	Tolerance
A	1/-8 – 1 1/2	.003
	1 5/8 – 3	.004
	3 1/4 – 3 1/2	.005

Prices on unlisted sizes and other Boston Gear powder metal parts provided on request.

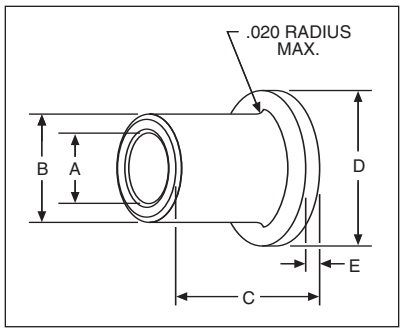
ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	Catalog Number	Item Code
1 1.003	1-3/8 1.378	1 1-1/4 1-1/2 1-3/4 2 2-1/2 3	B1622-8 B1622-10 B1622-12 B1622-14 B1622-16 B1622-20 B1622-24	35100 35102 35104 35106 35108 35110 35112
	1-1/2 1.503	1 1-1/4 1-1/2 2 2-1/2 3	B1624-8 B1624-10 B1624-12 B1624-16 B1624-20 B1624-24	35114 35116 35118 35120 35122 35124
1-1/16 1.0655	1-5/16 1.3155	1 1-1/2 2 2-1/2	B1721-8 B1721-12 B1721-16 B1721-20	35126 35128 35130 35132
1-1/8 1.129	1-1/4 1.254	1 1-1/4 1-1/2	B1820-8 B1820-10 B1820-12	13605 13639 13641
	1-5/16 1.3155	1 1-1/4 1-1/2 2	B1821-8 B1821-10 B1821-12 B1821-16	35134 35136 35138 35140
	1-3/8 1.378	3/4 1 1-1/4 1-1/2 1-3/4 2 2-1/2 3	B1822-6 B1822-8 B1822-10 B1822-12 B1822-14 B1822-16 B1822-20 B1822-24	35142 35144 35146 35148 35150 35152 35154 35156
	1-1/2 1.503	1 1-1/2 2	B1824-8 B1824-12 B1824-16	35158 35160 35162
1-3/16 1.1905	1-7/16 1.441	1-1/4 2 2-1/2 3	B1923-10 B1923-16 B1923-20 B1923-24	35164 35166 35168 35170
	1-1/2 1.503	1 1-1/4 1-1/2 1-3/4 2 2-1/2 3	B1924-8 B1924-10 B1924-12 B1924-14 B1924-16 B1924-20 B1924-24	35172 35174 35716 35178 35180 35182 35184
1-1/4 1.254	1-1/2 1.503	1 1-1/8 1-1/4 1-3/8 1-1/2 1-5/8 1-3/4 2 2-1/4 2-1/2 3	B2024-8 B2024-9 B2024-10 B2024-11 B2024-12 B2024-13 B2024-14 B2024-16 B2024-18 B2024-20 B2024-24	35186 35188 35190 35192 35194 35196 35198 35200 35202 35204 35206
	1-5/8 1.628	1 1-1/4 1-1/2 1-3/4 2 2-1/2 3	B2026-8 B2026-10 B2026-12 B2026-14 B2026-16 B2026-20 B2026-24	35208 35210 35212 35214 35216 35218 35220
1-5/16 1.3155	1-5/8 1.628	1-1/4 1-1/2 2 2-1/2 3	B2126-10 B2126-12 B2126-16 B2126-20 B2126-24	35222 35224 35226 35228 35230
1-3/8 1.378	1-5/8 1.628	1 1-1/2 2 2-1/2 3	B2226-8 B2226-12 B2226-16 B2226-20 B2226-24	35232 35234 35236 35238 35240
	1-3/4 1.753	1 1-1/2 2 2-1/2 3	B2228-8 B2228-12 B2228-16 B2228-20 B2228-24	35242 35244 35246 35248 35250

A	B	C	Catalog Number	Item Code
1-7/16 1.4405	1-3/4 1.753	1 1-1/4 1-1/2 1-3/4 2 2-1/2 3	B2328-8 B2328-10 B2328-12 B2328-14 B2328-16 B2328-20 B2328-24	35252 35254 35256 35258 35260 35262 35264
1-1/2 1.503	1-3/4 1.753	1 1-1/4 1-1/2 2 2-1/2 3	B2428-8 B2428-10 B2428-12 B2428-16 B2428-20 B2428-24	35266 35268 35270 35272 35274 35276
	1-13/16 1.816	1-1/2 3	B2429-12 B2429-24	35278 35280
	1-7/8 1.878	1-1/2 2 2-1/2 3	B2430-12 B2430-16 B2430-20 B2430-24	35282 35284 35286 35288
	2 2.004	1 1-1/2 2 2-1/2 3	B2432-8 B2432-12 B2432-16 B2432-20 B2432-24	35290 35292 35294 35296 35298
1-5/8 1.628	1-7/8 1.878	1-1/4 1-1/2 2 2-1/2 3	B2630-10 B2630-12 B2630-16 B2630-20 B2630-24	35300 35302 35304 35306 35308
	2 2.004	1 2 3	B2632-8 B2632-16 B2632-24	35310 35312 35314
1-11/16 1.6905	2-3/16 2.191	1-3/4 2 3 4	B2735-14 B2735-16 B2735-24 B2735-32	35316 35318 35320 35322
1-3/4 1.753	2 2.004	2 2-1/2 3	B2832-16 B2832-20 B2832-24	35324 35326 35328
	2-1/8 2.129	1-1/2 2 3	B2834-12 B2834-16 B2834-24	35330 35332 35334
1-15/16 1.9405	2-5/16 2.316	2 3 4	B3137-16 B3137-24 B3137-32	35336 35338 35340
2 2.003	2-3/8 2.379	1-3/4 2 2-3/4 3 4	B3238-14 B3238-16 B3238-22 B3238-24 B3238-32	35342 35344 35346 35348 35350
	2-1/2 2.504	1 2 3	B3240-8 B3240-16 B3240-24	35352 35354 35356
2-1/4 2.254	2-3/4 2.754	2 3 4	B3644-16 B3644-24 B3644-32	35364 35366 35368
2-3/8 2.379	2-3/4 2.754	2 3 4	B3844-16 B3844-24 B3844-32	35370 35372 35374
2-1/2 2.504	3 3.005	2 3 4	B4048-16 B4048-24 B4048-32	35382 35384 35386
2-3/4 2.755	3-1/4 3.255	2 3 4	B4452-16 B4452-24 B4452-32	35388 35390 35392
3 3.004	3-1/2 3.505	2 3 4	B4856-16 B4856-24 B4856-32	35394 35396 35398

On A and B dimensions, tolerances apply to actual (decimal) dimensions.

FLANGED TYPE



STANDARD TOLERANCES

Dimensions		Tolerance
A	1/8 – 1 1/2	+.000, – .001
	1 3/4 – 2 1/2	+.000, – .0015
B	2 3/4 – 3 1/2	+.000, – .002
C	1/8 – 1 1/2	± .005
	1 3/4 – 3	± .0075
	4	± .010
D	3/8 – 1 1/4	±.005
	1 3/8 – 2 1/2	±.010
	4	±.015
E	3/8 – 1 1/4	±.0025
	1 3/8 – 2 1/2	±.005
	4	±.010

CONCENTRICITY

Dimensions		Tolerance
A	1/8 - 1 1/2	.003
	1 5/8 - 3	.004
	3 1/4 - 3 1/2	.005

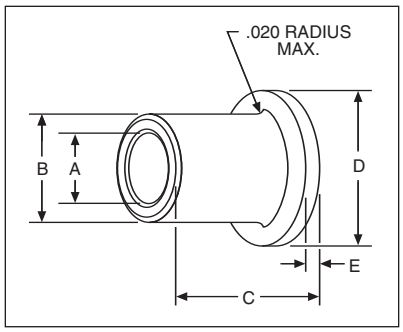
Prices on unlisted sizes and other Boston Gear powder metal parts provided on request.

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	D	E	Catalog Number	Item Code
1/8 .127	5/16 .315	1/4 3/8	.375	3/64	FB25-2 FB25-3	35516 35518
3/16 .189	5/16 .3145	1/8 1/4 3/8	.375	3/64	FB35-1 FB35-2 FB35-3	35520 35522 35524
1/4 .252	3/8 .377	1/4 3/8 1/2 5/8 3/4	.500	3/64	FB46-2 FB46-3 FB46-4 FB46-5 FB46-6	35526 35528 35530 35532 35534
1/4 .252	1/2 .503	3/4	.625	1/16	FB48-6	13609
5/16 .314	3/8 .377	3/8	.500	3/64	FB56-3	35536
	7/16 .439	3/8 1/2 5/8 3/4 7/8 1	.625	3/32	FB57-3 FB57-4 FB57-5 FB57-6 FB57-7 FB57-8	35538 69191 69192 35540 69193 69194
	1/2 .502	3/8 1/2 5/8	.688	3/32	FB58-3 FB58-4 FB58-5	35542 35544 35546
3/8 .377	1/2 .502	3/8 13/32 1/2 5/8 3/4 7/8 1 1-1/4	.688	3/32	FB68-3 FB68-3 1/4 FB68-4 FB68-5 FB68-6 FB68-7 FB68-8 FB68-10	35548 35550 35552 35554 35556 69195 35558 35560
	9/16 .5645	1/2 3/4 1-1/4	.750	1/8	FB69-4 FB69-6 FB69-10	69196 35562 35564
	5/8 .627	3/8 1/2 5/8 3/4 1 1-1/4	.875	1/8	FB610-3 FB610-4 FB610-5 FB610-6 FB610-8 FB610-10	69197 35566 39198 35568 69199 35570
	3/4 .753	1/2	1.000	1/8	FB612-4	35572
7/16 .439	9/16 .565	1/2 5/8 3/4	.688	1/16	FB79-4 FB79-5 FB79-6	13611 13613 13615
	5/8 .628	5/8 3/4 1-1/4	.875	1/8	FB710-5 FB710-6 FB710-10	35574 69200 35576
1/2 .502	5/8 .628	1/2 5/8 3/4 7/8 1 1-1/4 1-1/2 1-3/4	.875	1/8	FB810-4 FB810-5 FB810-6 FB810-7 FB810-8 FB810-10 FB810-12 FB810-14	35578 35580 35582 69201 35584 35586 35588 35590
	11/16 .690	1/2 5/8 3/4	.938	1/8	FB811-4 FB811-5 FB811-6	35592 69202 35594
	3/4 .753	1/2 5/8 3/4 7/8 1 1-1/4 1-1/2	1.000	1/8	FB812-4 FB812-5 FB812-6 FB812-7 FB812-8 FB812-10 FB812-12	35596 69203 35598 35600 35602 35604 35606
9/16 .565	3/4 .753	1/2 3/4 1	1.000	1/8	FB912-4 FB912-6 FB912-8	69204 69205 35608

On A and B dimensions, tolerances apply to actual (decimal) dimensions.

FLANGED TYPE



ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	D	E	Catalog Number	Item Code
5/8 .626	3/4 .753	1/2 5/8 3/4 1 1-1/4	1.000	1/8	FB1012-4 FB1012-5 FB1012-6 FB1012-8 FB1012-10	35610 35612 35614 35616 35618
5/8 .627	13/16 .815	5/8 3/4 1 1-1/4 1-7/16 1-1/2 2	1.063	5/32	FB1013-5 FB1013-6 FB1013-8 FB1013-10 FB1013-11 1/2 FB1013-12 FB1013-16	69206 35620 35622 35624 35626 35628 35630
	7/8 .878	5/8 3/4 1 1-3/4	1.125	5/32	FB1014-5 FB1014-6 FB1014-8 FB1014-14	69207 35632 35634 35636
	1 1.003	3/4 1	1.250	5/32	FB1016-6 FB1016-8	69208 35638
3/4 .752	7/8 .878	3/4 1 1-1/4	1.125	5/32	FB1214-6 FB1214-8 FB1214-10	35644 35646 69209
	15/16 .940	1 1-1/4 1-1/2	1.188	5/32	FB1215-8 FB1215-10 FB1215-12	35648 69213 35650
	1 1.003	5/8 3/4 1 1-1/4 1-1/2 2	1.250	5/32	FB1216-5 FB1216-6 FB1216-8 FB1216-10 FB1216-12 FB1216-16	69214 35652 35654 35656 35658 35660
7/8 .877	1 1.003	3/4 1 1-1/4	1.250	5/32	FB1416-6 FB1416-8 FB1416-10	35662 69210 35664
	1-1/8 1.128	1 1-1/4 1-1/2	1.375	5/32	FB1418-8 FB1418-10 FB1418-12	35666 69211 35668
1 1.002	1-1/4 1.253	3/4 1 1-1/4 1-1/2 2	1.500	3/16	FB1620-6 FB1620-8 FB1620-10 FB1620-12 FB1620-16	35672 35674 35676 35678 35680
	1-3/8 1.378	1 1-1/2 1-3/4	1.625	3/16	FB1622-8 FB1622-12 FB1622-14	35682 69215 35684
1-1/8 1.127	1-3/8 1.377	3/4 1 1-1/4	1.750	1/8	FB1822-6 FB1822-8 FB1822-10	13617 13619 13621
1-1/4 1.252	1-1/2 1.503	1 1-1/4 1-1/2	1.750	3/16	FB2024-8 FB2024-10 FB2024-12	69216 35686 69217
1-3/8 1.377	1-5/8 1.628	3/4 1	2,000	1/8	FB2226-6 FB2226-8	13623 13625
1-1/2 1.503	1-3/4 1.754	1-1/2	2.063	3/16	FB2428-12	35688
2 2.003	2-1/4 2.254	3/4 1 1-1/4	2.500	1/8	FB3236-6 FB3236-8 FB3236-10	13627 13629 13631
2-3/4 2.752	3-1/4 3.255	1-1/2	4.000	3/16	FB4452-12	13635

On A and B dimensions, tolerances apply to actual (decimal) dimensions.

STANDARD TOLERANCES

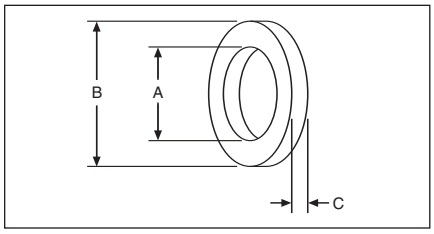
	Dimensions	Tolerance
A	1/8 – 1 1/2	+.000, – .001
	1 3/4 – 2 1/2	+.000, – .0015
B	2 3/4 – 3 1/2	+.000, – .002
C	1/8 – 1 1/2	± .005
	1 3/4 – 3	± .0075
	4	± .010
D	3/8 – 1 1/4	± .005
	1 3/8 – 2 1/2	± .010
	4	± .015
E	3/8 – 1 1/4	± .0025
	1 3/8 – 2 1/2	± .005
	4	± .010

CONCENTRICITY

Dimensions		Tolerance
A	1/8 – 1 1/2	.003
	1 5/8 – 3	.004
	3 1/4 – 3 1/2	.005

Prices on unlisted sizes and other Boston Gear powder metal parts provided on request.

THRUST TYPE



STANDARD TOLERANCES

Dimensions		Tolerance
A	1/4 – 1 1/4	±.010
	1 3/8 –2 1/2	±.015
B	7/16 – 1 1/2	±.010
	1 9/16 – 3	±.015
	3 1/4 – 4	±.020
C	All	± .0025

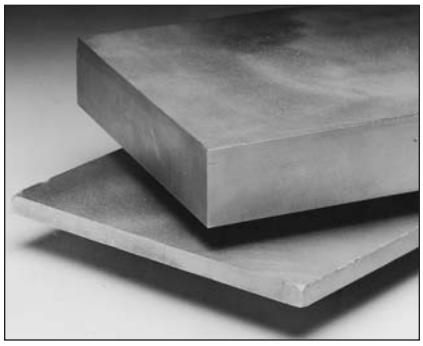
ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

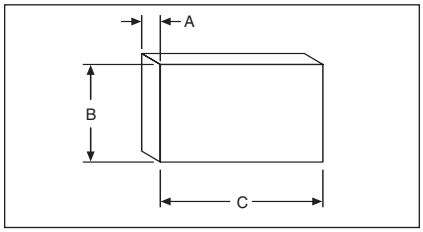
A	B	C	Catalog Number	Item Code
1/4 .255	7/16 .4375	1/16	TB47	13515
	1/2 .500	1/16	TB48	13517
	5/8 .625	1/16	TB410	35766
5/16 .315	5/8 .625	1/16	TB510	13519
	3/4 .750	1/16	TB512	35768
3/8 .385	5/8 .625	1/16	TB610	13521
3/8 .380	3/4 .750	1/32	TB612	35770
	3/4 .750	1/8	TB612-2	13523
7/16 .440	3/4 .750	1/16	TB712	69218
1/2 .505	3/4 .750	1/16	TB812	35772
1/2 .505	7/8 .875	3/16	TB814	35774
1/2 .510	1 1.000	1/16	TB816	35776
9/16 .565	1-1/4 1.250	1/8	TB920	35778
5/8 .628	1 1.000	1/8	TB1016	35780
	1-3/16 1.187	3/32	TB1019	35782
	1-1/4 1.250	1/8	TB1020	69219
5/8 .6265	1-1/2 1.500	1/8	TB1024	69220
3/4 .753	1-1/4 1.250	1/8	TB1220	69221
	1-3/8 1.375	1/8	TB1222	69222

On A and B dimensions, tolerances apply to actual (decimal) dimensions.

A	B	C	Catalog Number	Item Code
3/4 .765	1-9/16 1.562	3/32	TB1225	35784
	1-3/4 1.750	1/8	TB1228	35786
7/8 .8905	1-1/2 1.500	1/8	TB1424	35788
7/8 .880	2 2.000	1/8	TB1432	13525
7/8 .8905	2-1/8 2.125	1/8	TB1434	35790
1 1.003	1-1/2 1.504	1/8	TB1624	35792
	1-1/2 1.500	3/16	TB1624-3	13527
1 1.0155	1-5/8 1.625	1/4	TB1626-4	13529
1 1.0120	1-3/4 1.750	1/8	TB1628	13531
1 1.016	2 2.000	1/8	TB1632	35794
1 1.0155	2-7/8 2.875	1/8	TB1646	13533
1-1/8 1.140	1-7/8 1.875	1/8	TB1830	13535
1-1/4 1.253	1-3/4 1.750	1/8	TB2028	35796
1-1/4 1.265	2 2.000	1/8	TB2032	13537
	2-3/8 2.375	1/8	TB2038	13539
1-1/9 1.255	3-5/16 3.312	1/8	TB2053	13541
1-3/8 1.379	1-15/16 1.940	1/8	TB2231	13543
1-1/2 1.503	2 2.000	1/8	TB2432	13545
1-1/2 1.505	2-1/2 2.505	1/8	TB2440	13547
1-1/2 1.510	3-1/2 3.500	3/16	TB2456	35798
1-9/16 1.578	2-7/16 2.4375	1/8	TB2539	13549
1-3/4 1.765	2-5/8 2.625	1/8	TB2842	13551
2 2.011	3 3.000	1/4	TB3248	13553
2 2.031	3-5/8 2.625	3/16	TB3258	13555
2-1/16 2.062	4 4.000	1/8	TB3364	13557
2-1/2 2.502	3-1/4 3.250	1/8	TB4052	13559

PLATE STOCK





STANDARD TOLERANCES

Dimensions		Tolerance
A	All	±.010 to –.005

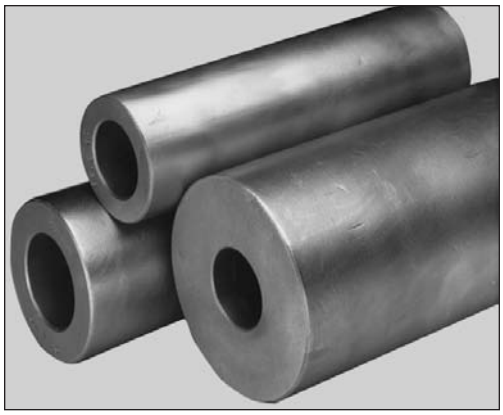
BOST-BRONZ is stocked in this convenient Plate form for ease in machining to required bearing size or shape — at your service for all emergencies.

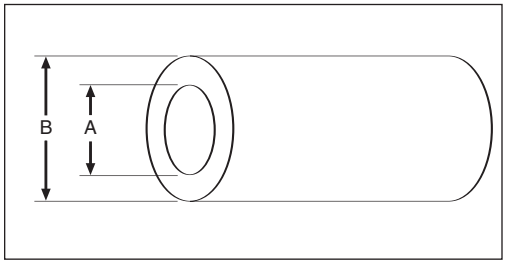
ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	Catalog Number	Item Code
1/8 3/16 1/4 5/16	5	6	PB5602 PB5603 PB5604 PB5605	35692 35694 35696 35698
3/8 1/2 5/8 3/4 1	5	6	PB5606 PB5608 PB5610 PB5612 PB5616	35700 35702 35704 35706 35708
3/16 1/4	5	8	PB5803 PB5804	35710 35712

Keep **BOST-BRONZ** plate stock on hand for: Breakdowns – maintenance and repairs – Producing small lots of special sizes – Experimental and development work.

CORED BARS





STANDARD TOLERANCES

Dimensions		Tolerance
A	All	–1/8”
B	All	+1/8”

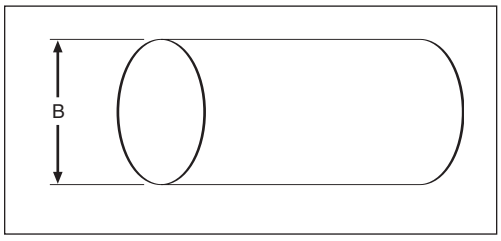
BOST-BRONZ is stocked in these convenient Bar forms for ease in machining to required bearing size or shape — at your service for all emergencies.

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	Catalog Number	Item Code
1/2	1 1-1/4 1-1/2	CB816 CB820 CB824	35402 35404 35406
5/8	1 1-1/4 1-3/8 1-1/2 1-3/4	CB1016 CB1020 CB1022 CB1024 CB1028	35408 35410 35412 35414 35416
3/4	1-1/4 1-1/2 1-3/4 2 2-1/2	CB1220 CB1224 CB1228 CB1232 CB1240	35418 35420 35422 35424 35426
7/8	1-3/8	CB1422	35428
1	1-1/2 1-3/4 2 2-1/4 2-1/2 3	CB1624 CB1628 CB1632 CB1636 CB1640 CB1648	35430 35432 35434 35436 35438 35440
1-1/4	1-3/4 2 2-1/4 2-1/2 3	CB2028 CB2032 CB2036 CB2040 CB2048	35442 35444 35446 35448 35450
1-3/8	2	CB2232	35452
1-1/2	2 2-1/4 2-1/2 3 3-1/2	CB2432 CB2436 CB2440 CB2448 CB2456	35456 35458 35460 35462 35464
1-3/4	2-1/4 2-1/2 2-3/4 3 3-1/2	CB2836 CB2840 CB2844 CB2848 CB2856	35466 35468 35470 35472 35474
2	2-3/4 3 3-1/4 4 4-1/2 5	CB3244 CB3248 CB3252 CB3264 CB3272 CB3280	35476 35478 35480 35482 35484 35486
2-1/4	3 3-1/2 3-3/4	CB3648 CB3656 CB3660	35488 35490 35492
2-3/8	3	CB3848	35494
2-1/2	3-1/2	CB4056	35496
3	3-3/4 4 5 6	CB4860 CB4864 CB4880 CB4896	35498 35500 35502 35504
3-1/2	4-3/4	CB5676	35506
4	6	CB6496	35512
5	7	CB80112	35514

All bars are 6 1/2" long.

SOLID BARS



STANDARD TOLERANCES

Dimensions		Tolerance
B	All	+ 1/8”

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

B	Length	Catalog Number	Item Code
1/4	2	SB4	35714
3/8	3	SB6	35716
1/2 5/8 3/4 7/8	6-1/2	SB8 SB10 SB12 SB14	35718 35720 35722 35724
1 1-1/8 1-1/4 1-3/8	6-1/2	SB16 SB18 SB20 SB22	35726 35728 35730 35732
1-1/2 1-5/8 1-3/4	6-1/2	SB24 SB26 SB28	35734 35736 35738
2 2-1/4 2-1/2 3	6-1/2	SB32 SB36 SB40 SB48	35742 35744 35746 35748
3-1/2 4 4-1/2 5	6-1/2	SB56 SB64 SB72 SB80	35750 35752 35754 35756
5-1/2 6 7 8	6-1/2	SB88 SB96 SB112 SB128	35758 35760 35762 35764

BEAR-N-BRONZ 660 CAST BRONZE BEARINGS

BEAR-N-BRONZ is Boston Gear's general purpose cast, solid bronze bearing material. It is a high grade, leaded-tin bronze, having good hardness, strength, wear-resistance, and exceptional anti-friction qualities. It is particularly suited for moderate to heavy loads at normal to relatively high speeds.

QUALITY

BEAR-N-BRONZ is chemically and metallurgically tested to assure conformance to specifications. All parts are rigidly inspected to assure freedom from porosity and conformance to dimensional tolerances.

ADAPTABILITY

BEAR-N-BRONZ bearings are completely machined to close tolerances permitting wider housing-bore tolerances. BEAR-N-BRONZ bars are machined all over.

Composition (%)	Avg. Tensile Strength (Lbs. Per Sq. In.)	Avg. Yield Strength 0.2% Offset (Lbs. Per Sq. In.)	Elonga-tion in Two Inch (%)	Brinnell Hardness (500 Kg Load)
Copper (Cu) 83	35,000	20,000	15	60
Tin (Sn) 7 Lead (Pb) 7 Zinc (Zn) 3	Bear-N-Bronz conforms to SAE CA932 (660) and ASTM B584-78 (alloy C93200) specifications.			

SPECIAL COMPOSITIONS

In addition to our standard BEAR-N-BRONZ (SAE CA 932) material, many special compositions can be furnished on a made-to-order basis.

The Chemical compositions and physical properties of some of the more popular are listed.

Grade	Equivalent S.A.E. Number	Composition (%)	Average Yield Strength 0.2% Offset (Lbs. Per Sq. In.)	Average Tensile Strength (Lbs. Per Sq. In.)	Elongation in Two Inch (%)	Brinnell Hardness (500 Kg Load)
206 Leaded Gun Metal	CA927	Copper (Cu) 88 Tin (Sn) 10 Lead (Pb) 2	40,000	20,000	25	70
210 Gun Metal	CA905	Copper (Cu) 88 Tin (Sn) 10 Zinc (Zn) 2	45,000	22,000	25	65
305 Phosphor Bronze	CA937	Copper (Cu) 80 Tin (Sn) 10 Lead (Pb) 10	35,000	18,000	20	63
319 Semi-Plastic Bronze	CA938	Copper (Cu) 78 Tin (Sn) 7 Lead (Pb) 15	30,000	17,000	15	55

SELECTION

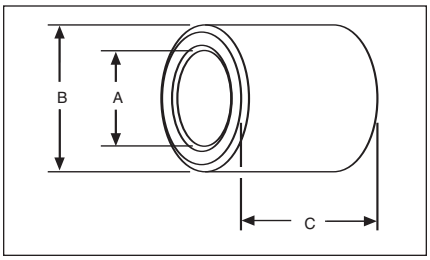
In general, sleeve bearings should be selected with a length of one to two times the shaft diameter and an O.D. approximately 25% larger than the shaft diameter.

A general guide to determination of limiting load and velocity values for sleeve bearings has been established by the use of PV calculations. PV represents Pressure x Velocity, for example 100 psi x 20 fpm yields a PV of 2000.

Maximum PV value for BEAR-N-BRONZ bearings: 75,000.

For complete selection and application information, see Engineering Section, Pages 46-54.

PLAIN CYLINDRICAL BEARINGS



STANDARD TOLERANCES

Dimensions		Tolerance
A	3/16 – 3 3-1/4 – 4-1/2	±.001 ±.0015
B	5/16 – 3 3-1/8 – 5	+.002 to +.003 +.003 to +.005
C	All	±.005

STANDARD CONCENTRICITY

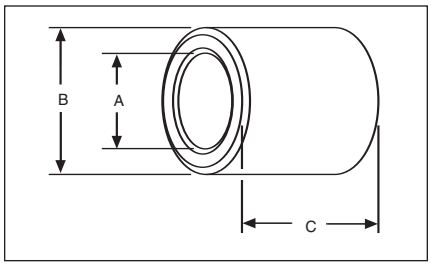
Dimensions		T.I.R. (A to B)
A	All	.003

For Oil Grooves see Page 51.

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	Catalog Number	Item Code
3/16	5/16	1/2	M35-4	31308
		3/4	M35-6	31310
		1	M35-8	31312
1/4	3/8	3/4	M46-6	31314
		1	M46-8	31316
		1-1/4	M46-10	31318
	7/16	3/4	M47-6	31320
		1	M47-8	31322
		1-1/4	M47-10	31324
5/16	7/16	3/4	M57-6	31326
		1	M57-8	31328
		1-1/4	M57-10	31330
	1/2	3/4	M58-6	31332
		1	M58-8	31334
		1-1/4	M58-10	31336
3/8	1/2	3/4	M68-6	31338
		1	M68-8	31340
		1-1/4	M68-10	31342
		1-1/2	M68-12	31344
	9/16	3/4	M69-6	31346
		1	M69-8	31348
		1-1/4	M69-10	31350
	5/8	3/4	M610-6	31362
		1	M610-8	31364
		1-1/4	M610-10	31366
		1-1/2	M610-12	31368
7/16	9/16	1	M79-8	31352
		1-1/4	M79-10	31354
		1-1/2	M79-12	31356
	5/8	1	M710-8	31370
		1-1/4	M710-10	31372
		1-1/2	M710-12	31374
		2	M710-16	31376
	11/16	1-1/2	M711-12	31378
	3/4	1	M712-8	31380
		1-1/4	M712-10	31382
		1-1/2	M712-12	31384
	13/16	1-1/2	M713-12	31386
1/2	5/8	5/8	M810-5	31388
		3/4	M810-6	31390
		7/8	M810-7	31392
		1	M810-8	31394
		1-1/4	M810-10	31396
		1-3/8	M810-11	31398
		1-1/2	M810-12	31400
		1-3/4	M810-14	31402
		2	M810-16	31404
		2-1/4	M810-18	31406
	11/16	3/4	M811-6	31408
		1	M811-8	31410
		1-1/4	M811-10	31412
		1-1/2	M811-12	31414
		1-3/4	M811-14	31416
		2	M811-16	31418
		2-1/4	M811-18	31420
		2-1/2	M811-20	31422
	3/4	3/4	M812-6	31424
		1	M812-8	31426
		1-1/4	M812-10	31428
		1-1/2	M812-12	31430
		1-3/4	M812-14	31432
		2	M812-16	31434
		2-1/4	M812-18	31436
		2-1/2	M812-20	31438
		2-3/4	M812-22	31440
	13/16	1	M813-8	31442
		1-1/2	M813-12	31444
		2-1/4	M813-18	31446
	7/8	1	M814-8	31448
		1-1/4	M814-10	31450
		1-1/2	M814-12	31452
		1-3/4	M814-14	31454
		2	M814-16	31456
	1	1	M816-8	31458
1/2	1	1-1/2	M816-12	31460
		2	M816-16	31462
		2-1/4	M816-18	31464
9/16	11/16	1	M911-8	31466
		1-1/4	M911-10	31468
		1-1/2	M911-12	31470
		1-3/4	M911-14	31472
		2	M911-16	31474
		2-1/4	M911-18	31476
	3/4	1	M912-8	31480
		1-1/4	M912-10	31482
		1-1/2	M912-12	31484
		1-3/4	M912-14	31486
		2	M912-16	31488
		2-1/2	M912-20	31492
	13/16	1	M913-8	31494
		1-1/4	M913-10	31496
		1-1/2	M913-12	31498
		1-3/4	M913-14	31500
		2	M913-16	31502
	7/8	1	M914-8	31506
		1-1/2	M914-12	31508
		2	M914-16	31510
5/8	3/4	1	M1012-8	31512
		1-1/8	M1012-9	31514
		1-1/4	M1012-10	31516
		1-1/2	M1012-12	31518
		1-3/4	M1012-14	31520
		2	M1012-16	31522
		2-1/4	M1012-18	31524
		2-1/2	M1012-20	31526
	13/16	1	M1013-8	31528
		1-1/4	M1013-10	31530
		1-1/2	M1013-12	31532
		1-3/4	M1013-14	31534
		2	M1013-16	31536
		2-1/4	M1013-18	31538
		2-1/2	M1013-20	31540
	7/8	3/4	M1014-6	31542
		1	M1014-8	31544
		1-1/4	M1014-10	31548
		1-1/2	M1014-12	31550
		1-3/4	M1014-14	31552
		2	M1014-16	31554
		2-1/4	M1014-18	31556
		2-1/2	M1014-20	31558
		3	M1014-24	31560
	15/16	1	M1015-8	31562
		1-1/2	M1015-12	31564
		2-1/2	M1015-20	31568
	1	1	M1016-8	31570
		1-1/2	M1016-12	31572
		2	M1016-16	31574
		2-1/4	M1016-18	31576
		2-1/2	M1016-20	31578
		3	M1016-24	31580
	1-1/8	1-1/2	M1018-12	31582
		2	M1018-16	31584
		2-1/4	M1018-18	31586
11/16	13/16	1	M1113-8	31588
		1-1/2	M1113-12	31592
		1-3/4	M1113-14	31594
		2	M1113-16	31596
	7/8	1	M1114-8	31600
		1-1/4	M1114-10	31602
		1-1/2	M1114-12	31604
		2	M1114-16	31608
		2-1/2	M1114-20	31612
	15/16	1	M1115-8	31614
		1-1/4	M1115-10	31616
		1-1/2	M1115-12	31618
		2-1/2	M1115-20	31626
	1	1-1/4	M1116-10	31628
		2-1/4	M1116-18	31634
		2-1/2	M1116-20	31636

PLAIN CYLINDRICAL BEARINGS



STANDARD TOLERANCES

Dimensions		Tolerance
A	3/16 – 3 3-1/4 – 4-1/2	±.001 ±.0015
B	5/16 – 3 3-1/8 – 5	+.002 to +.003 +.003 to +.005
C	All	±.005

STANDARD CONCENTRICITY

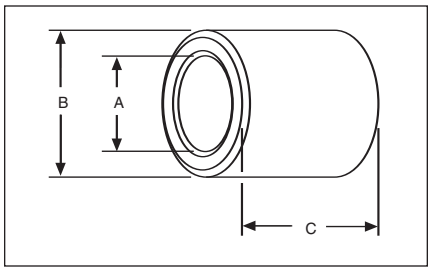
Dimensions		T.I.R. (A to B)
A	All	.003

For Oil Grooves see Page 51.

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	Catalog Number	Item Code
3/4	7/8	3/4	M1214-6	31640
		1	M1214-8	31642
		1-1/4	M1214-10	31644
		1-1/2	M1214-12	31646
		1-3/4	M1214-14	31648
		2	M1214-16	31650
		2-1/4	M1214-18	31652
		2-1/2	M1214-20	31654
	15/16	1	M1215-8	31656
		1-1/4	M1215-10	31658
		1-1/2	M1215-12	31662
		1-3/4	M1215-14	31664
		2	M1215-16	31666
		2-1/4	M1215-18	31668
		2-1/2	M1215-20	31670
		3	M1215-24	31674
	1	3/4	M1216-6	31676
		1	M1216-8	31678
		1-1/8	M1216-9	31680
		1-1/4	M1216-10	31682
		1-3/8	M1216-11	31684
		1-1/2	M1216-12	31686
		1-3/4	M1216-14	31688
		2	M1216-16	31690
		2-1/8	M1216-17	31692
		2-1/4	M1216-18	31694
		2-1/2	M1216-20	31696
		2-3/4	M1216-22	31698
		3	M1216-24	31700
		3-1/2	M1216-28	31702
	1-1/16	1	M1217-8	31704
		1-1/2	M1217-12	31706
		2	M1217-16	31708
		3	M1217-24	31714
	1-1/8	1	M1218-8	31716
		1-1/2	M1218-12	31718
		2	M1218-16	31720
		2-1/2	M1218-20	31724
		3	M1218-24	31726
	1-3/16	1-1/2	M1219-12	31728
		2	M1219-16	31730
	1-1/4	1-3/4	M1220-14	31734
		2	M1220-16	31736
		2-1/2	M1220-20	31740
		3	M1220-24	31742
13/16	15/16	1	M1315-8	31744
		1-1/2	M1315-12	31748
		2	M1315-16	31750
	1	1-1/2	M1316-12	31752
		2	M1316-16	31756
		2-1/2	M1316-20	31758
	1-1/16	1-1/2	M1317-12	31760
		2	M1317-16	31762
		2-3/4	M1317-22	31766
	1-1/8	1-1/2	M1318-12	31770
		2	M1318-16	31772
7/8	1	1	M1416-8	31788
		1-1/4	M1416-10	31790
		1-3/8	M1416-11	31792
		1-1/2	M1416-12	31794
		1-5/8	M1416-13	31796
		2	M1416-16	31798
	1-1/16	1	M1417-8	31800
		1-1/4	M1417-10	31802
		1-1/2	M1417-12	31804
		1-3/4	M1417-14	31806
		2	M1417-16	31808
		2-1/4	M1417-18	31810
		2-1/2	M1417-20	31812
		3	M1417-24	31816
	1-1/8	3/4	M1418-6	31818
		1	M1418-8	31820
		1-1/4	M1418-10	31822
		1-3/8	M1418-11	31824
7/8	1-1/8	1-1/2	M1418-12	31826
		1-3/4	M1418-14	31828
		2	M1418-16	31830
		2-1/4	M1418-18	31832
		2-1/2	M1418-20	31834
		3	M1418-24	31836
		3-1/4	M1418-26	31838
		3-1/2	M1418-28	31840
	1-3/16	1	M1419-8	31842
		3	M1419-24	31852
	1-1/4	1-1/2	M1420-12	31854
		1-3/4	M1420-14	31856
		2	M1420-16	31858
		2-1/4	M1420-18	31860
		2-1/2	M1420-20	31862
		3	M1420-24	31864
		3-1/2	M1420-28	31866
	1-3/8	1-1/2	M1422-12	31868
		2	M1422-16	31872
		2-1/2	M1422-20	31874
		3	M1422-24	31876
15/16	1-1/8	1-1/2	M1518-12	31878
		2	M1518-16	31880
	1-3/16	1-1/4	M1519-10	31884
		1-1/2	M1519-12	31886
		2	M1519-16	31888
		3	M1519-24	31894
	1-1/4	1	M1520-8	31896
		1-1/2	M1520-12	31898
		2	M1520-16	31900
		2-1/2	M1520-20	31902
		2-3/4	M1520-22	31904
	1-5/16	1-1/2	M1521-12	31906
		2	M1521-16	31910
1	1-1/8	1-3/8	M1618-11	31916
		1-1/2	M1618-12	31918
		1-3/4	M1618-14	31920
		2	M1618-16	31922
		2-1/2	M1618-20	31924
	1-3/16	7/8	M1619-7	31926
		1-1/4	M1619-10	31928
		1-1/2	M1619-12	31930
		1-3/4	M1619-14	31932
		2	M1619-16	31934
		2-1/2	M1619-20	31936
	1-1/4	3/4	M1620-6	31938
		1	M1620-8	31940
		1-1/8	M1620-9	31942
		1-1/4	M1620-10	31944
		1-3/8	M1620-11	31946
		1-1/2	M1620-12	31948
		1-5/8	M1620-13	31950
		1-3/4	M1620-14	31952
		2	M1620-16	31954
		2-1/4	M1620-18	31956
		2-1/2	M1620-20	31958
		2-3/4	M1620-22	31960
		3	M1620-24	31962
		4	M1620-32	31968
		4-1/2	M1620-36	31970
	1-5/16	1-1/2	M1621-12	31972
		2	M1621-16	31974
		2-1/4	M1621-18	31976
		2-1/2	M1621-20	31978
		3	M1621-24	31980
		3-1/2	M1621-28	31982
	1-3/8	1-1/4	M1622-10	31988
		1-1/2	M1622-12	31990
		1-3/4	M1622-14	31992
		2	M1622-16	31994

PLAIN CYLINDRICAL BEARINGS



STANDARD TOLERANCES

Dimensions		Tolerance
A	3/16 – 3	±.001
	3-1/4 – 4-1/2	±.0015
B	5/16 – 3	+.002 to +.003
	3-1/8 – 5	+.003 to +.005
C	All	±.005

STANDARD CONCENTRICITY

Dimensions		T.I.R. (A to B)
A	All	.003

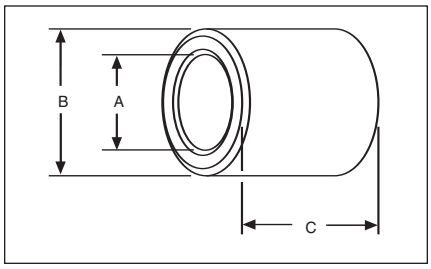
For Oil Grooves see Page 51.

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	Catalog Number	Item Code
1	1-3/8	2-1/2	M1622-20	31996
		2-3/4	M1622-22	31998
		3	M1622-24	32000
		3-1/2	M1622-28	32004
		4	M1622-32	32006
		4-1/2	M1622-36	32008
	1-1/2	1-1/2	M1624-12	32010
		1-3/4	M1624-14	32012
		2	M1624-16	32014
		2-1/2	M1624-20	32016
		3	M1624-24	32018
		4	M1624-32	32020
	1-5/8	2	M1626-16	32022
		2-1/2	M1626-20	32024
		3	M1626-24	32026
		3-1/2	M1626-28	32028
	1-3/4	6-1/2	M1628-52	32030
	2	3	M1632-24	32032
		6-1/2	M1632-52	32034
1-1/16	1-5/16	1-1/2	M1721-12	32036
		2	M1721-16	32038
		2-1/2	M1721-20	32040
	1-7/16	2-1/2	M1723-20	32050
1-1/8	1-1/4	1-1/2	M1820-12	32062
		1-3/4	M1820-14	32064
		2	M1820-16	32066
	1-5/16	2-1/4	M1821-18	32068
		2-1/2	M1821-20	32070
	1-3/8	1	M1822-8	32072
		1-1/4	M1822-10	32074
		1-1/2	M1822-12	32076
		1-3/4	M1822-14	32078
		2	M1822-16	32080
		2-1/4	M1822-18	32082
		2-1/2	M1822-20	32084
		3	M1822-24	32086
		3-1/4	M1822-26	32088
		3-1/2	M1822-28	32090
		4	M1822-32	32092
	1-7/16	1-1/2	M1823-12	32094
		3	M1823-24	32098
	1-1/2	1-1/2	M1824-12	32102
		2	M1824-16	32104
		2-1/2	M1824-20	32106
		3	M1824-24	32108
		3-1/2	M1824-28	32110
		4	M1824-32	32112
	1-5/8	1-3/4	M1826-14	32114
		2	M1826-16	32116
		2-1/2	M1826-20	32118
		3	M1826-24	32120
		3-1/2	M1826-28	32122
		4-1/2	M1826-36	32126
	1-7/8	6-1/2	M1830-52	32128
	2	3	M1832-24	32130
1-3/16	1-3/8	1-3/4	M1922-14	32134
		2	M1922-16	32136
		2-1/2	M1922-20	32138
	1-7/16	1-1/4	M1923-10	32140
		1-1/2	M1923-12	32142
		2	M1923-16	32144
		2-1/2	M1923-20	32146
		3	M1923-24	32148
		3-1/2	M1923-28	32150
	1-1/2	2	M1924-16	32152
		3	M1924-24	32154
		4	M1924-32	32158
	1-9/16	3	M1925-24	32162
		3-1/2	M1925-28	32164
	1-5/8	2	M1926-16	32166
		2-1/2	M1926-20	32168
		3	M1926-24	32170

A	B	C	Catalog Number	Item Code
1-3/16	1-11/16	2	M1927-16	32172
		2-1/2	M1927-20	32174
		3	M1927-24	32176
1-1/4	1-7/16	2-1/2	M2023-20	32180
		3	M2023-24	32182
	1-1/2	1	M2024-8	32184
		1-1/8	M2024-9	32186
		1-1/4	M2024-10	32188
		1-3/8	M2024-11	32190
		1-1/2	M2024-12	32192
		1-5/8	M2024-13	32194
		1-3/4	M2024-14	32196
		2	M2024-16	32198
		2-1/4	M2024-18	32200
		2-1/2	M2024-20	32202
		2-3/4	M2024-22	32204
		3	M2024-24	32206
		3-1/4	M2024-26	32208
		3-1/2	M2024-28	32210
		4	M2024-32	32212
		4-1/4	M2024-34	32214
		4-1/2	M2024-36	32216
		5	M2024-40	32218
		5-1/2	M2024-44	32220
	1-9/16	2	M2025-16	32222
		2-1/2	M2025-20	32224
		3	M2025-24	32226
		3-1/2	M2025-28	32228
		3-3/4	M2025-30	32230
	1-5/8	1-3/4	M2026-14	32232
		2	M2026-16	32234
		2-1/2	M2026-20	32236
		3	M2026-24	32238
		3-1/4	M2026-26	32240
		3-1/2	M2026-28	32242
		4	M2026-32	32244
		4-1/2	M2026-36	32246
		4-3/4	M2026-38	32248
	1-11/16	2	M2027-16	32250
		3-1/4	M2027-26	32254
	1-3/4	1-3/4	M2028-14	32258
		2	M2028-16	32260
		2-1/4	M2028-18	32262
		2-1/2	M2028-20	32264
		2-3/4	M2028-22	32266
		3	M2028-24	32268
		3-1/2	M2028-28	32270
		3-3/4	M2028-30	32272
		4	M2028-32	32274
		5	M2028-40	32276
	1-7/8	2	M2030-16	32278
		2-1/2	M2030-20	32280
		4	M2030-32	32284
	2	3	M2032-24	32286
		4	M2032-32	32288
		6-1/2	M2032-52	32290
1-5/16	1-1/2	1-3/4	M2124-14	32296
		3	M2124-24	32298
	1-5/8	2	M2126-16	32306
		3	M2126-24	32310
		4-3/4	M2126-38	32314
	1-13/16	3	M2129-24	32324
		4	M2129-32	32328
	1-7/8	3-1/2	M2130-28	32330
1-3/8	1-1/2	1-3/4	M2224-14	32334
		2	M2224-16	32336
		2-1/2	M2224-20	32338
	1-5/8	2	M2226-16	32340
		3	M2226-24	32342
		3-1/4	M2226-26	32344
		3-1/2	M2226-28	32346
		4	M2226-32	32348
	1-11/16	3-1/2	M2227-28	32352

PLAIN CYLINDRICAL BEARINGS



STANDARD TOLERANCES

Dimensions		Tolerance
A	3/16 – 3 3-1/4 – 4-1/2	±.001 ±.0015
B	5/16 – 3 3-1/8 – 5	+.002 to +.003 +.003 to +.005
C	All	±.005

STANDARD CONCENTRICITY

Dimensions		T.I.R. (A to B)
A	All	.003

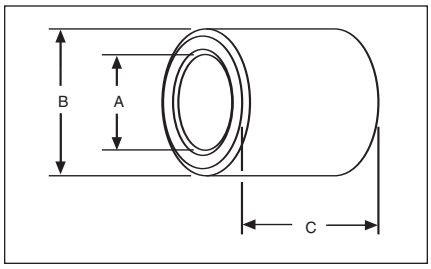
For Oil Grooves see Page 51.

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	Catalog Number	Item Code
1-3/8	1-3/4	2	M2228-16	32354
		2-1/4	M2228-18	32356
		2-1/2	M2228-20	32358
		3	M2228-24	32360
		3-1/2	M2228-28	32362
		4	M2228-32	32364
	1-7/8	3	M2230-24	32366
		3-1/2	M2230-28	32368
		4	M2230-32	32370
		4-1/2	M2230-36	32372
	2	3	M2232-24	32374
		4	M2232-32	32376
	2-1/8	6-1/2	M2234-52	32378
1-7/16	1-5/8	1-3/4	M2326-14	32380
		2-3/4	M2326-22	32382
		3	M2326-24	32384
	1-11/16	2-1/2	M2327-20	32386
		3	M2327-24	32388
		3-1/2	M2327-28	32390
		4	M2327-32	32392
	1-3/4	2-1/4	M2328-18	32396
		3	M2328-24	32398
		4	M2328-32	32400
	1-13/16	3	M2329-24	32402
		4-1/4	M2329-34	32410
	1-7/8	3	M2330-24	32414
		4	M2330-32	32416
		4-1/2	M2330-36	32420
		5	M2330-40	32422
	1-15/16	2	M2331-16	32424
		3	M2331-24	32426
	2	4	M2332-32	32438
1-1/2	1-5/8	2	M2426-16	32440
	1-11/16	2-3/4	M2427-22	32442
	1-3/4	1-3/4	M2428-14	32444
		2	M2428-16	32446
		2-1/4	M2428-18	32448
		2-1/2	M2428-20	32450
		3	M2428-24	32452
		3-1/2	M2428-28	32454
		4	M2428-32	32456
		4-1/2	M2428-36	32458
		5	M2428-40	32460
		5-1/2	M2428-44	32462
	1-13/16	3	M2429-24	32464
	1-7/8	2	M2430-16	32466
		2-1/2	M2430-20	32468
		2-3/4	M2430-22	32470
		3	M2430-24	32472
		3-1/2	M2430-28	32474
		4	M2430-32	32476
		4-1/2	M2430-36	32478
		5	M2430-40	32480
		5-1/2	M2430-44	32482
	2	2-1/2	M2432-20	32484
		3	M2432-24	32486
		3-1/2	M2432-28	32488
		4	M2432-32	32490
		4-1/2	M2432-36	32492
		5	M2432-40	32494
	2-1/8	3	M2434-24	32496
		4	M2434-32	32498
	2-1/4	3	M2436-24	32500
		4	M2436-32	32502
		5	M2436-40	32504
		6-1/2	M2436-52	32506
1-9/16	1-13/16	3	M2529-24	32508
		3-1/2	M2529-28	32510
	1-15/16	3-1/2	M2531-28	32514
1-5/8	1-7/8	2-1/4	M2630-18	32518
		3	M2630-24	32520
		3-3/4	M2630-30	32522

A	B	C	Catalog Number	Item Code
1-5/8	2	1-3/4	M2632-14	32526
		2-1/2	M2632-20	32528
		2	M2632-24	32530
		4	M2632-32	32534
		5	M2632-40	32538
		5-1/2	M2632-44	32540
	2-1/8	3	M2634-24	32542
		4	M2634-32	32544
1-11/16	1-15/16	3	M2731-24	32550
		3-1/2	M2731-28	32552
	2	3-1/2	M2732-28	32554
		4-1/2	M2732-36	32556
	2-1/16	3	M2733-24	32558
		4	M2733-32	32562
		4-1/2	M2733-36	32564
		5-1/2	M2733-44	32568
	2-3/16	2	M2735-16	32570
		3	M2735-24	32574
		4	M2735-32	32578
	2-1/4	3	M2736-24	32586
		4-1/2	M2736-36	32588
1-3/4	2	2-1/4	M2832-18	32590
		2-1/2	M2832-20	32592
		3	M2832-24	32594
		4	M2832-32	32596
		4-1/2	M2832-36	32598
		5-1/4	M2832-42	32600
	2-1/16	3-1/2	M2833-28	32602
	2-1/8	2-3/4	M2834-22	32604
		3-1/4	M2834-26	32606
		3-1/2	M2834-28	32608
		4	M2834-32	32610
		4-1/4	M2834-34	32612
		5	M2834-40	32614
	2-1/4	1-3/4	M2836-14	32618
		2	M2836-16	32620
		2-1/2	M2836-20	32622
		3	M2836-24	32624
		3-1/2	M2836-28	32626
		4	M2836-32	32628
		4-1/4	M2836-34	32630
		5	M2836-40	32632
	2-3/8	3-1/2	M2838-28	32634
		5	M2838-40	32638
	2-1/2	6-1/2	M2840-52	32640
1-13/16	2-3/16	4	M2935-32	32642
	2-5/16	4	M2937-32	32646
		5	M2937-40	32648
1-7/8	2-1/8	2-1/2	M3034-20	32650
		3	M3034-24	32652
		4	M3034-32	32654
	2-1/4	3	M3036-24	32656
		5	M3036-40	32662
	2-3/8	3	M3038-24	32664
		4	M3038-32	32666
		5-1/4	M3038-42	32668
1-15/16	2-3/16	2	M3135-16	32670
		3	M3135-24	32672
	2-1/4	3	M3136-24	32676
		4-1/2	M3136-36	32678
	2-5/16	3-1/2	M3137-28	32680
		4	M3137-32	32682
		5	M3137-40	32684
		6-1/4	M3137-50	32688
	2-3/8	4	M3138-32	32692
		5-1/2	M3138-44	32694
	2-7/16	3	M3139-24	32696
	2-1/2	3	M3140-24	32704
		5	M3140-40	32706

PLAIN CYLINDRICAL BEARINGS



ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	Catalog Number	Item Code
2	2-1/4	2	M3236-16	32708
		2-1/2	M3236-20	32710
		3	M3236-24	32712
		3-1/2	M3236-28	32714
		4	M3236-32	32718
		4-1/2	M3236-36	32720
	2-3/8	3	M3238-24	32724
		3-1/2	M3238-28	32726
		4	M3238-32	32728
		4-1/2	M3238-36	32730
	2-1/2	2-1/2	M3240-20	32732
		3	M3240-24	32734
		3-1/2	M3240-28	32736
		4	M3240-32	32738
		4-1/2	M3240-36	32740
		5	M3240-40	32742
		6	M3240-48	32746
	2-5/8	4	M3242-32	32748
	2-3/4	6-1/2	M3244-52	32750
2-1/8	2-1/2	3	M3440-24	32752
		4	M3440-32	32754
	2-5/8	4	M3442-32	32756
		5	M3442-40	32758
		6	M3442-48	32760
2-3/16	2-5/8	4	M3542-32	32762
		5	M3542-40	32764
	2-11/16	3-1/2	M3543-28	32766
		4-1/2	M3543-36	32770
		5	M3543-40	32772
	2-3/4	4-1/2	M3544-36	32774
		5-1/4	M3544-42	32776
		6	M3544-48	32778
	2-7/8	4-1/2	M3546-36	32780
2-1/4	2-1/2	3-1/2	M3640-28	32782
		4	M3640-32	32784
	2-5/8	3	M3642-24	32786
		4	M3642-32	32788
		5	M3642-40	32790
	2-11/16	4-3/4	M3643-38	32792
	2-3/4	3-1/2	M3644-28	32794
		4	M3644-32	32796
		4-1/2	M3644-36	32798
		5	M3644-40	32800
		6	M3644-48	32802
	3	3-1/2	M3648-28	32806
		5	M3648-40	32808
2-3/8	2-3/4	4	M3844-32	32812
		6	M3844-48	32816
	2-7/8	4	M3846-32	32818
		5	M3846-40	32820
2-7/16	2-3/4	4	M3944-32	32824
		5	M3944-40	32826
	2-7/8	3	M3946-24	32828
		5	M3946-40	32830
	2-15/16	4	M3947-32	32832
		5	M3947-40	32834
		6-1/4	M3947-50	32836
	3	3-3/4	M3948-30	32838
		5	M3948-40	32840
		6-/14	M3948-50	32842
2-1/2	2-3/4	4	M4044-32	32844
		5	M4044-40	32846
	2-7/8	3-1/4	M4046-26	32848
		4-1/2	M4046-36	32850
	3	4	M4048-32	32852
		5	M4048-40	32854
		6	M4048-48	32856
		7	M4048-56	32858

A	B	C	Catalog Number	Item Code
2-1/2	3-1/8	3-1/2	M4050-28	32860
		4	M4050-32	32862
		4-1/2	M4050-36	32864
	3-1/4	4	M4052-32	32868
		5	M4052-40	32870
		6	M4052-48	32872
		7-1/4	M4052-58	32874
2-5/8	3-1/2	6-1/2	M4056-52	32876
	3	3	M4248-24	32878
		5	M4248-40	32882
	3-1/8	5	M4250-40	32884
		6	M4250-48	32886
		7-1/4	M4250-58	32888
	3-1/4	7	M4252-56	32890
	3-3/8	6-1/2	M4254-52	32892
2-11/16	3-3/16	6-1/4	M4351-50	32898
2-3/4	3-1/8	4	M4450-32	32900
		5	M4450-40	32902
		6	M4450-48	32904
	3-1/4	4	M4452-32	32906
		5	M4452-40	32908
		6	M4452-48	32910
2-7/8	3-1/2	4-1/2	M4656-36	32926
		6-3/4	M4656-54	32928
2-15/16	3-7/16	3-1/2	M4755-28	32930
		5	M4755-40	32932
		6-1/2	M4755-52	32934
3	3-3/8	4-1/2	M4854-36	32936
		8	M4854-64	32938
	3-1/2	4-1/2	M4856-36	32940
		6	M4856-48	32942
		9	M4856-72	32944
	3-5/8	5	M4858-40	32946
	3-3/4	6-1/4	M4860-50	32952
	4	6-1/2	M4864-52	32954
3-1/4	3-1/2	4	M5256-32	32956
	3-3/4	5	M5260-40	32958
3-7/16	3-15/16	4-1/2	M5563-36	32964
		6-1/2	M5563-52	32966
3-1/2	4	5-1/2	M5664-44	32968
		7	M5664-56	32970
	4-1/8	6	M5666-48	32972
	4-1/4	4-1/2	M5668-36	32974
		7	M5668-56	32976
		9-3/4	M5668-78	32978
3-3/4	4-1/4	5	M6068-40	32980
		7	M6068-56	32982
	4-1/2	6-1/2	M6072-52	32984
4	4-1/2	4	M6472-32	32986
		6	M6472-48	32988
		7	M6472-56	32990
	5	5	M6480-40	32992
		6	M6480-48	32994
4-1/4	4-3/4	5	M6876-40	32998
		6	M6876-48	33000
		7	M6876-56	33002
	5	5	M6880-40	33004
		6	M6880-48	33006
		7	M6880-56	33008
4-1/2	5	6	M7280-48	33010
		7	M7280-56	33012
		8	M7280-64	33014

STANDARD TOLERANCES

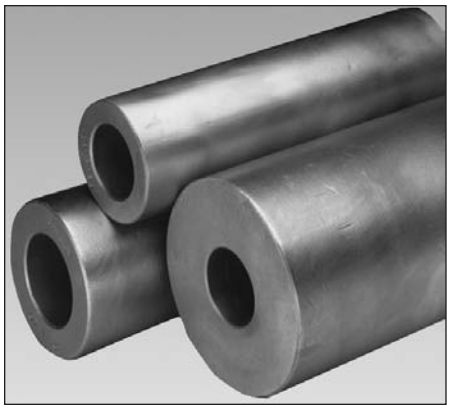
Dimensions		Tolerance
A	3/16 – 3	±.001
	3-1/4 – 4-1/2	±.0015
B	5/16 – 3	+.002 to +.003
	3-1/8 – 5	+.003 to +.005
C	All	±.005

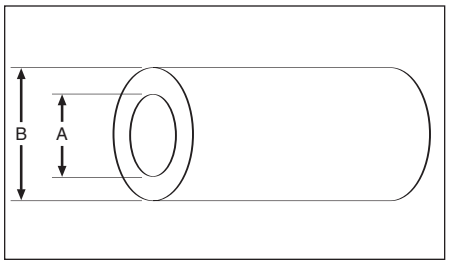
STANDARD CONCENTRICITY

Dimensions		T.I.R. (A to B)
A	All	.003

For Oil Grooves see Page 51.

CORED BARS





STANDARD TOLERANCES

Dimensions		Tolerance
A	1/2 – 4	– 1/16
	4-1/4 – 8	– 1/8
B	1 – 4	+ 1/16
	4-1/4 – 9	+ 1/8

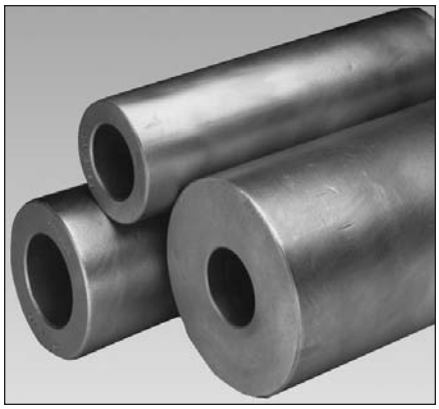
ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

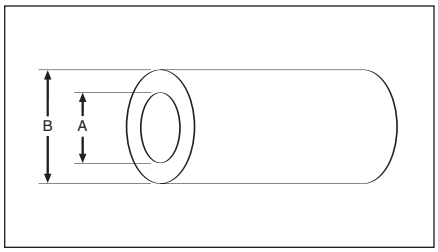
A	B	Aprx. Wgt. (Lbs.)	Catalog Number	Item Code
1/2	1	2-3/4	MCB816	33016
	1-1/8	3-3/4	MCB818	33018
	1-1/4	4-3/4	MCB820	33020
	1-1/2	7	MCB824	33024
	1-3/4	9-3/4	MCB828	33026
	2	12-3/4	MCB832	33028
5/8	1	2	MCB1016	47640
	1-1/8	3	MCB1018	33030
	1-1/4	4	MCB1020	33032
	1-3/8	5	MCB1022	33034
	1-1/2	6-1/2	MCB1024	33036
	1-3/4	9	MCB1028	33040
3/4	1	1-1/2	MCB1216	47641
	1-1/8	2-1/2	MCB1218	47642
	1-1/4	3-1/2	MCB1220	33046
	1-3/8	4-1/2	MCB1222	33048
	1-1/2	5-1/2	MCB1224	33050
	1-3/4	8	MCB1228	33054
	2	11-1/2	MCB1232	33058
	2-1/4	15	MCB1236	33062
	2-1/2	19-1/2	MCB1240	33064
	2-3/4	24	MCB1244	33066
7/8	1-1/8	1-7/8	MCB1418	47643
	1-1/4	2-7/8	MCB1420	47644
	1-3/8	4	MCB1422	33068
	1-1/2	5	MCB1424	33070
	1-5/8	6-1/2	MCB1426	33072
	1-3/4	7-1/2	MCB1428	33074
	2	11	MCB1432	33078
1	1-1/4	2	MCB1620	47645
	1-3/8	3-1/8	MCB1622	47646
	1-1/2	4-1/2	MCB1624	33084
	1-5/8	5-1/2	MCB1626	33086
	1-3/4	7	MCB1628	33088
	1-7/8	8-1/2	MCB1630	33090
	2	10	MCB1632	33092
	2-1/4	13-1/2	MCB1636	33096
	2-1/2	17-1/2	MCB1640	33100
	2-3/4	22	MCB1644	33102
	3	27	MCB1648	33104
	2-1/4	32	MCB1652	33106
	3-1/2	37-1/2	MCB1656	33108
	4	50	MCB1664	33110

A	B	Aprx. Wgt. (Lbs.)	Catalog Number	Item Code
1-1/8	1-3/8	2-1/4	MCB1822	47647
	1-1/2	4-1/2	MCB1824	47648
	1-5/8	5	MCB1826	33112
	2-1/8	11-1/2	MCB1834	33120
	2-3/8	15	MCB1838	33124
	2-1/2	16-1/2	MCB1840	33126
	2-3/4	21	MCB1844	33128
	2-7/8	24	MCB1846	33130
1-1/4	1-1/2	2-1/2	MCB2024	47649
	1-5/8	3-7/8	MCB2026	47650
	1-3/4	5-1/2	MCB2028	33132
	1-7/8	7	MCB2030	33134
	2	8-1/2	MCB2032	33136
	2-1/8	10-1/2	MCB2034	33138
	2-1/4	12	MCB2036	33140
	2-3/8	14	MCB2038	33142
	2-1/2	16	MCB2040	33144
	2-3/4	20	MCB2044	33148
	3	25	MCB2048	33152
	3-1/4	30	MCB2052	33154
	3-1/2	35-1/2	MCB2056	33156
1-3/8	1-3/4	4-1/4	MCB2228	47652
	1-7/8	6	MCB2230	33160
	2	7-1/2	MCB2232	33162
	2-1/8	9-1/2	MCB2234	33164
	2-1/4	11	MCB2236	33166
	2-3/8	12-1/2	MCB2238	33168
1-1/2	1-3/4	3	MCB2428	47653
	1-7/8	4-1/2	MCB2430	47654
	2	6	MCB2432	33178
	2-1/8	8	MCB2434	33180
	2-1/4	10	MCB2436	33182
	2-3/8	11-1/2	MCB2438	33184
	2-1/2	14	MCB2440	33186
	2-5/8	16	MCB2442	33188
	2-3/4	18	MCB2444	33190
	3-1/4	27-1/2	MCB2452	33194
	3-1/2	33	MCB2456	33196
	3-3/4	40	MCB2460	33198
	4	45	MCB2464	33200
	4-1/2	62	MCB2472	33202

All bars are 13" long.
Contact factory for bars longer than 13". Available in lengths up to 105".

CORED BARS





STANDARD TOLERANCES

Dimensions		Tolerance
A	1/2 – 4	– 1/16
	4-1/4 – 8	– 1/8
B	1 – 4	+ 1/16
	4-1/4 – 9	+ 1/8

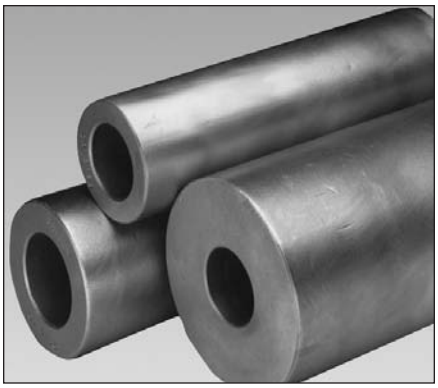
ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

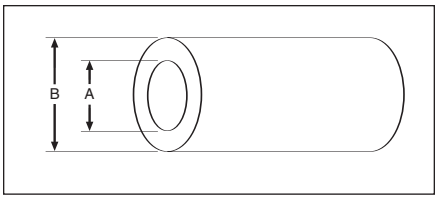
A	B	Aprx. Wgt. (Lbs.)	Catalog Number	Item Code
1-5/8	2	4-7/8	MCB2632	47655
	2-1/8	7	MCB2634	33204
	2-1/4	9	MCB2636	33206
	2-3/8	10-1/2	MCB2638	33208
1-3/4	2	3-3/8	MCB2832	47656
	2-1/8	5-1/8	MCB2834	47657
	2-1/4	7-1/2	MCB2836	33218
	2-3/8	9	MCB2838	33220
	2-1/2	11	MCB2840	33222
	2-5/8	13-1/2	MCB2842	33224
	2-3/4	15-1/2	MCB2844	33226
	3	20	MCB2848	33230
	3-1/4	25	MCB2852	33232
	3-1/2	31	MCB2856	33234
	4	42-1/2	MCB2864	33238
	4-1/4	50	MCB2868	33240
	2-1/4	5-1/2	MCB3036	47658
1-7/8	2-3/8	7-1/2	MCB3038	33242
	2-1/2	9-3/4	MCB3040	33244
	2-5/8	12	MCB3042	33246
	2-3/4	13	MCB3044	33248
	3-1/4	23	MBC3052	33254
	2-1/4	3-7/8	MCB3236	47659
2	2-1/2	8-1/2	MCB3240	33256
	2-5/8	10	MCB3242	33258
	2-3/4	12-1/4	MCB3244	33260
	3	16-1/2	MCB3248	33264
	3-1/4	22	MBC3252	33266
	3-1/2	29	MCB3256	33268
	3-3/4	34	MCB3260	33270
	4	39-1/2	MCB3264	33272
	4-1/2	54	MCB3272	33274
	5	69	MCB3280	33276
	6	105-1/2	MCB3296	33278
	2-5/8	8-1/2	MCB3442	33280
2-1/8	2-7/8	13	MCB3446	33284
	2-3/4	9	MCB3644	33294
2-1/4	3-1/4	19	MBC3652	33302
	3-1/2	25	MCB3656	33304
	3-3/4	30-1/2	MCB3660	33306
	4	37	MCB3664	33308
	4-1/4	43	MCB3668	33310

A	B	Aprx. Wgt. (Lbs.)	Catalog Number	Item Code
2-3/8	3	12	MCB3848	33314
	4	35	MCB3864	33322
2-1/2	3	9-7/8	MCB4048	47661
	3-1/8	13	MCB4050	33324
	3-1/4	15	MCB4052	33326
	3-1/2	21	MCB4056	33328
	3-3/4	27	MCB4060	33330
	4	33-1/2	MCB4064	33332
	4-1/4	40	MCB4068	33334
	4-1/2	46	MCB4072	33336
	5	61	MCB4080	33340
	5-1/2	78	MCB4088	33342
2-3/4	3-1/2	19-1/2	MCB4456	47662
	3-3/4	22-1/2	MCB4460	33354
	4	28-1/2	MCB4464	33356
	4-1/4	35	MCB4468	33358
	4-1/2	42	MCB4472	33360
2-7/8	4	26-3/4	MCB4664	33364
3	3-1/2	11-1/2	MCB4856	47663
	3-3/4	18-1/4	MCB4860	33366
	4	24-1/2	MCB4864	33368
	4-1/4	31	MCB4868	33370
	4-1/2	38	MCB4872	33372
	4-3/4	45	MCB4876	33374
	5	52	MCB4880	33376
	5-1/2	70	MCB4888	33378
	6	89-1/2	MCB4896	33380
	6-1/2	110	MCB48104	33382
3-1/4	4	19-1/2	MCB5264	47664
	4-1/4	25-1/2	MCB5268	33384
	4-1/2	34	MCB5272	33386
	4-3/4	41	MCB5276	33388
	5	48	MCB5280	33390
3-1/2	4-1/4	20-7/8	MCB5668	47665
	4-1/2	30	MCB5672	33394
	4-3/4	35-1/2	MCB5676	33396
	5	44	MCB5680	33398
	5-1/2	61	MCB5688	33400
	6	79	MCB5696	33402
	6-1/2	107-1/2	MCB56104	47666
3-3/4	4-1/2	22-1/4	MCB6072	47667
	4-3/4	29	MCB6076	33404
	5	38	MCB6080	33406
	6	74	MCB6096	33410

All bars are 13" long.
Contact factory for bars longer than 13".

CORED BARS





STANDARD TOLERANCES

Dimensions		Tolerance
A	1/2 – 4	– 1/16
	4-1/4 – 8	– 1/8
B	1 – 4	+ 1/16
	4-1/4 – 9	+ 1/8

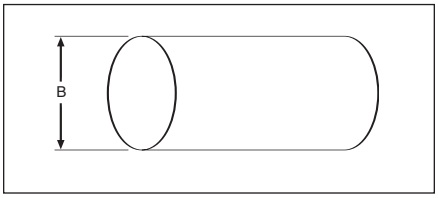
ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	Aprx. Wgt. (Lb.)	Catalog Number	Item Code
4	4-3/4	22-3/4	MCB6476	47668
	5	32-1/4	MCB6480	47669
	5-1/2	49	MCB6488	33412
	6	67-1/2	MCB6496	33414
	6-1/2	87	MCB64104	33416
	7	109	MCB64112	33510
	7-1/2	134	MCB64120	33512
4-1/4	5-1/2	41-1/4	MCB6888	47670
	6	61	MCB6896	33418
	6-1/2	82	MCB68104	33514
4-1/2	5-1/2	36	MCB7288	47671
	6	56-1/2	MCB7296	47672
	6-1/2	75	MCB72104	33420
	7	97	MCB72112	33422
4-3/4	6	67	MCB7696	47673
5	6	39	MCB8096	33428
	7	81	MCB80112	33430
	7-1/2	104	MCB80120	33516
	8	130	MCB80128	33518

Aprx. A	B	Wgt. (Lb.)	Catalog Number	Item Code
5-1/4	7	77	MCB84112	47675
	7-1/2	97	MCB84120	33432
5-1/2	6-1/2	43	MCB88104	47676
	7	67-1/4	MCB88112	47677
	7-1/2	91	MCB88120	33434
	8	113	MCB88128	33436
5-3/4	7-1/2	79	MCB92120	33438
6	7	46-1/2	MCB96112	47678
	7-1/2	72-1/2	MCB96120	47679
	8	94	MCB96128	33440
	9	151	MCB96144	33522
6-1/2	7-1/2	50-1/4	MCB104120	47681
	8	84	MCB104128	47682
	9	130	MCB104144	33442
8	9	61	MCB128144	47684

All bars are 13" long.
Contact factory for bars longer than 13".

SOLID BARS



STANDARD TOLERANCES

Dimensions		Tolerance
B	1/2 – 4	+ 1/16 approx.
	4-1/4 – 9	+ 1/8 approx.

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

B	Aprx. Wgt. (Lb.)	Catalog Number	Item Code
1/2	1	MS8	33444
5/8	1-1/2	MS10	33446
3/4	2	MS12	33448
7/8	2-3/4	MS14	33450
1	3-1/2	MS16	33452
1-1/8	4-1/2	MS18	33454
1-1/4	5-1/2	MS20	33456
1-3/8	6-1/2	MS22	33458
1-1/2	7-1/2	MS24	33460
1-5/8	8-1/2	MS26	33462
1-3/4	10-1/4	MS28	33464
1-7/8	11-1/2	MS30	33466
2	14	MS32	33468
2-1/4	17	MS36	33472
2-1/2	21-1/2	MS40	33476
2-5/8	23-1/2	MS42	33478
2-3/4	25-1/2	MS44	33480

B	Aprx. Wgt. (Lb.)	Catalog Number	Item Code
3	30	MS48	33484
3-1/4	35-1/2	MS52	33486
3-1/2	41	MS56	33488
4	53	MS64	33492
4-1/4	59	MS68	33494
4-1/2	67	MS72	33496
4-3/4	73	MS76	33536
5	82	MS80	33498
5-1/2	98	MS88	33500
6	118	MS96	33502
6-1/2	139	MS104	33538
7	161	MS112	33504
7-1/2	186	MS120	33506
8	210-1/2	MS128	33508
9	273	MS144	33544

All Bars are 13" long.
Contact Factory for Bars longer than 13".

BRONZE BEARING EMERGENCY BANKS

Actual Size of Bank 10-1/2 x 13-1/2"

SAVES MONEY — Reduce time lost when breakdowns occur due to bearing failures. You own stock — any time — day or night.

COMPACT — Handy metal kit keeps bearings together in conveniently labeled compartments. Bearings where you want them — when you need them.

REFILLS AVAILABLE — Both kit and replacement bearings are available from stock.

See your Boston Gear Distributors, in all major cities — from coast to coast.

BOST-BRONZ EMERGENCY BEARING BANK

Order by Catalog Number-34500 BBB-1

There are two each of the 47 bearing sizes below in the bank.

B46-8	1/4 x 3/8 x 1	B913-12	9/16 x 13/16 x 1-1/2	B1618-16	1 x 1-1/8 x 2
B47-8	1/4 x 7/16 x 1	B1012-12	5/8 x 3/4 x 1-1/2	B1620-20	1 x 1-1/4 x 3
B48-8	1/4 x 1/2 x 1	B1013-16	5/8 x 13/16 x 2	B1622-24	1 x 1-3/8 x 3
B56-8	5/16 x 3/8 x 1	B1014-16	5/8 x 7/8 x 2	B1624-16	1 x 1-1/2 x 2
B58-8	5/16 x 1/2 x 1	B1016-16	5/8 x 1 x 2	B1721-20	1-1/16 x 1-5/16 x 2-1/2
B68-10	3/8 x 1/2 x 1-1/4	B1114-16	11/16 x 7/8 x 2	B1822-24	1-1/8 x 1-3/8 x 3
B69-10	3/8 x 9/16 x 1-1/4	B1214-12	3/4 x 7/8 x 1-1/2	B1824-16	1-1/8 x 1-1/2 x 2
B610-10	3/8 x 5/8 x 1-1/4	B1215-16	3/4 x 15/16 x 2	B1923-24	1-3/16 x 1-7/16 x 3
B79-10	7/16 x 9/16 x 1-1/4	B1216-20	3/4 x 1 x 2-1/2	B1924-24	1-3/16 x 1-1/2 x 3
B710-10	7/16 x 5/8 x 1-1/4	B1218-16	3/4 x 1-1/8 x 2	B2024-24	1-1/4 x 1-1/2 x 3
B711-12	7/16 x 11/16 x 1-1/2	B1316-16	13/16 x 1 x 2	B2026-16	1-1/4 x 1-5/8 x 2
B810-12	1/2 x 5/8 x 1-1/2	B1416-12	7/8 x 1 x 1-1/2	B2126-24	1-5/16 x 1-5/8 x 3
B812-16	1/2 x 3/4 x 2	B1418-20	7/8 x 1-1/8 x 2-1/2	B2228-16	1-3/8 x 1-3/4 x 2
B813-12	1/2 x 13/16 x 1-1/2	B1420-16	7/8 x 1-1/4 x 2	B2328-24	1-7/16 x 1-3/4 x 3
B814-12	1/2 x 7/8 x 1-1/2	B1519-16	15/16 x 1-3/16 x 2	B2430-16	1-1/2 x 1-7/8 x 2
B912-12	9/16 x 3/4 x 1-1/2	B1520-16	15/16 x 1-1/4 x 3		

BEAR-N-BRONZ EMERGENCY BEARING BANK

Order by Item Code

Bank #1 Item Code – 31300

Bank #2 Item Code – 31304

Bank #1

There are two each of the 30 bearing sizes below in the bank.

M46-10	1/4 x 3/8 x 1-1/4	M1824-16	1-1/8 x 1-1/2 x 2	M1219-12	3/4 x 1-3/16 x 1-1/2
M58-10	5/16 x 1/2 x 1-1/4	M1923-16	1-3/16 x 1-7/16 x 2	M1318-12	13/16 x 1-1/8 x 1-1/2
M69-10	3/8 x 9/16 x 1-1/4	M1926-16	1-3/16 x 1-5/8 x 2	M1419-8	7/8 x 1-3/16 x 1
M710-10	7/16 x 5/8 x 1-1/4	M2026-20	1-1/4 x 1-5/8 x 2-1/2	M1420-12	7/8 x 1-1/4 x 1-1/2
M812-12	1/2 x 3/4 x 1-1/2	M2228-18	1-3/8 x 1-3/4 x 2-1/4	M1620-16	1 x 1-1/4 x 2
M816-16	1/2 x 1 x 2	M2230-24	1-3/8 x 1-7/8 x 3	M1624-16	1 x 1-1/2 x 2
M912-12	9/16 x 3/4 x 1-1/2	M2328-24	1-7/16 x 1-3/4 x 3	M1824-16	1-1/8 x 1-1/2 x 2
M1014-12	5/8 x 7/8 x 1-1/2	M2330-32	1-7/16 x 1-7/8 x 4	M1923-16	1-3/16 x 1-7/16 x 2
M1115-12	11/16 x 15/16 x 1-1/2	M2428-18	1-1/2 x 1-3/4 x 2-1/4	M2028-16	1-1/4 x 1-3/4 x 2
M1216-12	3/4 x 1 x 1-1/2	M2430-20	1-1/2 x 1-7/8 x 2-1/2	M2126-16	1-5/16 x 1-5/8 x 2
M1316-12	13/16 x 1 x 1-1/2	M2432-28	1-1/2 x 2 x 3-1/2	M2228-16	1-3/8 x 1-3/4 x 2
M1420-14	7/8 x 1-1/4 x 1-3/4	M2630-30	1-5/8 x 1-7/8 x 3-3/4	M2330-24	1-7/16 x 1-7/8 x 3
M1520-20	15/16 x 1-1/4 x 2-1/2	M2632-24	1-5/8 x 2 x 2	M2428-18	1-1/2 x 1-3/4 x 2-1/4
M1620-16	1 x 1-1/4 x 2	M2832-32	1-3/4 x 2 x 4	M2430-20	1-1/2 x 1-7/8 x 2-1/2
M1624-16	1 x 1-1/2 x 2			M2432-20	1-1/2 x 2 x 2-1/2
M1723-20	1-1/16 x 1-7/16 x 2-1/2			M2630-18	1-5/8 x 1-7/8 x 2-1/4
				M2632-24	1-5/8 x 2 x 3
				M2832-24	1-3/4 x 2 x 3
				M3238-32	2 x 2-3/8 x 4
				M3644-32	2-1/4 x 2-3/4 x 4

Bank #2

There are two each of the 20 bearing sizes below in the bank.

BOStonE F-1 GLASS FILLED TEFLON BEARINGS

BOStonE F-1 glass filled material is completely self-lubricating with outstanding wear and corrosion resistance properties, machined from extruded rods to close tolerances. BOStonE F-1 material has a wide temperature capability and an excellent PV value. BOStonE F-1 bearings are green in color.

Lubrication of these bearings is not required. Teflon®, the major ingredient of BOStonE F-1 material (75%), has excellent self-lubricating characteristics and a low coefficient of friction. The remaining 25% is glass.

BOStonE F-1 bearing material has excellent strength and wearability and was developed to withstand high loads at moderate speeds. The allowable operating temperature range is –400° to +550°F.

Typical applications for BOStonE F-1 bearings are textile machinery, farm implements, food processing equipment, pulp and paper machinery, business machinery, aircraft, home appliances, automotive and machine tools as well as many others, in both the electrical and chemical fields.

Cylindrical, Flanged and Thrust Bearings and Solid Bars are stocked in BOStonE F-1 material.

SELECTION

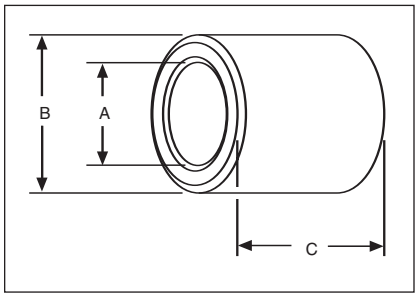
In general, sleeve bearings should be selected with a length of one to two times the shaft diameter and an O.D. approximately 25% larger than the shaft diameter.

A general guide to determination of limiting load and velocity values for sleeve bearings has been established by the use of PV calculations. PV represents Pressure x Velocity, for example 100 psi x 20 fpm yields a PV of 2000.

Maximum PV value for BOStonE F-1 bearings: 20,000 (50,000 for intermittent service).

For complete selection and application information, see Engineering Section, Pages 46-54.

PLAIN CYLINDRICAL BEARINGS



ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	Catalog Number	Item Code
1/8 .129	1/4 .251	1/4 3/8	P24-2 P24-3	56819 56820
3/16 .191	5/16 .313	1/4 3/8 1/2	P35-2 P35-3 P35-4	56821 56822 56823
1/4 .254	3/8 .376	1/4 3/8 1/2	P46-2 P46-3 P46-4	56824 56825 56826
5/16 .316	1/2 .501	3/8 1/2	P58-3 P58-4	56827 56828
3/8 .379	9/16 .563	3/8 1/2 3/4	P69-3 P69-4 P69-6	56829 56830 56831
7/16 .441	5/8 .626	3/8 1/2 3/4	P710-3 P710-4 P710-6	56832 56833 56834
1/2 .504	3/4 .751	1/2 3/4 1	P812-4 P812-6 P812-8	56835 56836 56837
5/8 .630	7/8 .876	5/8 3/4 1	P1014-5 P1014-6 P1014-8	56841 56842 56843
11/16 .693	15/16 .938	3/4	P1115-6	56844

A	B	C	Catalog Number	Item Code
3/4 .755	1 1.001	1/2 3/4 1	P1216-4 P1216-6 P1216-8	56845 56846 56847
7/8 .880	1-1/8 1.126	3/4 1	P1418-6 P1418-8	56848 56849
1 1.005	1-1/4 1.251	3/4 1 1-1/2	P1620-6 P1620-8 P1620-12	56850 56851 56852
1-1/8 1.130	1-3/8 1.376	3/4 1 1-1/2	P1822-6 P1822-8 P1822-12	56853 56854 56855
1-1/4 1.255	1-1/2 1.501	3/4 1 1-1/2	P2024-6 P2024-8 P2024-12	56856 56857 56858
1-3/8 1.380	1-5/8 1.626	1 1-1/2	P2226-8 P2226-12	56859 56860
1-1/2 1.506	1-3/4 1.751	1 1-1/2 2	P2428-8 P2428-12 P2428-16	56861 56862 56863
1-5/8 1.631	1-7/8 1.876	1-3/4	P2630-14	56864
1-3/4 1.756	2 2.001	1-3/4	P2832-14	56865
1-7/8 1.881	2-1/8 2.126	2	P3034-16	56866
2 2.006	2-1/4 2.251	2	P3236-16	56867

On A and B dimensions, tolerances apply to actual (decimal) dimensions

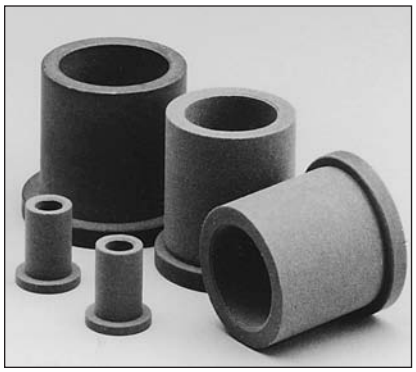
STANDARD TOLERANCES

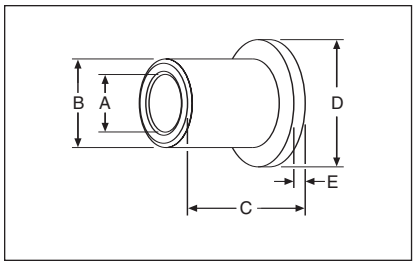
Dimensions		Tolerance
A B	All	+.002 to –.000
C	All	±.005

STANDARD CONCENTRICITY

Dimensions		T.I.R. (A to B)
A	.129 – 1.005	.003
	1.130 – 2.006	.004

FLANGED BEARINGS





ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	D	E	Catalog Number	Item Code
3/16 .191	5/16 .313	1/4 1/2	.437	1/16	FP35-2 FP35-4	56868 56869
1/4 .254	3/8 .376	3/8 1/2	.500	1/16	FP46-3 FP46-4	56870 56871
3/8 .379	5/8 .626	1/2 3/4	.875	1/8	FP610-4 FP610-6	56872 56873
1/2 .504	3/4 .751	1/2 3/4 1	1.000	1/8	FP812-4 FP812-6 FP812-8	56874 56875 56876
5/8 .630	7/8 .876	3/4 1	1.000	1/8	FP1014-6 FP1014-8	56877 56878
3/4 .755	1 1.001	1	1.250	1/8	FP1216-8	56879

On A and B dimensions, tolerances apply to actual (decimal) dimensions

STANDARD TOLERANCES

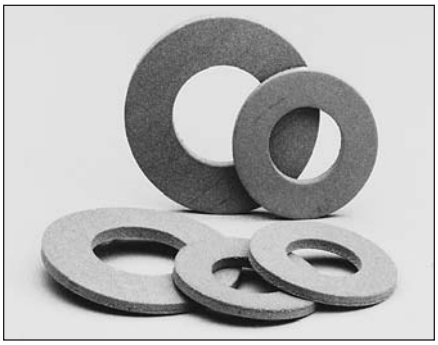
Dimensions		Tolerance
A B	All	+.002 to –.000
C	All	±.005
D	All	±.005
E	All	±.003

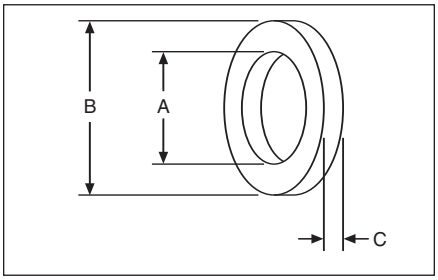
STANDARD CONCENTRICITY

Dimensions		T.I.R. (A to B)
A	All	.003

BOStonE F-1 GLASS FILLED TEFLON BEARINGS

THRUST TYPE





ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

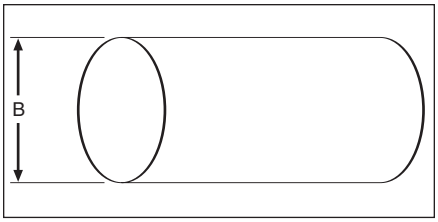
A	B	C	Catalog Number	Item Code
1/4 .254	5/8 .625	.060	TP410	56880
3/8 .379	3/4 .750	.060	TP612	56881
1/2 .504	1 1.000	.060	TP816	56882

On A and B dimensions, tolerances apply to actual (decimal) dimensions.

STANDARD TOLERANCES

Dimensions		Tolerance
A	All	+.005 to –.000
C	All	±.003
E	All	±.003

SOLID BARS (EXTRUDED)



ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

B	Approx. Weight (In Lbs.)	Catalog Number	Item Code
1/4	.065	SP4	50958
3/8	.135	SP6	50959
1/2	.233	SP8	50960
3/4	.504	SP12	50961
1	.878	SP16	50962
1-1/4	1.355	SP20	50963
1-1/2	1.937	SP24	50964
2	3.250	SP32	50965

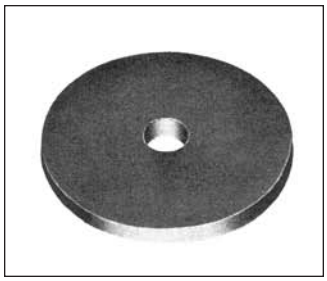
All Bars are 13" long.
Other Diameters and longer Lengths are available on special order.

STANDARD TOLERANCES

Dimensions		Tolerance
B	1/4 - 1/2	–.000 to +.015
	3/4 - 1	–.000 to +.020
	1-1/4	–.000 to +.030
	1-1/2 - 2	–.000 to +.040

Other BOStonE F-1 SHAPES AVAILABLE ON SPECIAL ORDER

CORED BARS

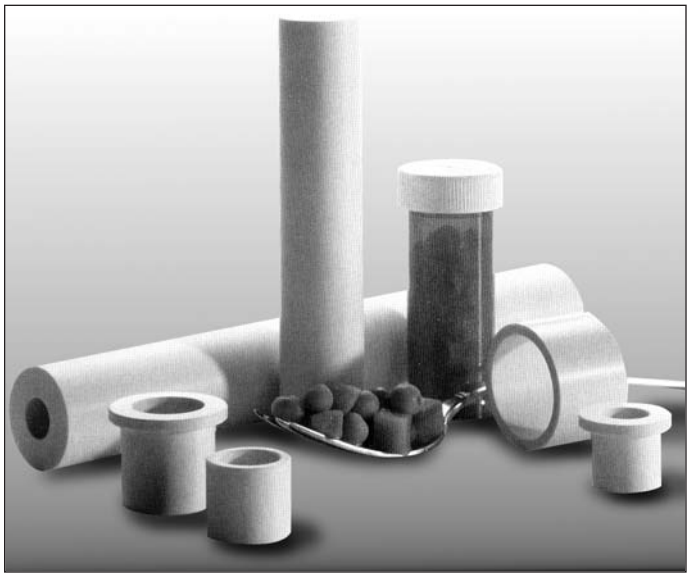


CIRCULAR DISCS

TUBING

PLATES

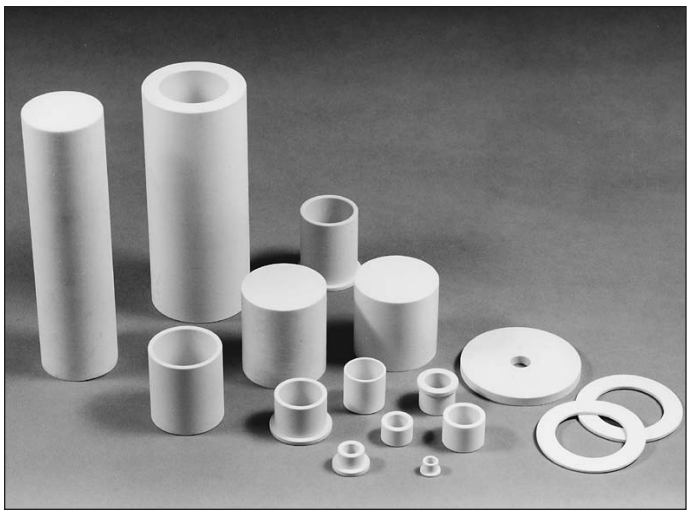
RULON® 641 BEARINGS



Boston Gear's RULON 641 Bearings are designed to overcome the chronic problems that plague bearings used in food and pharmaceutical applications.

FEATURES

- FDA cleared, USDA accepted non-toxic materials
- RULON 641 compound of virgin PTFE and fillers designed to meet poultry and meat industry specs
- FDA drug master file numbered to allow for incidental contact with body fluids
- Excellent load and wear characteristics for continuous non-lubricated service
- Compatible with food and drug industries standard stainless steels 303 and 316 as well as 1018 mild steel
- Designed for performance at extremely high temperatures. PV value of 10,000 with 316 stainless steel
- Capable of speeds up to 400 ft/minute under dry, low-load operation
- Stick-slip is virtually nonexistent due to low friction at startup and slow speeds. Ideal for oscillating or start/stop applications
- Corrosion resistant, unaffected by all common acids, bases, and solvents
- Shatter proof design to eliminate sudden breakdowns



WHY RULON 641 FOR FOOD AND PHARMACEUTICAL APPLICATIONS

- White natural color and lower friction than when using carbon bearings
- No metallic debris to drop into a process such as when using bronze bearings
- No leaky lubricants or lubricants damaged by high or low temperatures or cleaning solutions such as when using bronze bearings
- RULON 641 has a wider temperature tolerance and better load carrying capabilities than UHMWPE materials
- RULON 641 has better wear properties and better high temperature load carrying capabilities than virgin PTFE alone
- Reduced downtime
- No lubrication required

RULON 641 BEARINGS

APPLICATIONS

RULON 641 bearings are perfect for use in machinery and equipment in the following areas:

- Prepared meat products
- Frozen foods
- Cookies and crackers
- Candy
- Animal and marine fats and oils
- Malt beverages
- Medicinal chemicals
- Pharmaceutical preparations
- Soaps and detergents
- Perfumes and cosmetics
- Food-related packing and sealing devices
- Food and drug conveyors
- Coffee
- Food preparations
- Biological products
- Food process machinery
- Vending machines
- Household cooking equipment and appliances

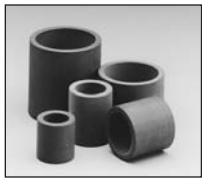
Recommended Operating Limits	RULON 641
Temperature — Typical Range °F	– 400/+500
Maximum PV (continuous)	10,000
Maximum P — PSI (static)	1,000
Maximum V — SFM (no load)	400
Shaft Hardness — Minimum	RB25
Shaft Finish Recommended RMS	8 – 16
	Mild Steel, 303
	+316 Stainless Steel

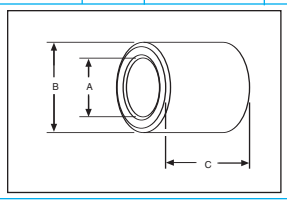
Engineering Information		RULON 641
Friction—Static & Dynamic		.10–.30
Water Absorption	ASTM D570	0%
Flammability	ASTM D635	Non-Flammable
Chemical Resistance		Inert
Thermal Conductivity BTU/hr/sq. ft/°F/in.		2.60
Linear Coefficient of 78°F–200°F		[B]3.9 x 10^{-5}
Thermal Expansion		[C]4.9 x 10^{-5}
	(-78°F)–(350°F)	[B]4.2 x 10^{-5}
		[C]5.7 x 10^{-5}

Note: B = Bearing Diameter C = Bearing Length

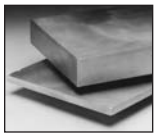
SLEEVE BEARINGS

A –.000 +.002 ID	B –.000 +.002 OD	Recommended Housing Bore*	Recommended Shaft Size	C ±.005	Catalog Number	Item Code
1/4 .254	3/8 .376	.375/.374	.2500/.2490	.250 .375	RP46-2 RP46-3	56790 56791
3/8 .379	9/16 .563	.562/.561	.3750/.3740	.375	RP69-3	56792
1/2 .504	3/4 .751	.750/.749	.5000/.4990	.500	RP812-4	56793
5/8 .630	7/8 .876	.875/.874	.6250/.6240	.625	RP1014-5 RP1014-8	56794 56795
3/4 .755	1 1.001	1.000/.999	.7500/.7490	.750 1.500	RP1216-6 RP1216-12	56796 56797
1 1.005	1-1/4 1.251	1.250/1.249	1.000/.9990	1.000 1.500	RP1620-8 RP1620-12	56798 56799
1-1/4 1.255	1-1/2 1.501	1.500/1.499	1.250/1.249	2.000	RP2024-16	56800
1-1/2 1.506	1-3/4 1.751	1.750/1.749	1.500/1.499	2.000	RP2428-16	56801

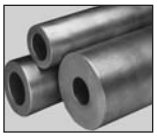




Other Shapes Available On Special Order



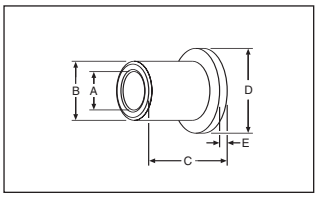
PLATES



CORED BARS

FLANGED BEARINGS

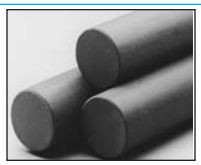
A –.000 +.002	B –.000 +.002	Recommended Housing Bore*	Recommended Shaft Size	C Lgth. ±.005	Flange D ±.005	Flange E ±.003	Catalog Number	Item Code
1/4 .254	3/8 .376	.375/.374	.2500/.2490	.500	.500	.062	RFP46-4	56802
3/8 .379	5/8 .626	.625/.624	.3750/.3740	.500	.875	.125	RFP610-4	56803
1/2 .504	3/4 .751	.750/.749	.5000/.4990	1.000	1.000	.125	RFP812-8	56804
5/8 .630	7/8 .876	.875/.874	.6250/.6240	1.000	1.000	.125	RFP1014-8	56805
3/4 .755	1 1.001	1.000/.999	.7500/.7490	1.000	1.250	.125	RFP1216-8	56817

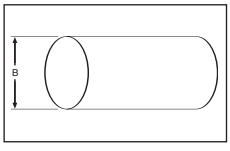


SOLID BARS

B (Dia.)	Standard Tolerances	Approx. Wt.Lbs.	Catalog Number	Item Code
1/2 .504	–.000-/+.015	.233	RSP-8	56786
3/4 .755	–.000/+.015	.503	RSP-12	56787
1 1.005	–.000/+.020	.878	RSP-16	56788

All Bars are 13" long
Other Diameters and longer lengths are available on special order.





*Press fit. .004/.001
Note: On A and B dimensions, tolerances apply to actual (decimal) dimensions.

BOStonE MOLDED PLASTIC BEARINGS

Boston stocks Cylindrical, Flanged and Roll End Bearings in five materials —

1. Nylon (N) exhibits good chemical and corrosion resistance. Excellent abrasion resistance and low surface friction provide long wear without lubrication. These nylon bearings are black. Good up to 225ºF maximum.
2. Delrin® and Celcon® (D) are trademarks for equivalent Acetal Resins produced by Du Pont and Celanese respectively. Acetals possess excellent moisture resistance characteristics. These materials are white. Good up to 225ºF maximum.
3. Nylatron® GS (GS) is a trademark for molybdenum disulfide filled nylon produced by the Polymer Corp. Nylatron® GS exhibits excellent abrasion resistance. Nylatron® GS is dark gray in color. Good up to 225ºF maximum.
4. Teflon filled Acetal (AF) — Teflon.® This material has excellent abrasion and corrosion resistance and high lubricity against steel. Good up to 225ºF maximum.
5. Teflon filled Nylon (TN) used for Hanger Bearings only, is light gray in color.

ROLL END BEARINGS

These bearings are available in almost every conceivable size directly from stock — no costly waiting, tooling or set-up charges.

Sizes are interchangeable with existing wood and ball bearings. Several objectives can be met with Roll End Bearings made of our selected plastic resins.

1. No lubricant required
2. Clean — Neat appearance
3. Non-contamination
4. Resistant to moisture & chemicals
5. Quiet operation
6. Excellent load & wear ratings

Roll End Bearings have ribbed construction to allow closer dimensional control, to help dissipate heat and to reduce cost. These designs help prevent distortion or seizure of bearing bore, normally caused by high press fits, temperature change and moisture absorption.

Size variation is easily accomplished by rebore or remachine operations, simply state size desired. Bores can be reduced with bushing inserts. Adaptors are available for hex shafts.

(AF) Roll End Bearings, 3" and up, are Delrin or Celcon with a Teflon filled Acetal bushing. This combination provides a low cost unit with the superior properties of a Teflon filled bearing. However, one piece Teflon filled Acetal bearings can be offered upon request.

For bearings not shown — write for prices stating quantity desired.

BLIND BORE BEARINGS

Blind Bore Bearings are available on special order. Minimum quantities will apply. They are available for roll end bearing sizes 818 through 2216 and 8P40 through 20P40. Depth of blind bores is 1/8" less than total bearing length. When ordering, add “B” to Catalog Number.

SELECTION

A general guide to determination of limiting load and velocity values for sleeve bearings has been established by the use of PV calculations. PV represents Pressure x Velocity, for example: 100 psi x 20 fpm yields a PV of 2000.

Maximum PV values for BostonE Molded Plastic Bearings are:

Nylon (N) — 3,000

Delrin or Celcon (D) — 3,000

Nylatron GS (GS) — 4,000

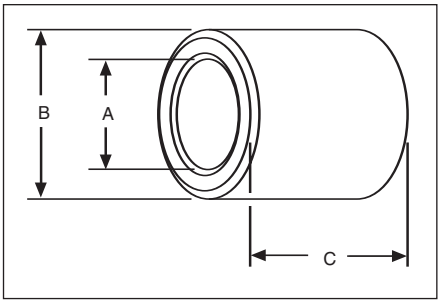
Teflon filled Acetal (AF) — 8,000

Teflon filled nylon (TN) — 10,000

For complete selection and application information, see Engineering Section, Pages 46-54.

Teflon® is a registered trademark of Dupont.

PLAIN CYLINDRICAL BEARINGS



MATERIAL

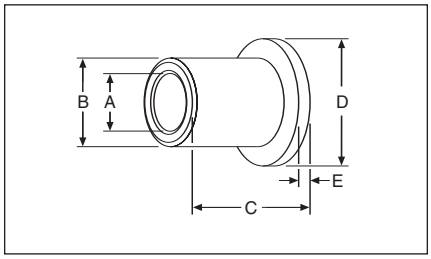
Delrin or Celcon (Acetals) — D
Nylatron GS (Molybdenum disulfide filled nylon) — GS
Teflon filled Acetal (Teflon added to Delrin or Celcon) — AF

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A*	B*	C	Catalog Number	Item† Code
1/4	1/2	7/8	GS48-7	57551
5/16	1/2	7/8	GS58-7	57552
3/8	1/2	7/8	GS68-7	57553
1/2	5/8	1	AF810-8 GS810-8	57555 -
5/8	3/4	3/4	GS1012-6 AF1012-6	57557 57558
5/8	3/4	1-1/2	GS1012-12 AF1012-12	57559 57560
3/4	1	1-1/2	GS1216-12 AF1216-12	57561 57562
7/8	1-1/8	1-1/4	D1418-10	-
15/16	1-1/4	1-3/16	D1520-9-1/2	57564
1	1-1/4	2	GS1620-16	57565
1	1-1/4	1-1/2	AF1620-12	-

†Any item listed WITHOUT an item Code Number is available on a SPECIAL ORDER BASIS and minimun quantities may apply.

FLANGED TYPE



MATERIAL

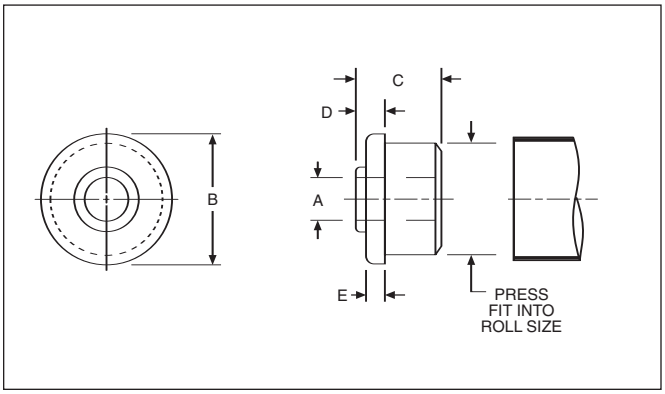
Nylatron GS (Molybdenum disulfide filled nylon) — GS
Teflon filled Acetal (Teflon added to Delrin or Celcon) — AF

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A*	B*	C	D	E	Catalog Number	Item Code
3/8	5/8 3/4	1 1-1/2	7/8 1	1/16 1/16	FGS610-8 FAF610-8 FAF612-12	57577 57578 57585
7/16	3/4	1-1/2	1	1/16	FAF712-12	57586
1/2	5/8	1	7/8	1/16	FGS810-8 FAF810-8	57579 57580
	3/4	1-1/2 2	1	1/16	FAF812-12 FGS812-16	57587 57582
9/16	3/4	1-1/2 2	1	1/16	FAF912-12 FGS912-16	57588 57583
5/8	3/4	1-1/2 2 1-1/2	1	1/16	FGS1012-12 FGS1012-16 FAF1012-12	57589 57584 57590
3/4	1	1-1/2	1-1/4	1/8	FGS1216-12 FAF1216-12	57591 57592
1	1-1/4	2	1-1/2	1/8	FGS1620-16 FAF1620-16	57593 57594
1-1/2	1-3/4	1-1/2	2	1/8	FAF2428-12	57606

*Approx. dimensions. Actual size related to molding variations, however, wall thickness will be quite uniform making it practical to use these bearings for many applications.

ROLL END BEARINGS FOR STEEL TUBING



MATERIAL

Delrin or Celcon (Acetals) — D
Nylatron GS (Molybdenum disulfide filled nylon) — GS
Teflon filled Acetal (Teflon added to Delrin or Celcon) — AF

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE †

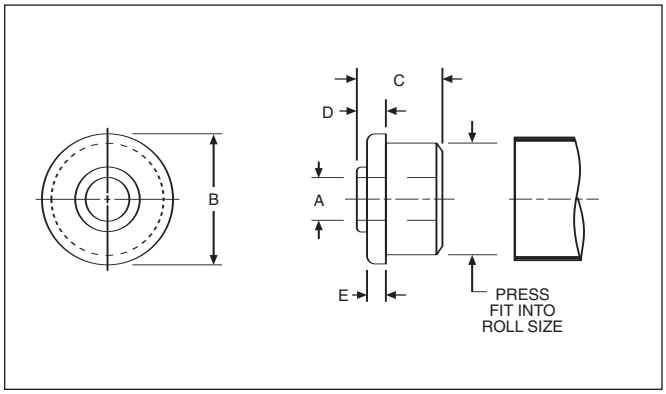
B (Tube Size)	A*	C	D	E	Catalog Number	Item † Code
3/4 22 ga. .750 O.D. .694 I.D.	1/8	9/16	5/32	3/32	622D-1/8 622GS-1/8 622AF-1/8	56920 56923 56926
	3/16				622D-3/16 622GS-3/16 622AF-3/16	56921 56924 56927
	1/4				622D-1/4 622GS-1/4 622AF-1/4	56922 56925 56928
7/8 20 ga. .875 O.D. .805 I.D.	3/16	9/16	5/32	3/32	720D-3/16 720GS-3/16 720AF-3/16	56929 56932 —
	1/4				720D-1/4 720GS-1/4 720AF-1/4	56930 56933 —
	3/8				720D-3/8 720GS-3/8 720AF-3/8	56931 — —
1 18 ga. 1.000 O.D. .902 I.D.	1/4	9/16	3/16	1/8	818D-1/4 818GS-1/4 818AF-1/4	56938 56941 56944
	3/8				818D-3/8 818GS-3/8 818AF-3/8	56939 56942 56945
	1/2				818D-1/2 818GS-1/2 818AF-1/2	56940 56943 56946
1-1/4 16 ga. 1.250 O.D. 1.120 I.D.	1/4	5/8	3/16	1/8	1016D-1/4 1016GS-1/4 1016AF-1/4	56947 56950 56953
	3/8				1016D-3/8 1016GS-3/8 1016AF-3/8	56948 56951 56954
	1/2				1016D-1/2 1016GS/1/2 1016AF-1/2	56949 56952 56955
1-3/8 18 ga. 1.375 O.D. 1.277 I.D.	1/4	3/4	1/4	1/8	1118D-1/4 1118GS-1/4 1118AF-1/4	56956 56960 —
	5/16				1118D-5/16 1118GS-5/16 1118AF-5/16	56957 56961 —
	3/8				1118D-3/8 1118GS-3/8 1118AF-3/8	56958 56962 —
	1/2				1118D-1/2 1118GS-1/2 1118AF-1/2	56959 56963 —
1-1/2 16 ga. 1.500 O.D. 1.370 I.D.	1/4	7/8	5/16	3/16	1216D-1/4 1216GS-1/4 1216AF-1/4	56968 56972 56976
	3/8				1216D-3/8 1216GS-3/8 1216AF-3/8	56969 56973 56977
	1/2				1216D-1/2 1216GS-1/2 1216AF-1/2	56970 56974 56978
	5/8				1216D-5/8 1216GS-5/8 1216AF-5/8	56971 56975 56979
3/8 1-1/2 EMT 1.740 O.D. 1.610 I.D.	1/4	1	5/16	3/16	12EMD-1/4 12EMGS-1/4 12EMAF-1/4	— — —
					12EMD-3/8 12EMGS-3/8 12EMAF-3/8	56981 — —
	1/2				12EMD-1/2 12EMGS-1/2 12EMAF-1/2	56982 56986 —
	5/8				12EMD-5/8 12EMGS-5/8 12EMAF-5/8	56983 56987 —

*These dimensions are approximately 1/64" larger than listed.

†Any item listed WITHOUT an Item Code Number is available on a SPECIAL ORDER BASIS and minimum quantities may apply.

BLIND BORE Bearings are available on special order — minimum quantities will apply.

ROLL END BEARINGS FOR STEEL TUBING



MATERIAL

Delrin or Celcon (Acetals) — D
Nylatron GS (Molybdenum disulfide filled nylon) — GS
Teflon filled Acetal (Teflon added to Delrin or Celcon) — AF

*These dimensions are approximately 1/64" larger than listed.

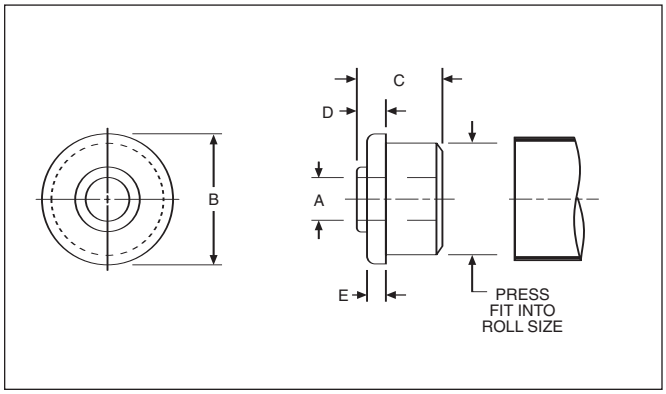
†Any item listed WITHOUT an Item Code Number is available on a SPECIAL ORDER BASIS and minimum quantities may apply.

BLIND BORE Bearings are available on special order — minimum quantities will apply.

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE †

B (Tube Size)	A*	C	D	E	Catalog Number	Item † Code
1-5/8 16 ga. 1.625 O.D. 1.495 I.D.	1/4	1	5/16	3/16	1316D-1/4 1316GS-1/4 1316AF-1/4	— 56996 —
	3/8				1316D-3/8 1316GS-3/8 1316AF-3/8	56993 56997 —
	1/2				1316D-1/2 1316GS-1/2 1316AF-1/2	56994 56998 —
	5/8				1316D-5/8 1316GS-5/8 1316AF-5/8	56995 56999 —
1-3/4 16 ga. 1.750 O.D. 1.620 I.D.	1/4	1	5/16	3/16	1416D-1/4 1416GS-1/4 1416AF-1/4	57070 57075 —
	3/8				1416D-3/8 1416GS-3/8 1416AF-3/8	57071 57076 —
	1/2				1416D-1/2 1416GS-1/2 1416AF-1/2	57072 57077 —
	5/8				1416D-5/8 1416GS-5/8 1416AF-5/8	57073 57078 57083
	3/4				1416D-3/4 1416GS-3/4 1416AF-3/4	57074 57079 57084
1-7/8 16 ga. 1.875 O.D. 1.745 I.D.	1/4	1	5/16	3/16	1516D-1/4 1516GS-1/4 1516AF-1/4	57085 57090 —
	3/8				1516D-3/8 1516GS-3/8 1516AF-3/8	57086 57091 —
	1/2				1516D-1/2 1516GS-1/2 1516AF-1/2	57087 57092 —
	5/8				1516D-5/8 1516GS-5/8 1516AF-5/8	57088 57093 —
	3/4				1516D-3/4 1516GS-3/4 1516AF-3/4	— 57094 —
2 18 ga. 2.000 O.D. 1.902 I.D.	1/4	1	5/16	3/16	1618D-1/4 1618GS-1/4 1618AF-1/4	57872 57877 —
	3/8				1618D-3/8 1618GS-3/8 1618AF-3/8	— — —
	1/2				1618D-1/2 1618GS-1/2 1618AF-1/2	57874 57879 —
	5/8				1618D-5/8 1618GS-5/8 1618AF-5/8	57875 57880 —
	3/4				1618D-3/4 1618GS-3/4 1618AF-3/4	57876 57881 —
2 16 ga. 2.000 O.D. 1.8701 I.D.	1/4	1	5/16	3/16	1616D-1/4 1616GS-1/4 1616AF-1/4	57100 57105 —
	3/8				1616D-3/8 1616GS-3/8 1616AF-3/8	57101 57106 —
	1/2				1616D-1/2 1616GS-1/2 1616AF-1/2	57102 57107 57112
	5/8				1616D-5/8 1616GS-5/8 1616AF-5/8	57103 57108 —
	3/4				1616D-3/4 1616GS-3/4 1616AF-3/4	57104 — —

ROLL END BEARINGS FOR STEEL TUBING



MATERIAL

Delrin or Celcon (Acetals) — D
Nylatron GS (Molybdenum disulfide filled nylon) — GS
Teflon filled Acetal (Teflon added to Delrin or Celcon) — AF

*These dimensions are approximately 1/64" larger than listed.

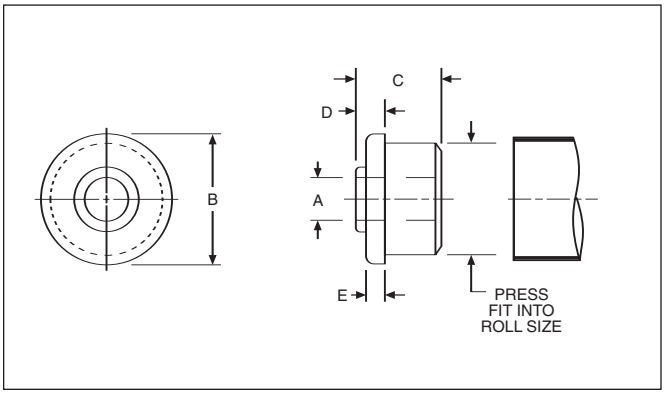
†Any item listed WITHOUT an Item Code Number is available on a SPECIAL ORDER BASIS and minimum quantities may apply.

BLIND BORE Bearings are available on special order — minimum quantities will apply.

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE †

B (Tube Size)	A*	C	D	E	Catalog Number	Item † Code
2 EMT 2.190 O.D. 2.067 I.D.	1/4	1	5/16	3/16	16EMD-1/4	—
					16EMGS-1/4	—
					16EMAF-1/4	—
	3/8				16EMD-3/8	—
					16EMGS-3/8	—
					16EMAF-3/8	—
	1/2				16EMD-1/2	57117
					16EMGS-1/2	—
					16EMAF-1/2	—
	5/8				16EMD-5/8	57118
					16EMGS-5/8	—
					16EMAF-5/8	—
	3/4				16EMD-3/4	57119
					16EMGS-3/4	—
					16EMAF-3/4	—
2-1/4 18 ga. 2.250 O.D. 2.152 I.D.	1/4	1	5/16	3/16	1818D-1/4	—
					1818GS-1/4	57862
					1818AF-1/4	—
	3/8				1818D-3/8	—
					1818GS-3/8	—
					1818AF-3/8	—
	1/2				1818D-1/2	—
					1818GS-1/2	—
					1818AF-1/2	—
	5/8				1818D-5/8	—
					1818GS-5/8	—
					1818AF-5/8	—
	3/4				1818D-3/4	—
					1818GS-3/4	—
					1818AF-3/4	—
2-1/4 16 ga. 2.250 O.D. 2.120 I.D.	1/4	1	5/16	3/16	1816D-1/4	57130
					1816GS-1/4	—
					1816AF-1/4	—
	3/8				1816D-3/8	57131
					1816GS-3/8	57136
					1816AF-3/8	—
	1/2				1816D-1/2	57132
					1816GS-1/2	57137
					1816AF-1/2	—
	5/8				1816D-5/8	57133
					1816GS-5/8	—
					1816AF-5/8	—
	3/4				1816D-3/4	57134
					1816GS-3/4	—
					1816AF-3/4	—
2-1/2 18 ga. 2.500 O.D. 2.402 I.D.	1/4	1	5/16	3/16	2018D-1/4	—
					2018GS-1/4	—
					2018AF-1/4	—
	3/8				2018D-3/8	—
					2018GS-3/8	—
					2018AF-3/8	—
	1/2				2018D-1/2	—
					2018GS-1/2	—
					2018AF-1/2	—
	5/8				2018D-5/8	—
					2018GS-5/8	—
					2018AF-5/8	—
	3/4				2018D-3/4	—
					2018GS-3/4	—
					2018AF-3/4	—
2-1/2 16 ga. 2.500 O.D. 2.370 I.D.	1/4	1	5/16	3/16	2016D-1/4	57145
					2016GS-1/4	—
					2016AF-1/4	—
	3/8				2016D-3/8	—
					2016GS-3/8	—
					2016AF-3/8	—
	1/2				2016D-1/2	57147
					2016GS-1/2	57152
					2016AF-1/2	—
	5/8				2016D-5/8	57148
					2016GS-5/8	57153
					2016AF-5/8	—
	3/4				2016D-3/4	57149
					2016GS-3/4	57154
					2016AF-3/4	—

ROLL END BEARINGS FOR STEEL TUBING



MATERIAL

Delrin or Celcon (Acetals) — D
Nylatron GS (Molybdenum disulfide filled nylon) — GS
Teflon filled Acetal (Teflon added to Delrin or Celcon) — AF

*These dimensions are approximately 1/64" larger than listed.

†Any item listed WITHOUT an Item Code Number is available on a SPECIAL ORDER BASIS and minimum quantities may apply.

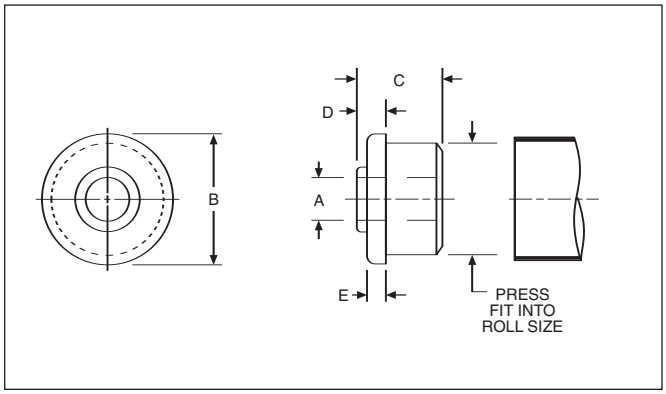
AF Bearings with 3" or larger O.D. will be supplied with an AF Flanged bushing inserted into a D or GS Roll End Bearing. For these AF Bearings it is recommended to reduce the shaft diameter or increase bushing I.D. to obtain proper clearance.

BLIND BORE Bearings are available on special order. Minimum quantities will apply.

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE †

B (Tube Size)	A*	C	D	E	Catalog Number	Item † Code
2-3/4 16 ga. 2.750 O.D. 2.620 I.D.	1/4	1	5/16	3/16	2216D-1/4 2216GS-1/4 2216AF-1/4	57160 — —
	3/8				2216D-3/8 2216GS-3/8 2216AF-3/8	57161 — —
	1/2				2216D-1/2 2216GS-1/2 2216AF-1/2	57162 — —
	5/8				2216D-5/8 2216GS-5/8 2216AF-5/8	57163 — —
	3/4				2216D-3/4 2216GS-3/4 2216AF-3/4	— — —
3 16 ga. 3.000 O.D. 2.870 I.D.	3/8	1-1/2 1-1/2 1-5/8	3/8 3/8 1/2	3/16	2416D-3/8 2416GS-3/8 2416AF-3/8	57607 57611 57615
	1/2	1-1/2 1-1/2 1-5/8	3/8 3/8 1/2	3/16	2416D-1/2 2416GS-1/2 2416AF-1/2	57608 57612 57616
	5/8	1-1/2 1-1/2 1-5/8	3/8 3/8 1/2	3/16	2416D-5/8 2416GS-5/8 2416AF-5/8	57609 57613 57617
	3/4	1-1/2 1-1/2 1-5/8	3/8 3/8 1/2	3/16	2416D-3/4 2416GS-3/4 2416AF-3/4	57610 57614 57618
3 11 ga. 3.000 O.D. 2.760 I.D.	3/8	1-1/2 1-1/2 1-5/8	3/8 3/8 1/2	3/16	2411D-3/8 2411GS-3/8 2411AF-3/8	57175 57179 57183
	1/2	1-1/2 1-1/2 1-5/8	3/8 3/8 1/2	3/16	2411D-1/2 2411GS-1/2 2411AF-1/2	57176 57180 57184
	5/8	1-1/2 1-1/2 1-5/8	3/8 3/8 1/2	3/16	2411D-5/8 2411GS-5/8 2411AF-5/8	57177 57181 57185
	3/4	1-1/2 1-1/2 1-5/8	3/8 3/8 1/2	3/16	2411D-3/4 2411GS-3/4 2411AF-3/4	57178 57182 57186
4 11 ga. 4.000 O.D. 3.760 I.D.	1/2	2 2 2-1/8	3/8 3/8 1/2	3/16	3211D-1/2 3211GS-1/2 3211AF-1/2	57187 57192 57197
	5/8	2 2 2-1/8	3/8 3/8 1/2	3/16	3211D-5/8 3211GS-5/8 3211AF-5/8	57188 57193 57198
	3/4	2 2 2-1/8	3/8 3/8 1/2	3/16	3211D-3/4 3211GS-3/4 3211AF-3/4	57189 57194 57199
	1	2 2 2-1/8	3/8 3/8 1/2	3/16	3211D-1 3211GS-1 3211AF-1	57190 57195 57200
	1-1/4	2 2 2-1/8	3/8 3/8 1/2	3/16	3211D-1-1/4 3211GS-1-1/4 3211AF-1-1/4	57191 57196 —
4-1/2 11 ga. 4.500 O.D. 4.260 I.D.	1/2	1-3/4 1-3/4 1-7/8	3/8 3/8 1/2	3/16	3611D-1/2 3611GS-1/2 3611AF-1/2	— — —
	5/8	1-3/4 1-3/4 1-7/8	3/8 3/8 1/2	3/16	3611D-5/8 3611GS-5/8 3611AF-5/8	— — —
	3/4	1-3/4 1-3/4 1-7/8	3/8 3/8 1/2	3/16	3611D-3/4 3611GS-3/4 3611AF-3/4	— — —
	1	1-3/4 1-3/4 1-7/8	3/8 3/8 1/2	3/16	3611D-1 3611GS-1 3611AF-1	— — —
	1-1/4	1-3/4 1-3/4 1-7/8	3/8 3/8 1/2	3/16	3611D-1-1/4 3611GS-1-1/4 3611AF-1-1/4	— — —

ROLL END BEARINGS FOR STEEL TUBING AND STANDARD PIPE



MATERIAL

Delrin or Celcon (Acetals) — D
Nylatron GS (Molybdenum disulfide filled nylon) — GS
Teflon filled Acetal (Teflon added to Delrin or Celcon) — AF

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE †

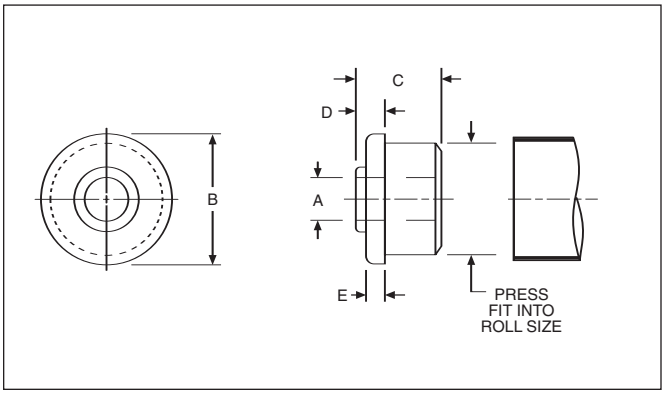
B (Pipe Size)	A*	C	D	E	Catalog Number	Item † Code
1 Sch. 40 1.315 O.D. 1.049 I.D.	1/4	5/8	3/16	1/8	8P40D-1/4	57334
					8P40GS-1/4	57337
					8P40AF-1/4	—
	3/8				8P40D-3/8	57335
					8P40GS-3/8	57338
					8P40AF-3/8	—
	1/2				8P40D-1/2	57336
					8P40GS-1/2	57339
					8P40AF-1/2	—
1-1/2 Sch. 40 1.900 O.D. 1.610 I.D.	1/4	1	5/16	3/16	12P40D-1/4	57343
					12P40GS-1/4	57347
					12P40AF-1/4	57351
	3/8				12P40D-3/8	57344
					12P40GS-3/8	57348
					12P40AF-3/8	57352
	1/2				12P40D-1/2	57345
					12P40GS-1/2	57349
					12P40AF-1/2	—
	5/8				12P40D-5/8	57346
					12P40GS-5/8	57350
					12P40AF-5/8	57354
1-1/2 Sch. 80 1.900 O.D. 1.500 I.D.	1/4	1	5/16	3/16	12P80D-1/4	—
					12P80GS-1/4	—
					12P80AF-1/4	—
	3/8				12P80D-3/8	—
					12P80GS-3/8	—
					12P80AF-3/8	—
	1/2				12P80D-1/2	57663
					12P80GS-1/2	—
					12P80AF-1/2	—
	5/8				12P80D-5/8	57664
					12P80GS-5/8	—
					12P80AF-5/8	—
2 Sch.40 2.375 O.D. 2.067 I.D.	1/4	1	5/16	3/16	16P40D-1/4	57355
					16P40GS-1/4	—
					16P40AF-1/4	—
	3/8				16P40D-3/8	57356
					16P40GS-3/8	—
					16P40AF-3/8	—
	1/2				16P40D-1/2	57357
					16P40GS-1/2	57362
					16P40AF-1/2	—
	5/8				16P40D-5/8	57358
					16P40GS-5/8	57363
					16P40AF-5/8	—
	3/4				16P40D-3/4	57359
					16P40GS-3/4	57364
					16P40AF-3/4	—

*These dimensions are approximately 1/64" larger than listed.

†Any item listed WITHOUT an Item Code Number is available on a SPECIAL ORDER BASIS and minimum quantities may apply.

BLIND BORE Bearings are available on special order.
Minimum quantities will apply.

ROLL END BEARINGS FOR STANDARD STEEL PIPE



MATERIAL

Delrin or Celcon (Acetals) — D
Nylatron GS (Molybdenum disulfide filled nylon) — GS
Teflon filled Acetal (Teflon added to Delrin or Celcon) — AF

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE †

B (Pipe Size)	A*	C	D	E	Catalog Number	Item Code †
2 Sch.10 2.375 O.D. 2.152 I.D.	1/4	1	5/16	3/16	16P10D-1/4	—
					16P10GS-1/4	—
					16P10AF-1/4	—
	3/8				16P10D-3/8	—
					16P10GS-3/8	—
					16P10AF-3/8	—
	1/2				16P10D-1/2	—
					16P10GS-1/2	—
					16P10AF-1/2	—
	5/8				16P10D-5/8	—
					16P10GS-5/8	—
					16P10AF-5/8	—
	3/4				16P10D-3/4	—
					16P10GS-3/4	—
					16P10AF-3/4	—
2 Sch.80 2.375 O.D. 1.939 I.D.	1/4	1	5/16	3/16	16P80D-1/4	—
					16P80GS-1/4	—
					16P80AF-1/4	—
	3/8				16P80D-3/8	—
					16P80GS-3/8	—
					16P80AF-3/8	—
	1/2				16P80D-1/2	57690
					16P80GS-1/2	57695
					16P80AF-1/2	—
	5/8				16P80D-5/8	57691
					16P80GS-5/8	—
					16P80AF-5/8	—
	3/4				16P80D-3/4	57692
					16P80GS-3/4	—
					16P80AF-3/4	—
2-1/2 Sch.40 2.875 O.D. 2.469 I.D.	1/4	1	5/16	3/16	20P40D-1/4	57370
					20P40GS-1/4	—
					20P40AF-1/4	—
	3/8				20P40D-3/8	57371
					20P40GS-3/8	—
					20P40AF-3/8	—
	1/2				20P40D-1/2	57372
					20P40GS-1/2	—
					20P40AF-1/2	—
	5/8				20P40D-5/8	57373
					20P40GS-5/8	—
					20P40AF-5/8	—
	3/4				20P40D-3/4	57374
					20P40GS-3/4	—
					20P40AF-3/4	—
3 Sch.40 3.500 O.D. 3.068 I.D.	3/8	1-1/4	3/8	3/16	24P40D-3/8	57385
		1-1/4	3/8		24P40GS-3/8	57390
		1-3/8	1/2		24P40AF-3/8	57395
	1/2	1-1/4	3/8	3/16	24P40D-1/2	57386
		1-1/4	3/8		24P40GS-1/2	57391
		1-3/8	1/2		24P40AF-1/2	57396
	5/8	1-1/4	3/8	3/16	24P40D-5/8	57387
		1-1/4	3/8		24P40GS-5/8	57392
		1-3/8	1/2		24P40AF-5/8	57397
	3/4	1-1/4	3/8	3/16	24P40D-3/4	57388
		1-1/4	3/8		24P40GS-3/4	57393
		1-3/8	1/2		24P40AF-3/4	57398
	1	1-1/4	3/8	3/16	24P40D-1	57389
		1-1/4	3/8		24P40GS-1	57394
		1-3/8	1/2		24P40AF-1	57399

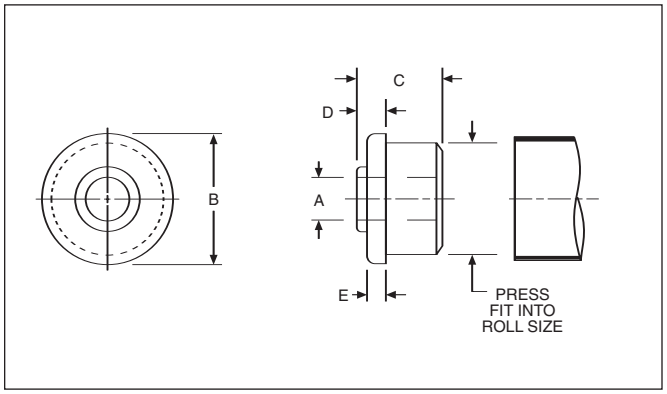
*These dimensions are approximately 1/64" larger than listed.

†Any item listed WITHOUT an Item Code Number is available on a SPECIAL ORDER BASIS and minimum quantities may apply.

AF Bearings with 3" or larger O.D. will be supplied with an AF Flanged bushing inserted into a D or GS Roll End Bearing. For these AF Bearings it is recommended to reduce the shaft diameter or increase bushing I.D. to obtain proper clearance.

BLIND BORE bearings are available on special order. Minimum quantities will apply.

ROLL END BEARINGS FOR STANDARD STEEL PIPE



ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE †

B (Pipe Size)	A*	C	D	E	Catalog Number	Item † Code
4 Sch. 40 4.500 O.D. 4.026 I.D.	1/2	1-3/4	3/8	3/16	32P40D-1/2	57400
		1-3/4	3/8		32P40GS-1/2	57405
		1-7/8	1/2		32P40AF-1/2	57410
	5/8	1-3/4	3/8	3/16	32P40D-5/8	57401
		1-3/4	3/8		32P40GS-5/8	57406
		1-7/8	1/2		32P40AF-5/8	57411
	3/4	1-3/4	3/8	3/16	32P40D-3/4	57402
		1-3/4	3/8		32P40GS-3/4	57407
		1-7/8	1/2		32P40AF-3/4	57412
	1	1-3/4	3/8	3/16	32P40D-1	57403
		1-3/4	3/8		32P40GS-1	57408
		1-7/8	1/2		32P40AF-1	57411
	1-1/4	1-3/4	3/8	3/16	32P40D-1-1/4	57404
		1-3/4	3/8		32P40GS1-1/4	57409
		1-7/8	1/2		32P40AF-1-1/4	57414

AF bearings with 3" or larger O.D. will be supplied with an AF Flanged bushing inserted into a D or GS Roll End Bearing. For these AF Bearings it is recommended to reduce the shaft diameter or increase bushing I.D. to obtain proper clearance.

BLIND BORE bearings are available on special order — minimum quantities will apply.

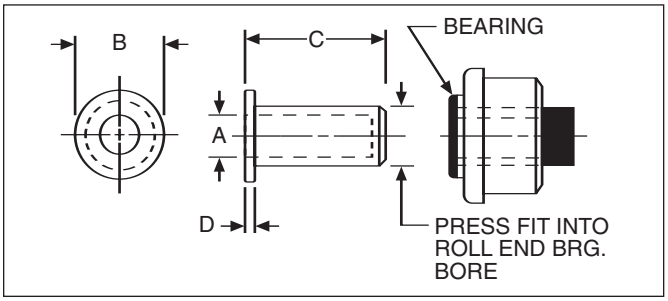
MATERIAL

Delrin or Celcon (Acetals) — D
Nylatron GS (Molybdenum disulfide filled nylon) — GS
Teflon filled Acetal (Teflon added to Delrin or Celcon) — AF

*These dimensions are approximately 1/64" larger than listed.

†Any item listed WITHOUT an Item Code Number is available on a SPECIAL ORDER BASIS – minimum quantities may apply.

EXTRA LENGTH— BLIND BORE BEARING INSERTS



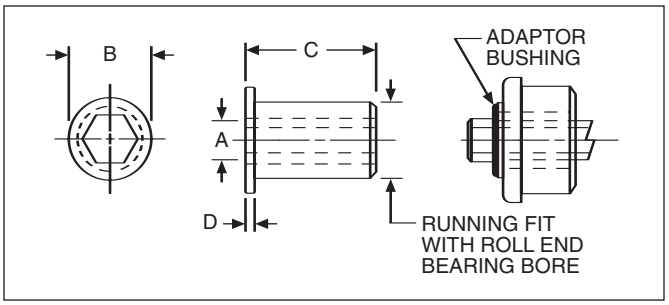
Extra length Blind Bore inserts are available for Roll End Bearings from 1-3/4" to 6" outside diameter. All Blind Bore Bearing inserts listed below are made from Nylatron GS and are designed to press fit into 3/4" I.D. Roll End Bearings.

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

Roll End Brg. Bore	A*	B	C	Max. Depth	D	Catalog Number	Item Code
3/4	7/16 1/2 9/16 5/8	1	1-1/2	1-3/8	1/16	F7612B F8612B F9612B F10612B	57482 57483 57484 –
3/4	7/16 1/2 9/16 5/8	1	2	1-7/8	1/16	F7616B F8616B F9616B F10616B	57486 57487 57488 57489

* These dimensions are approximately 1/64" larger than listed.

ROLL END ADAPTER FOR HEX SHAFT



Hex shaft adapter bushings are available for Roll End Bearings from 1" to 6" outside diameter. All hex shaft adapter bushings are made from Nylatron GS and are designed to provide a running fit with the Roll End Bearing bores listed below.

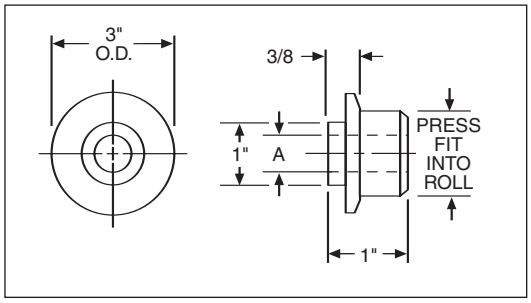
ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A Hex Shaft Size	Roll End Brg. Bore +	B	C	D	Catalog Number	Item Code
5/16	1/2	3/4	7/8	1/16	FH547	57479
3/8	5/8	7/8	1	1/16	FH658	57480
7/16	5/8	7/8	1	1/16	FH758	57481
5/8	7/8*	1-1/8	1-1/4	3/32	FH10710	57707
11/16	7/8*	1-1/8	1-1/4	3/32	FH11710	57708

*7/8" I.D. Roll End Bearings are not available from stock. They may be machined from any 3/4" bore size. Prices on application.

+I.D. of "AF" Roll End bearings may have to be enlarged approximately 1/64" to obtain proper clearance.

GUIDE ROLL BEARINGS



Nylatron GS Roll End Bearing has an oversized flange. Designed for use as a belt guide on conveyor rollers, or on light duty trolley conveyors. Using 2" 16 Gage Tubing.

MATERIAL

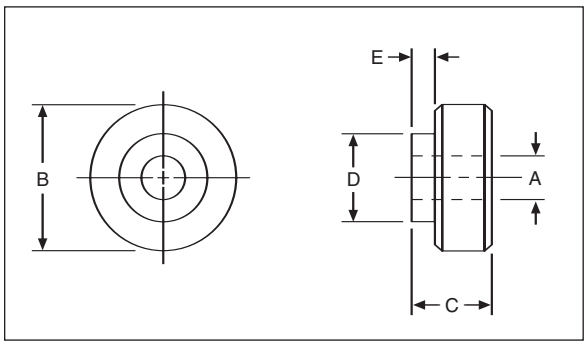
Nylatron GS (Molybdenum disulfide filled nylon) — GS

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER
OR ITEM CODE

A	Catalog Number	Item Code
1/2	G1616GS-1/2	57704
5/8	G1616GS-5/8	57706

Also suitable to take 5/16, 3/8 and 7/16" hex shaft bushing.

ROLLERS



MATERIAL

Delrin or Celcon (Acetals) — D
Nylatron GS (Molybdenum disulfide filled nylon) — GS

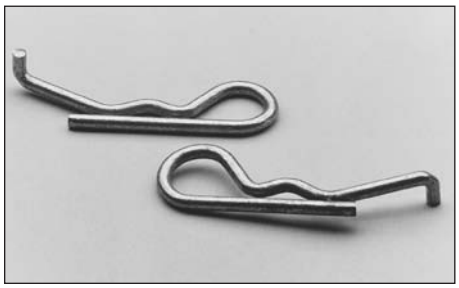
*These dimensions are approximately 1/64" larger than listed.

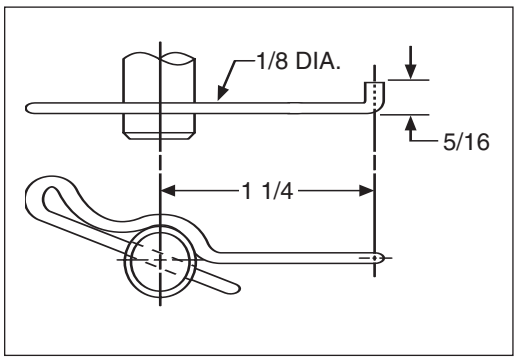
These rollers are made from roll end bearings shown on pages 34 through 40. (Ribbed Construction)

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

B	A*	C	D	E	Made From Cat. No.	Catalog Number	Item Code
.700	1/8	9/16	1/2	1/16	622D-1/8 622GS-1/8	R700D R700GS	57492 57493
.800	3/16	9/16	5/8	1/16	720D-3/16 720GS-3/16	R800D R800GS	57494 57495
.900	1/4	9/16	5/8	1/16	818D-1/4 818GS-1/4	R900D R900GS	57496 57497
1.120	3/8	5/8	5/8	1/16	1016D-3/8 1016GS-3/8	R1120D R1120GS	57498 57499
1.370	1/2	7/8	7/8	1/8	1216D-1/2 1216GS-1/2	R1370D R1370GS	57500 57501
1.500	1/2	1	1	1/8	1316D-1/2 1316GS-1/2	R1500D R1500GS	57502 57503
1.620	1/2	1	1	1/8	1416D-1/2 1416GS-1/2	R1620D R1620GS	57504 57505
1.870	1/2	1	1	1/8	1616D-1/2 1616GS-1/2	R1870D R1870GS	57506 57507
2.120	1/2	1	1	1/8	1816D-1/2 1816GS-1/2	R2120D R2120GS	57508 57509
2.370	1/2	1	1	1/8	2016D-1/2 2016GS-1/2	R2370D R2370GS	57510 57511
2.750	3/4	1-1/2	1-1/2	3/16	2411D-3/4 2411GS-3/4	R2750D R2750GS	57512 57513
3.000	3/4	1-1/4	2	3/16	24P40D-3/4 24P40GS-3/4	R3000D R3000GS	57514 57515
3.750	1	2	2	3/16	3211D-1	R3750D	57516
4.250	1	1-3/4	2	3/16	3611D-1	R4250D	57518

SHAFT CLIP





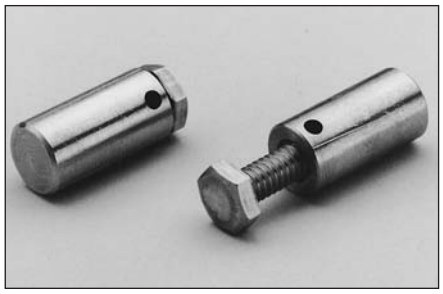
Secures round shaft to conveyor frame. Shaft can't turn or slide out. Clip required on one end only, conventional cotter pin can be used on other end.

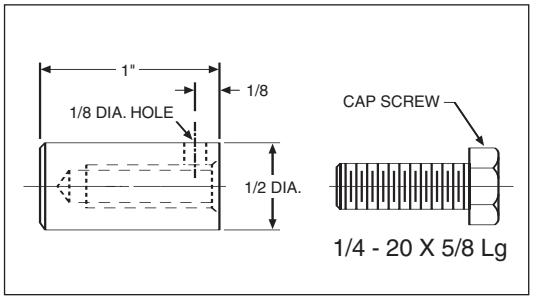
Available from stock for 1/2" dia. shaft.

ORDER BY CATALOG NUMBER OR ITEM CODE

Catalog Number	Item Code
SC-4	57490

STUB SHAFT FOR ROLLERS



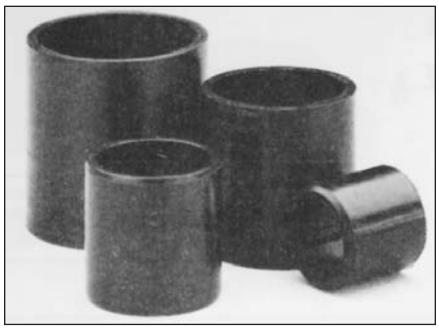


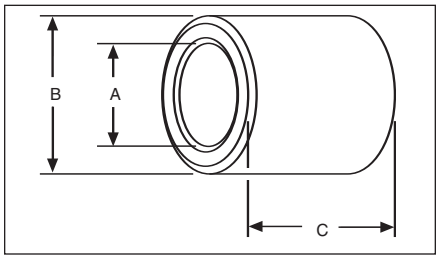
This stainless steel screw and stub assembly fits Blind Bore Roll End Bearings.

ORDER BY CATALOG NUMBER OR ITEM CODE

Catalog Number	Item Code
SS-4	57491

PLAIN CYLINDRICAL BEARINGS





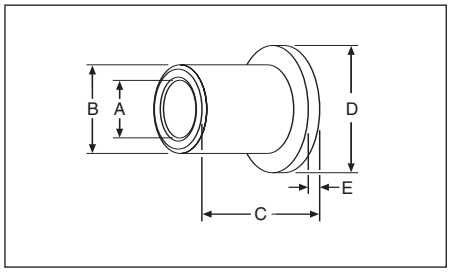
STANDARD TOLERANCES

Dimensions		Tolerance
A B	All	± .015
C	All	± .015

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	Catalog Number	Item Code
3/16	5/16	5/16	NS35-2-1/2	56883
1/4	3/8	3/8	NS46-3	56884
5/16	7/16	7/16	NS57-3-1/2	56885
3/8	1/2	1/2	NS68-4	56886
7/16	9/16	9/16	NS79-4-1/2	56887
1/2	5/8	5/8	NS810-5	56888
9/16	11/16	11/16	NS911-5-1/2	56889
5/8	3/4	3/4	NS1012-6	56890
11/16	13/16	13/16	NS1113-6-1/2	56891
3/4	7/8	7/8	NS1214-7	56892
7/8	1	1	NS1416-8	56894
15/16	1-1/16	1-1/16	NS1517-8-1/2	56895
1	1-1/8	1-1/8	NS1618-9	56896

FLANGED TYPE



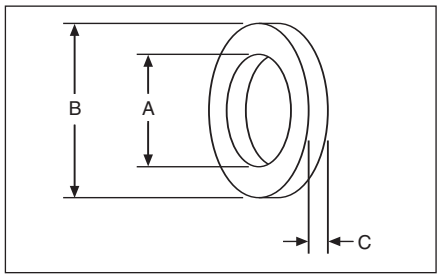
STANDARD TOLERANCES

Dimensions		Tolerance
A B D E	All	± .015
C	All	± .015

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	D	E	Catalog Number	Item Code
3/16	5/16	5/16	7/16	1/16	NF35-2-1/2	56897
1/4	3/8	3/8	1/2	1/16	NF46-3	56898
5/16	7/16	7/16	9/16	1/16	NF57-3-1/2	56899
3/8	1/2	1/2	5/8	1/16	NF68-4	56900
7/16	9/16	9/16	11/16	1/16	NF79-4-1/2	56901
1/2	5/8	5/8	3/4	1/16	NF810-5	56902
9/16	11/16	11/16	15/16	1/16	NF911-5-1/2	56903
5/8	3/4	3/4	7/8	1/16	NF1012-6	56904
11/16	13/16	13/16	1	1/16	NF1113-6-1/2	56905
3/4	7/8	7/8	1-1/16	1/16	NF1214-7	56906
7/8	1	1	1-3/16	1/16	NF1416-8	56908
15/16	1-1/16	1-1/16	1-1/4	1/16	NF1517-8-1/2	56909
1	1-1/8	1-1/8	1-5/16	1/16	NF1618-9	56910

THRUST TYPE



STANDARD TOLERANCES

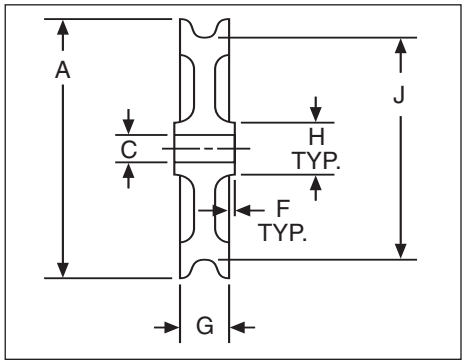
Dimensions		Tolerance
A B C	All	± .015

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	Catalog Number	Item Code
3/16 .189	3/4 .750	1/16 .070	NT312	56911
1/4 .255	5/8 .620	3/32 .097	NT410	56912
1/2 .503	13/16 .820	3/32 .095	NT813	56913
9/16 .565	13/16 .812	3/32 .095	NT913	56914
5/8 .630	1 1.000	3/32 .094	NT1016	56915
3/4 .760	1-1/16 1.063	3/32 .094	NT1217	56916
7/8 .890	1-1/8 1.125	3/32 .094	NT1418	56917
1-1/4 1.290	2-1/8 2.140	3/32 .098	NT2034	56918
1-1/2 1.555	2-1/16 2.058	1/8 .120	NT2533	56919

Tolerances apply to actual (decimal) dimensions.

CABLE PULLEYS



STANDARD TOLERANCES

Dimensions		Tolerance
C	All	+ .005 to + .010

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	C	G	F	H	J	Cable Size	Catalog Number	Item Code
1-1/4	1/4	.400		1/2	31/32	1/4	P1250-2	57522
2-5/8	3/8	.500	017	3/4	2-1/8	1/4	P2625-3	57525
2-5/8	1/2	.500	—	3/4	2-1/8	1/4	P2625-4	57526

SLEEVE BEARING SELECTION

The performance of a bearing is influenced by the conditions of speed, mating materials, clearances, temperature, lubrication, type of loading, etc. Of primary importance, is the maintenance of an oil film between the bearing surfaces to reduce friction, dissipate heat and retard wear by minimizing metal to metal contact. The most critical periods of operation are during starting and stopping, when the load may cause the bearing surfaces to come into contact with each other. For these reasons it is not practical to predict the wear rate of bronze bearings.

The selection of the best bearing for an application can be a very complicated problem because the combined influence of the many factors affecting the operation is difficult to predict.

The following information may be used as a guide for selecting a Bronze sleeve bearing which should satisfy the requirements.

For practical reasons, the length of the bearing should normally be between one and two times the shaft diameter and the O.D. approximately 25% larger than the shaft diameter.

Starting and Stopping/ Oscillatory Motion/Cyclical Overload conditions mean a full film of oil cannot be maintained. When this happens, metal-to-metal contact occurs and causes bearing wear. Because of the continual interruption of the oil film, a larger safety factor is required when designing bearings for applications of this type. A lower permissible PV factor must be considered.

Speed/Oil Viscosity must also be considered. The proper viscosity oil must be selected for each particular speed application, to achieve optimum bearing operation.

For high speed applications, a light oil (150 SUS at 100°F) is required to keep internal oil friction at a minimum and assure proper metering of the oil to the bearing/shaft surface.

For moderate speeds, a medium-viscosity oil (400 SUS at 100°F) is required.

For very low shaft speeds under moderate or heavy loads, a heavier oil with an extreme pressure additive may be required to prevent complete oil film rupture and give sufficient lubrication for proper operation.

Shaft Consideration is extremely important in bearing applications. For optimum operation the shaft must be of proper material, hardness, surface finish, roundness and dimensions. Experience indicates that carbon steels, and preferably C1137, offer the best operating results. If stainless steel shafts are to be used, 400 Series is recommended. Austenitic 300 Series stainless steel tends to gall, which results in extreme wear and shortened life. If 300 Series stainless is required for its non-magnetic qualities, it is strongly recommended that shafts be work-hardened or chrome-plated for satisfactory operation.

For best results, a shaft surface finish of 4 to 12 RMS is recommended. Nicks, gouges, and burrs should be avoided because they rupture the oil film and cause metal-to-metal contact.

Shaft roundness and dimensions also contribute greatly to bearing life. The more round the shaft, the less the bearing and shaft wear, with longer life resulting. Dimensions also play an important role in operation and should always be in accord with the recommended bearing clearance charts.

As stated, for practical reasons the bearing length should normally be between one and two times the shaft diameter. However, the recommended practice is by using the PV factor. PV is a means of measuring the performance capabilities of bearings. P is expressed as pressure or pounds per square inch on the projected area of the bearing. V is velocity in feet per minute of the wear surface (surface feet per minute).

"**PV**" is expressed by the following:

$$\mathbf{PV} = \frac{W}{Ld} \times \frac{\pi dn}{12} = \frac{\pi Wn}{12L} = \frac{.262Wn}{L}$$

$$\mathbf{P} = \frac{W}{A\ (\text{Brg. I.D.} \times \text{Length})}$$

V = Surface velocity of the shaft, ft./min. (.262 x RPM x Shaft Dia.)

W = Bearing load in pounds

L = Bearing length in inches

d = I.D. of bearing in inches (cancels out of formula)

n = Shaft speed, RPM

SLEEVE BEARING SELECTION *(CONTINUED)*

Each material has a specific maximum PV rating, as shown in the following Table. In addition, it also has a maximum pressure (P) and velocity (V) limitation. These values should not be exceeded. At no time can all maximum values be utilized.

Material	Max. PV	Max. P	Max. V
BEAR-N-BRONZ	75,000	3,000	750
BOST-BRONZ	50,000	2,000	1,200
BOST-BRONZ (Thrust Washers)	10,000	2,000	1,200
F1	20,000	1,000	400
TN	10,000	800	300
AF	8,000	750	300
GS	4,000	500	300
D	3,000	480	300
N	3,000	480	300
UHMW-PE	2,300	1,400	100
Nyloil	16,000	2,000	400
UHMW-PE with Internal Wear Strip	4,000	1,400	100
Nyloil with Internal Wear Strip	16,000	2,000	400

All values based on 72°F ambient temperature and standard lubricant, when required.

NOTE: Above figures should be considered maximum and not to be exceeded.

EXAMPLE

Select a BOST-BRONZ (oil impregnated) bearing to satisfy the following conditions.

Known—

5/8" Shaft Diameter

n = 500 RPM

W_1 = Load Bearing I = L_I = 52.5 Lbs.

W_2 = Load Bearing II = L_{II} = 157.5 Lbs.

L = Length of Bearing

For Bearing I—

$$PV = \frac{.262 \times W_1 \times n}{L \text{ (In. of Lgth)}}$$

$$= \frac{.262 \times 52.5 \times 500}{1}$$

$$= 6877$$

For Bearing II—

$$PV = \frac{.262 \times W_2 \times n}{L \text{ (In. of Lgth.)}}$$

$$= \frac{.262 \times 157.5 \times 500}{1}$$

$$= 20632$$

With the calculated PV of 6877, Bearing I, and 20,632, Bearing II, it can be seen from the Table, that a BOST-BRONZ bearing, one inch long, will not exceed Maximum PV.

NOTE: An increase in L will decrease the value of PV; conversely, a shortening of L increases the value of PV.

A check of PV calculations should now be performed to assure that Max. “P” and Max. “V” is not exceeded.

PV Max. = P Max. x V Max.

V = .262 x Shaft Dia. x n

= .262 x .625 x 500 = 81.9

Bearing I $P = \frac{PV}{V} = \frac{6877}{81.9} = 83.9$

Bearing II $P = \frac{PV}{V} = \frac{20632}{81.9} = 251.9$

As can be seen, we have not exceeded any maximum values. We can now select an actual Bost-Bronz bearing.

Knowing:

Shaft Dia. 5/8" = Bearing I.D. 5/8"

Bearing O.D. should be approximately 25% larger than I.D.

Bearing O.D. = .625 x 1.25 = .781"

Referring to Bost-Bronz listings, Page 12, we find 5/8" I.D. bearings listed with O.D.’s from 3/4 to 1" and lengths from 1/2 to 2".

From this selection of bearings, we may choose a bearing to fit the requirements.

Since Bearing I is lightly loaded, for practical reasons, we select a bearing length of one times bearing I.D. We select a B1013-5 (5/8" I.D. x 13/16 O.D. x 5/8" long).

SLEEVE BEARING SELECTION

EXAMPLE (Continued):

For Bearing II we will select a length of two times bearing I.D. — B1013-10. (In actual practice, it may be more suitable to select one common size — B1013-10.)

For a double-check of PV, we should use actual bearing selected:

$$\text{PV Actual} = \frac{\text{PV}}{\text{L (Actual Bearing)}}$$

$$\text{Bearing I PVA} = \frac{6877}{.625} = 10043$$

$$\text{Bearing II PVA} = \frac{20632}{1.25} = 16505$$

Actual PV values are below Maximum PV values shown in Table.

SLEEVE BEARING WEAR LIFE

Wear life cannot be applied to BOST-BRONZ (oil-impregnated) or BEAR-N-BRONZ (SAE CA932/660) bearings. Under ideal conditions the shaft rides on a film of oil, and will give almost infinite life. If this film of oil is disrupted, intimate metal-to-metal contact results leading to eventual failure.

NON-METALLIC AND NON-LUBRICATED BEARINGS

Wear rate is generally defined as the volumetric loss of material over a unit of time. Several mechanisms operate simultaneously to remove material from the wear interface, however, the primary mechanism is adhesive wear which is characterized by fine particles of polymer being removed from the surface. The presence of this powder is a good indication that the rubbing surfaces are wearing properly. The presence of melted polymer or large gouges or grooves at the interface is normally an indication that the materials are abrading and wearing and/or the pressure velocity limits of the materials are being exceeded.

Once a Wear Rate factor (K) has been established it can be used by the engineer to calculate wear rates of bearings, gears, etc. However, because wear rates is affected by material types, finishes and hardness as well as environmental temperature and part design, large errors may result as end use variables begin to differ from those selected for the test procedure.

As a relative measure of the performance of one composite vs. another at the same operating conditions, the K factors have proven to be highly reliable.

t = K (PVT)

t = Wear in inches

$$P = \frac{\text{W (Total Load)}}{\text{A (Brg. I.D. x Lgth.)}}$$

V = Velocity in ft. per minute (.262 x RPM x Shaft Dia.)

$$T = \frac{t}{KPV}$$

T = Running time in hours

K = Wear rate factor

		K
Delrin or Celcon	(D)	50×10^{-10}
Nylatron GS . . .	(GS)	35×10^{-10}
Teflon filled Acetal	(AF)	17×10^{-10}
Teflon filled Nylon	(TN)	13×10^{-10}
Glass Filled Teflon	(F-1)	12×10^{-10}
Nylon		12×10^{-10}

Values for plastic resins assume no trace of lubricant present.

A simple calculation could be made as follows:

Assumptions:
1. 1616D-1/2 Delrin Roll End Bearing
2. .020 inch allowable wear limit
3. 50 lbs. load on roll (25 lbs. per bearing)
4. 100 RPM
5. Normal environment with no lubrication

Problem: Find estimated wear life

Solution:

$$PV = \frac{\pi Wn}{12L} = \frac{\pi \times 25 \times 100}{12 \times 1} = 655$$

$$t = K(PVT)$$

$$T = \frac{t}{KPV} \text{ or } \frac{.020}{50 \times 10^{-10}} \times 655$$

$$T = 6100 \text{ hrs.}$$

The use of low viscosity lubricant applied initially and/or periodically during operation of the bearing would extend the life several times.

BostonE F-1 material is generally limited to a bearing maximum of 1,000 p.s.i. For more detailed design calculations Fig. 2 shows actual deformation values as a function of temperature and load.

The coefficient of friction of BostonE F-1 varies with changes in load and speed when operated dry. Figure 3 shows the variation with load and Figure 4 shows the variation with speed.

SLEEVE BEARING WEAR LIFE *(CONTINUED)*

For optimum performance of BostonE F-1 bearings, the mating surface should be as hard as possible. Mild steel, however, will give satisfactory results.

A surface finish range of 8-16 micro-inches is preferred; however, good results will be obtained with finishes to 32 micro-inches.

Figures 1 through 6 apply to BostonE F-1 material only.

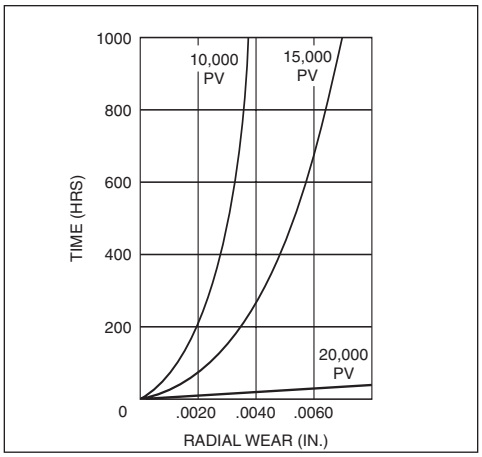


FIGURE 1 — TIME VS. RADIAL WEAR (UNLUBRICATED)

Load (psi)	Deformation (%)	
	78°F	300°F
250	.1	.4
500	.3	1.4
750	.5	2.9
1000	.8	—
1250	1.1	—
1500	1.6	—

FIGURE 2 — DEFORMATION UNDER LOAD

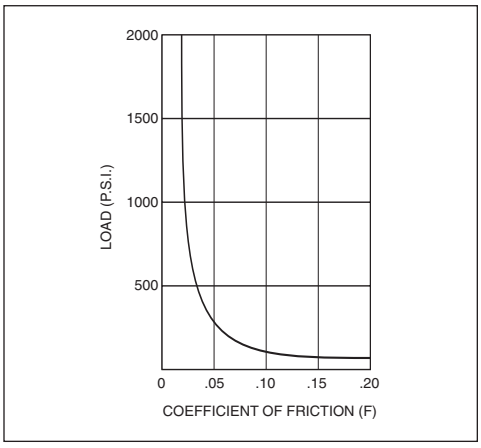


FIGURE 3 — LOAD VS. FRICTION

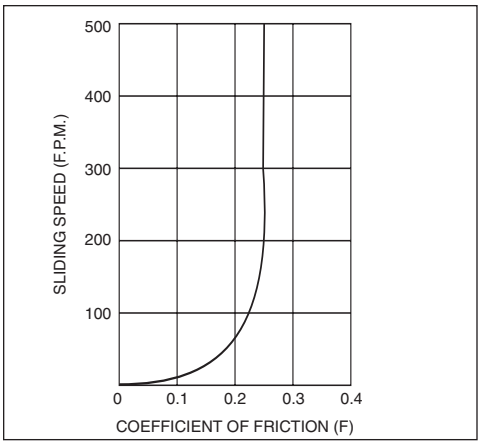


FIGURE 4 — SPEED VS. FRICTION

COEFFICIENT OF FRICTION

Shaft Material	
Hardened Steel	0.15
Stainless Steel	0.15
Chromium Plated Steel	0.16
Cast Iron	0.19
Hard Anodized Aluminum	0.20
Monel	0.23
Cold Rolled Steel	0.25
*Brass	0.33
*Aluminum	0.35

*High rate of shaft wear

FIGURE 5 — EFFECT OF MATING SURFACES WITH BOSTONE F-1

COEFFICIENT OF EXPANSION

Temperature Range	C.D. (all values are x 10^{-5})	M.D.
+68°F. to – 400°	–1.8	–3.5
+68°F. to – 300°	–2.3	–4.0
+68°F. to – 200°	–2.9	–4.3
+68°F. to – 100°	–3.5	–4.8
+68°F. to 0°	–4.4	–5.9
+68°F. to +78° (approximate data)	12	25
+78°F. to +100°	3.5	6.0
+78°F. to +200°	3.5	6.2
+78°F. to +300°	3.6	7.0
+78°F. to +400°	4.2	7.8
+78°F. to +500°	5.0	8.5

M.D. = Molded Direction (parallel to length of molded or extruded rod or tube)

C.D. = Cross Direction (perpendicular to length of molded or extruded rod or tube)

All tubes are approximately ± 5%.

FIGURE 6 — COEFFICIENT OF LINEAR THERMAL EXPANSION

LUBRICATION—BOST-BRONZ

All standard BOST-BRONZ bearings, bars and plates are impregnated with a high grade, oxidation-resistant mineral oil of SAE30 (ISO 100) viscosity. If properly stored, BOST-BRONZ parts retain their oil supply indefinitely. To prevent loss of lubricant, BOST-BRONZ should be stored in non-absorbent materials (metal, plastic, or suitably lined containers, etc.) The bearings should be covered to keep out dirt and dust.

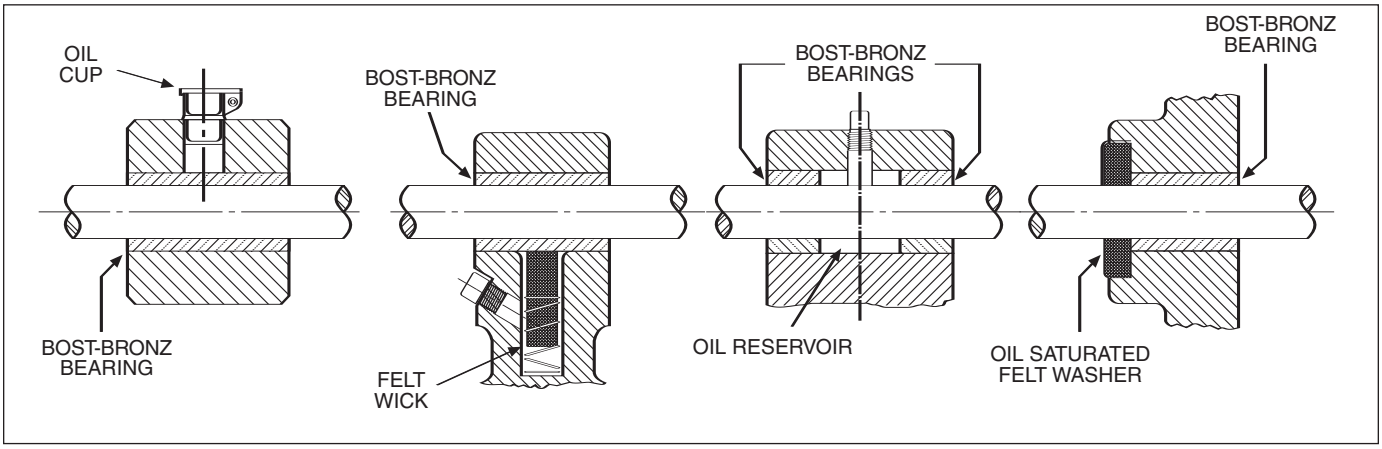
REMOVING LUBRICANT: If it becomes necessary to remove the oil from BOST-BRONZ, for example to replace with another type or viscosity of lubricant, the following procedure may be used.:

Immerse parts in a good grade of oil solvent, such as lead-free gasoline, naptha, carbon tetrachloride or alcohol. Change solvent often, until solvent appears clear. Agitation will hasten the process.

RE-OILING: BOST-BRONZ parts may be re-impregnated by submerging in oil (pre-heated to about 150°F) for approximately 30 minutes. More time should be allowed for larger parts.

SUPPLEMENTARY LUBRICATION

The following designs illustrate simple, effective arrangements for providing supplementary lubrication.

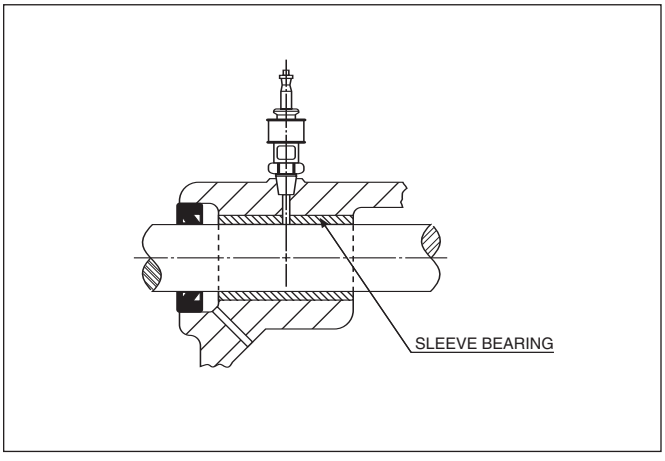


LUBRICATION—BEAR-N-BRONZ

The maintenance of an oil film between the shaft and bearing surfaces is extremely important, serving to reduce friction, dissipate heat, and retard wear by minimizing any metal to metal contact.

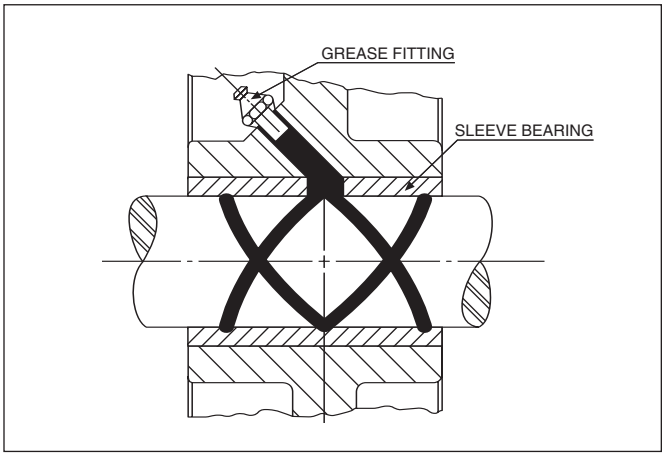
Lubricant is usually supplied into the bearing from an oil cup or fitting through an oil hole.

The drawings below illustrate two typical methods.



A. Oil Cup

Oil is fed from the oil cup to the bearing by gravity.



B. Oil or Grease Fitting

Lubricant is fed through the fitting under pressure and distributed through grooves by the rotation of the shaft.

LUBRICATION—BEAR-N-BRONZ *(CONTINUED)*

GROOVING

1. An oil feeder hole is normally sufficient for small bearings under light loads.

The oil hole should be in a position to introduce the lubricant to the non-loaded area of the bearing. The lubricant will then normally be carried to the loaded area by the rotation of the shaft.

For larger bearings under heavy loads, it may be desirable to facilitate the flow of lubricant to the pressure area by means of grooves machined into the bearing surface.

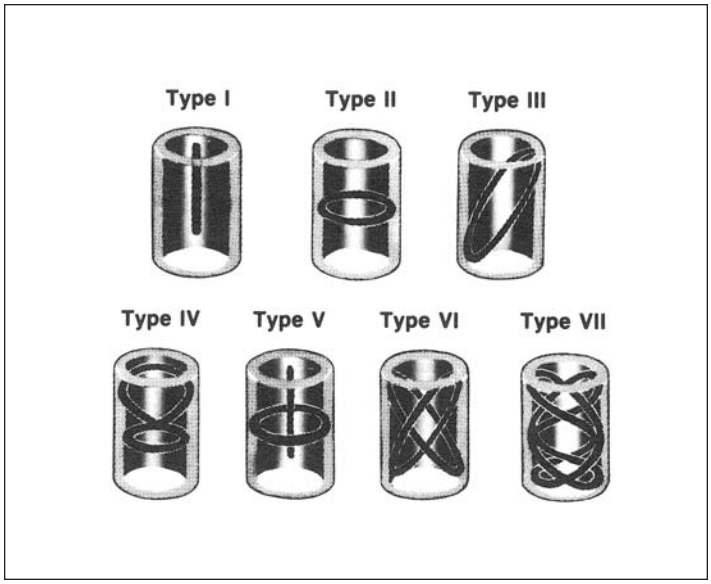
2. Type I or Type II grooves have proven adequate for most applications requiring an oil groove. In either case, the oil feed hole introducing the lubricant should always be located in the unloaded bearing area.

3. Very long bearings may require two feeder holes connected by one straight (axial) groove.

4. Oil grooves should stop short of the bearing ends to minimize oil leakage.

5. Grease lubricants are normally restricted to applications subjected to heavy loads at low speeds. Grease should be distributed under pressure along oil grooves to the loaded area. Type VI or Type VII grooves may be used for grease lubrication.

Below are illustrations of some popular styles of oil grooves:

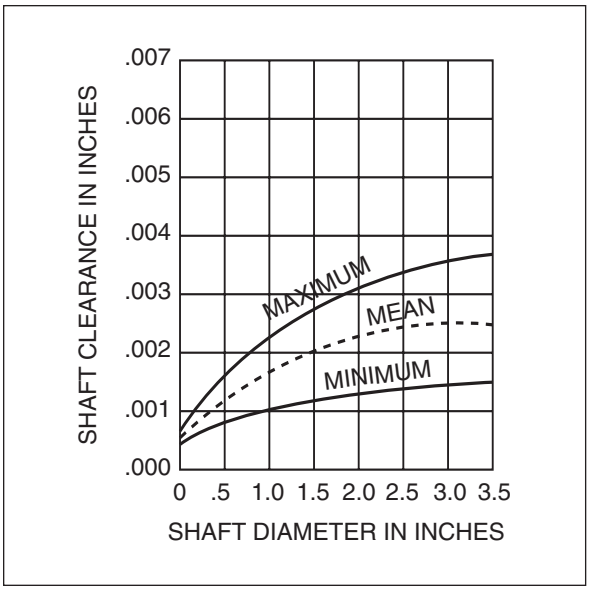


Depth of oil groove is 1/8" max. if wall permits. On thin wall bearings depth of groove is normally less than 1/2" wall thickness. When applicable groove is located 1/8" from ends.

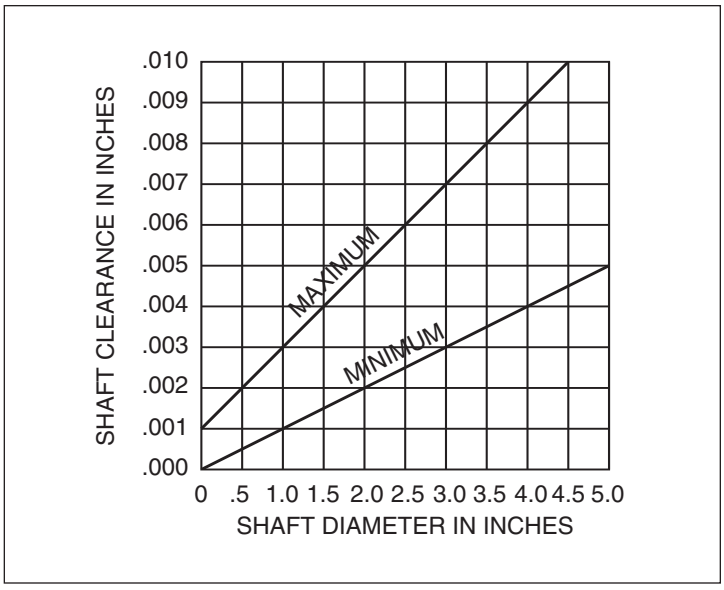
SHAFT CLEARANCES

The following graphs may be used as a guide to determine shaft clearance for proper running fit.

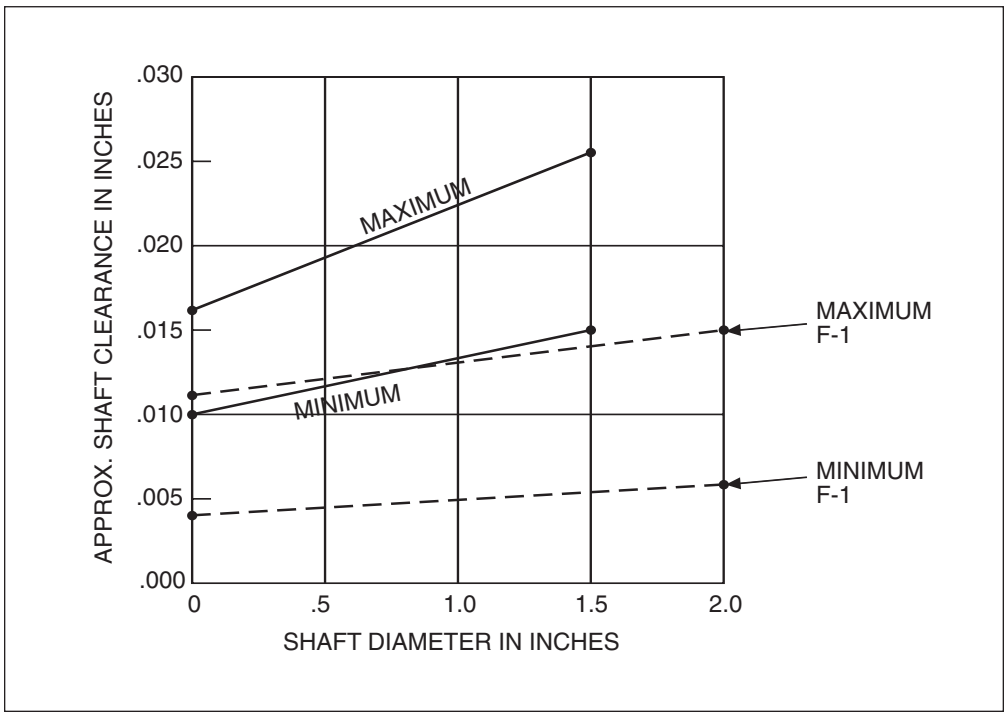
BOST-BRONZ



BEAR-N-BRONZ



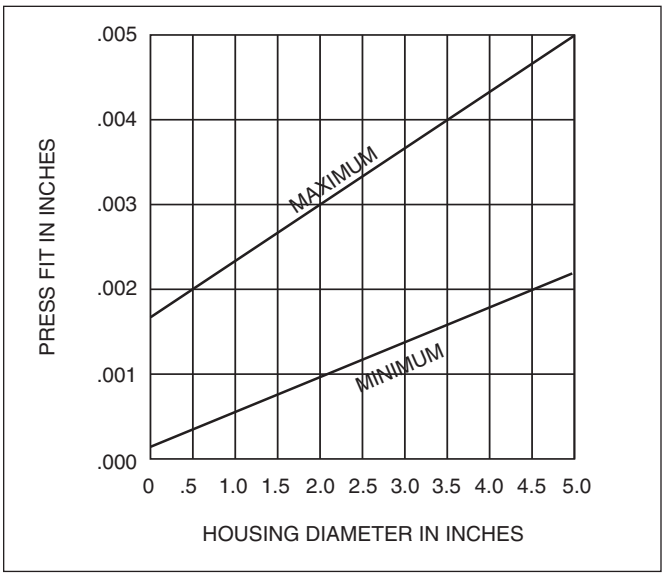
PLASTICS



PRESS FIT ALLOWANCES

The allowance for press fit into a housing will vary depending upon bearing size, wall thickness, housing material, and housing construction. The accompanying graphs will be a useful guide in determining allowances for press fits.

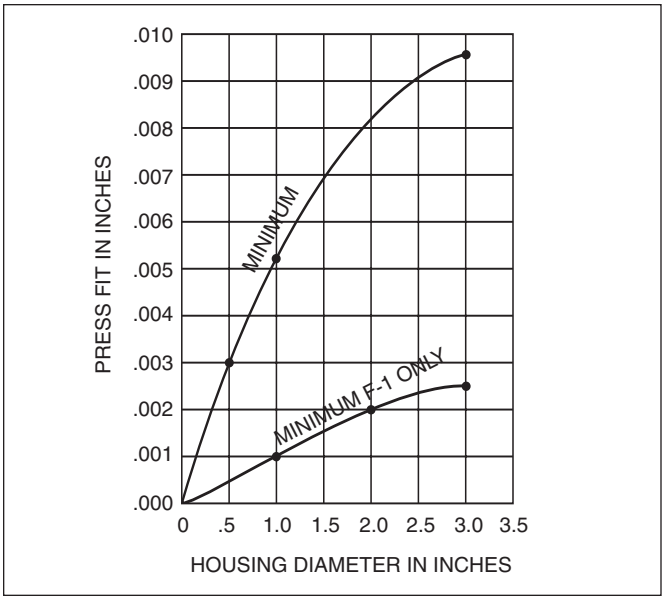
BEAR-N-BRONZ



PLASTICS

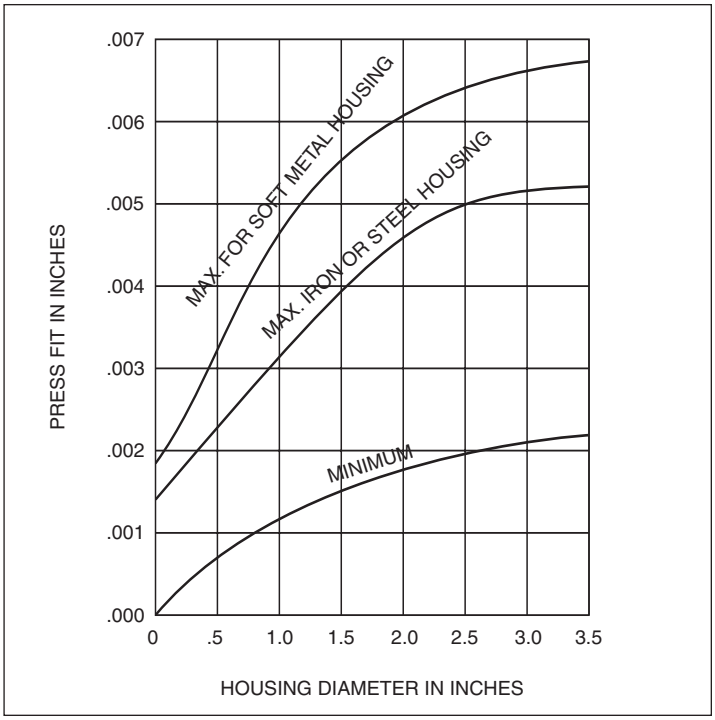
Due to normal variations in molded bearings, practicality dictates the measuring of actual bearing O.D. and adjusting bore size accordingly.

For this reason, the minimum required press fit depicted in graph, for F-1 material and other plastic material is approximate and may be used as a guide.



BOST-BRONZ

When a BOST-BRONZ bearing is pressed into a housing, the inside diameter (I.D.) will close-in (becoming smaller). The amount will depend upon the same factors influencing the Press Fit, but will average approximately 75% of the Press Fit allowance.



MACHINING

In cases where it is desired to alter a standard stock bearing or to manufacture parts from a bronze bar or plate stock, the following machining practices are suggested.

BOST-BRONZ

BOST-BRONZ may be readily machined. For best results, use carbide tools. For finishing cuts on bearing surfaces, the cutting tool should be extremely sharp. Use feeds and speeds that are normal for machining regular bronze. Finish with a light cut (up to .005"). This method avoids the pulling or spreading of metal over the surface pores. Cutting oils or coolants should not be used. After machining, parts should be reoiled, using a good grade of oxidation-resistant mineral oil of about SAE20 (ISO 68) viscosity. For re-oiling procedure, see lubrication, Page 50.

BEAR-N-BRONZ

The use of carbide tools or high speed tools is recommended for machining Bear-N-Bronz. Carbide tools should be used at speeds of 500 to 1000 surface feet per minute. High speed steel tools should be used to 200 to 500 surface feet per minute. Either tool should be held to a minimum clearance angle for best results. Cutting solutions are not required.

ASSEMBLY AND SIZING—BOST-BRONZ

In most instances, sizing the bore of BOST-BRONZ bearing is not necessary. The desired inside diameter will be obtained by proper press fit (and close-in) at assembly. In applications where sizing is necessary, it may be accomplished during assembly by the use of a shouldered sizing arbor, as illustrated in Figure 1. The arbor should be ground and lapped to a size slightly larger (.0002" to .0003" approx.) than the hole desired. A multiple step burnishing tool (see Figure 2) may also be used to size the hole in BOST-BRONZ bearings after assembly.

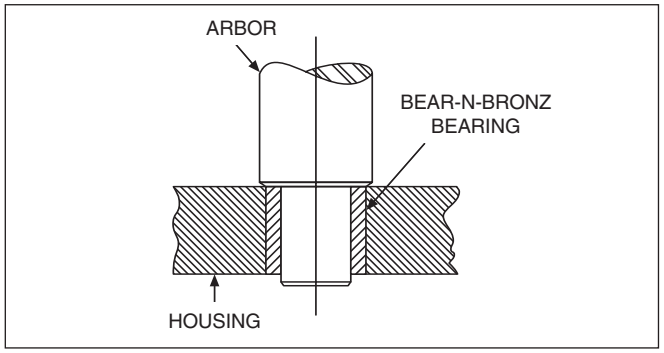


FIGURE 1.

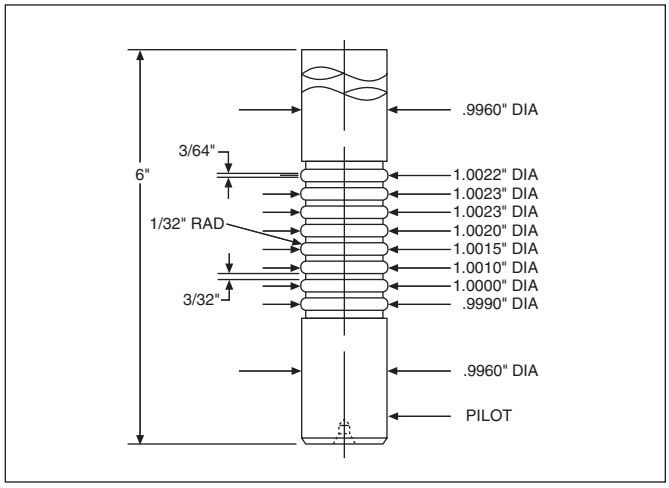
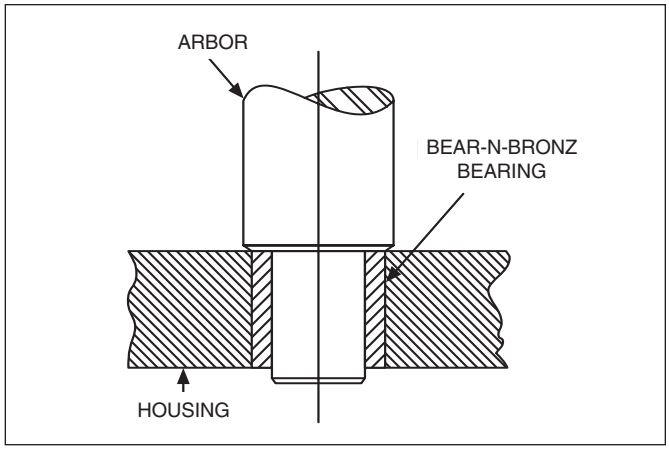


FIGURE 2.

ASSEMBLY—BEAR-N-BRONZ

BEAR-N-BRONZ can be easily assembled by using a shouldered arbor, as illustrated, to maintain proper bearing alignment. A steady, even pressure should be applied. The arbor diameter should be of a size to allow for close-in of bearing I.D. at assembly. The surface of the arbor should be lightly oiled to facilitate withdrawal after assembly.



Boston Gear's line of unmounted, inch size ball bearings, rod ends, spherical and linear bearings, give the designer freedom to choose from a wide range of quality bearing products that will resolve numerous application problems.

Boston Gear's inch size ball bearings are offered in Precision Ground, Semi- and Unground Radial and Thrust bearings. Our rod end and linear bearings are offered in Precision and Commercial Series.

BALL BEARINGS

Boston Ball Bearings provide improved performance over a wide range of operating conditions.

Major features include: Honed raceways on precision ball bearings for maximum life and smoother, quieter operation. Superior, low friction (low torque) seals, to more effectively exclude foreign matter and retain lubricant over a longer period.

The line of Ball Bearings include close tolerance precision units and inexpensive steel assemblies of the semi-ground type. These anti-friction items, available quickly from stock, make it easier to use a superior bearing "exactly right" for the majority of applications.

BALL BEARINGS (CONTINUED)

The bearings listed in this catalog are made from steel of various analyses. Carburizing grades are case hardened to the desired depths and hardness values, insuring high resistance to wear and breakdown. High carbon chrome alloy steels are through hardened. If you have a special material application, Boston Gear engineers will welcome the opportunity to help you make a proper bearing selection.

Bearings in this catalog may be selected according to finish or accuracy: ground bearings are available in the radial and thrust designs primarily. With boundary dimensions and internal fit-up held to exacting tolerances and with ground and polished ball grooves, ground bearings are recommended for applications requiring greater speeds and loads and where quiet accurate operation is essential. Normal tolerance level is .005"/.0010".

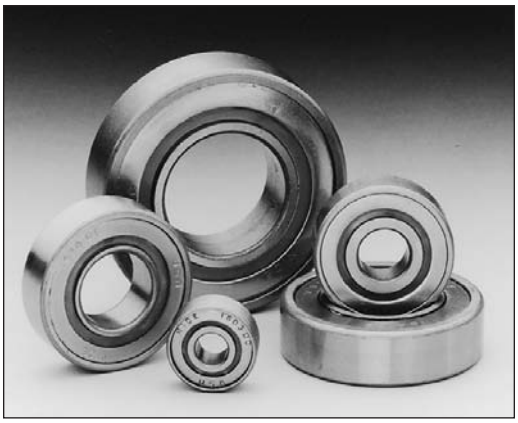
Unground bearings are designed for applications where speeds and loads are moderate and the requirements of running accuracy and noise level do not warrant the more expensive ground precision bearing. The three basic design types are available. Normal tolerance level is .005"/.010".

ROD END AND SPHERICAL BEARINGS

Boston Gear's broad line of rod end and spherical bearings serve many markets, which include textile, agriculture and off-highway vehicles along with military.

RADIAL BALL BEARINGS

GROUND, SINGLE ROW 1600 SERIES



HIGH QUALITY INCH DIMENSIONAL BEARINGS for adaptation to many precision bearing applications. Suitable for speeds in the neighborhood of 5000 R.P.M.

IMPROVED BALL GROOVE FINISH for smoother, quieter operation.

GROUND BORES held to a tolerance of + .0000" to –.0005" on all sizes, 1/4" bore and over.

NYLON BALL RETAINERS (TN) furnished as standard. Steel retainers (J) available on special production order.

GREASE PACKED as standard on Types DC and DS. Types SC, SS and NS can be grease packed on special order.

NYLON SEALS more effectively retain lubricant and exclude foreign matter.

SPECIAL FEATURES including dimensions, tolerances, etc. available on special order.

ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Double Shield		Double Sealed	
	Catalog Number	Item Code	Catalog Number	Item Code
.2500	1602DS	50724	1602DC	50701
.3125 .3750	1603DS 1604DS	50725 50726	1603DC 1604DC	50702 50703
.3125 .3750 .4375	1605DS 1606DS 1607DS	50727 50728 50729	1605DC 1606DC 1607DC	50704 50705 50706
.3750 .4375 .5000	1614DS 1615DS 1616DS	50730 50731 50732	1614DC 1615DC 1616DC	50707 50708 50709
.4375 .5000 .6250	1620DS 1621DS 1623DS	50733 50734 50736	— 1621DC 1623DC	— 50710 50712
.6250 .7500	1628DS 1630DS	50737 50738	1628DC 1630DC	50713 50714
.6250 .7500	1633DS 1635DS	50739 50740	1633DC 1635DC	50715 50716
.7500 .8750 1.0000	1638DS 1640DS 1641DS	50741 50742 50743	1638DC 1640DC 1641DC	50717 50718 50719
1.1250 1.2500	1652DS 1654DS	50744 50745	1652DC 1654DC	50720 50721
1.2500	1657DS	50746	1657DC	50722

NOTE: Dimensions and load data on next page.

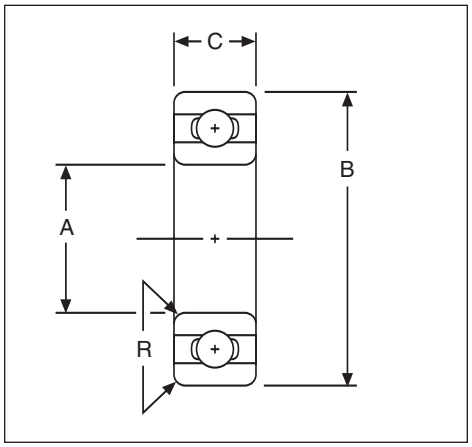
SEAL AND SHIELD ARRANGEMENTS

				
DOUBLE SEALED DC	DOUBLE SHIELD DS	SINGLE SEAL SC	SINGLE SHIELD SS	NO SHIELDS NS

TYPES SC, SS and NS are available via special order only

RADIAL BALL BEARINGS

GROUND, SINGLE ROW 1600 SERIES



STANDARD TOLERANCES

Dimensions		Tolerance
A	2500–1.2500	+.0000 to – .0005
B	.6875–1.7500 2.0000–2.5625	+.0000 to – .0005 +.0000 to – .0006
C	All	+.000 to – .005

For recommended shaft and housing fits, see engineering section, page 110.

ALL DIMENSIONS IN INCHES

Basic Bearing No.	A	B	C	R	Balls	
				Radius	No.	Dia.
1602	.2500	.6875	1/4+	.012	6	1/8
1603 1604	.3125 .3750	.8750	9/32++	.012 .015	7	5/32
1605 1606 1607	.3125 .3750 .4375	.9063	5/16	.012 .015 .015	9	1/8
1614 1615 1616	.3750 .4375 .5000	1.1250	3/8	.025	7	3/16
1620 1621 1623	.4375 .5000 .6250	1.3750	7/16	.025	8	15/64
1628 1630	.6250 .7500	1.6250	1/2	.025	8	1/4
1633 1635	.6250 .7500	1.7500	1/2	.025	8	1/4
1638 1640 1641	.7500 .8750 1.0000	2.0000	9/16	.035	10	1/4
1652 1654	1.1250 1.2500	2.5000	5/8	.035	10	5/16
1657	1.2500	2.5625	11/16	.035	9	3/8

*Maximum fillet on shaft or in housing which bearing corner will clear.
+ Width SC & DC = 5/16"
++ Width SC & DC = 11/32"

LOAD DATA

The indicated load ratings are based on 2500 hours average life. (L_{50}) to determine the load ratings at 3500 and 5000 hours, 90 percent and 80 percent respectively, of the above ratings should be used.

Basic Bearing Number	Radial Capacity (Lbs.) Revolutions Per Minute								Limiting Thrust (Lbs.)
	50	100	300	500	1200	1800	2500	5000	
1602	230	185	130	110	80	70	65	50	42
1603 1604	380	300	210	175	130	115	105	80	75
1605 1606 1607	305	245	170	140	105	95	85	65	65
1614 1615 1616	530	420	290	245	185	160	145	115	110
1620 1621 1623	860	690	475	400	300	260	235	185	200
1628 1630 1633 1635	980	780	540	460	340	300	265	210	225
1638 1640 1641	1140	905	630	530	395	345	310	245	280
1652 1654	1695	1345	935	790	590	515	460	365	440
1657	2200	1750	1215	1025	765	665	600	475	570

RADIAL BALL BEARINGS

GROUND, SINGLE ROW 7500 SERIES

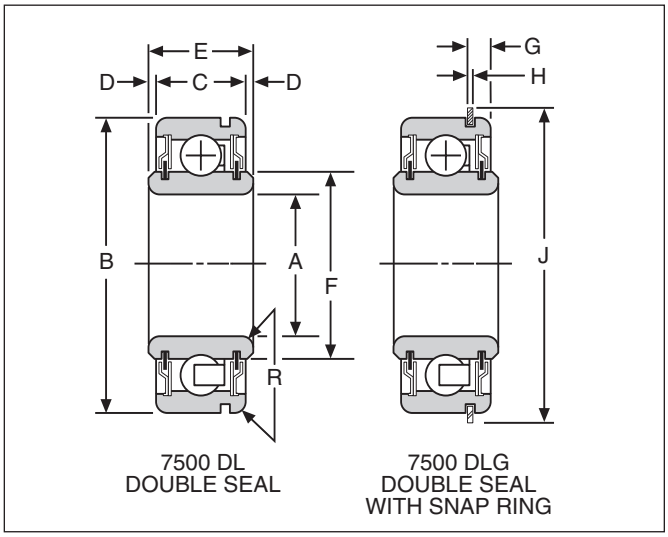
NYLON BALL RETAINERS (TN) standard on all sizes.

SINGLE LIP CONTACT SEALS effectively retain lubricant and exclude foreign material.

GREASE PACKED as standard on all "Double Sealed" Type DL and DLG.

SPECIAL FEATURES including dimensions, tolerances, single or without seals, steel retainers available on special order if quantity warrants.

SNAP RINGS included on all Type DLG sizes. Type DL sizes include snap ring groove but no snap rings furnished.



STANDARD TOLERANCES

Dimensions		Tolerance
A	All	+.0000 to –.0005
B	1.7500 2.0000-2.5625	+.0000 to –.0005 +.0000 to –.0006
C	All	+.000 to –.005
E	All	+.000 to –.005
G	All	±.005

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	D	E	F	G	H	J	R Radius *	Balls		DL Series		DLG Series	
										No.	Dia.	Catalog Number	Item Code	Catalog Number	Item Code
.5000 .6250 .7500	1.7500	5/8	1/16	3/4	.993	.136	.042	1-59/64	.035	8	1/4	7508DL 7510DL 7512DL	50587 50588 50589	7508DLG 7510DLG 7512DLG	50581 50582 50583
1.0000	2.0000	5/8	1/16	3/4	1.290	.136	.042	2-5/32	.035	10	1/4	7516DL	50591	7516DLG	50585
1.2500	2.5625	3/4	1/16	7/8	1.631	.190	.065	2-49/64	.035	9	3/8	7520DL	50592	7520DLG	50586

*Maximum fillet on shaft or housing which bearing will clear.

For recommended shaft and housing fits, see engineering section, page 110.

LOAD DATA

The indicated load ratings are based on 2500 hours average life (L_{50}). To determine the load ratings at 3500 and 5000 hours, 90 percent and 80 percent respectively, of the above ratings should be used.

Basic Bearing Number	Radial Capacity (Lbs.) Revolutions Per Minute										Max. Thrust Lbs.
	50	100	300	500	1000	1200	1800	2500	3600	5000	
7508-7512	1180	940	650	550	435	410	360	320	285	255	340
7516	1365	1085	750	635	505	475	415	370	330	295	375
7520	2640	2100	1460	1230	975	915	805	715	635	570	740

RADIAL BALL BEARINGS

GROUND, SINGLE ROW EXTENDED INNER RACE 7600 SERIES

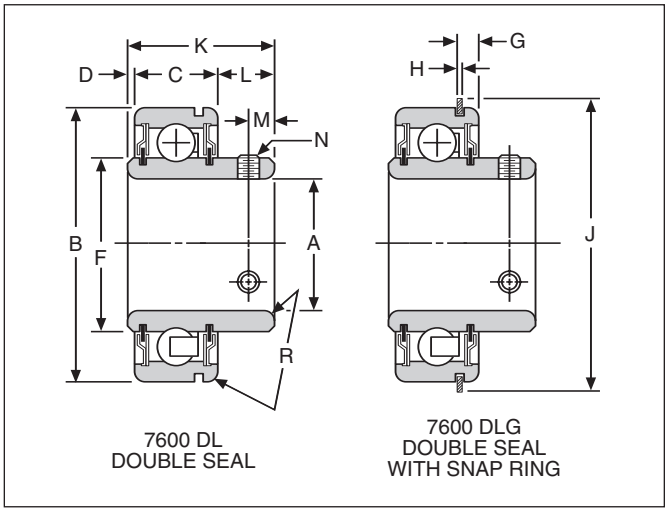
NYLON BALL RETAINERS (TN) standard on all sizes.

SINGLE LIP CONTACT SEALS effectively retain lubricant and exclude foreign material.

GREASE PACKED as standard on all "Double Sealed" Type DL and DLG.

SPECIAL FEATURES including dimensions, tolerances, single or without seals, steel retainers available on special order if quantity warrants.

SNAP RINGS included on all Type DLG sizes. Type DL sizes include snap ring groove but no snap rings furnished.



STANDARD TOLERANCES

Dimensions		Tolerance
A	All	+.0008 to –.0000
B	1.7500 2.0000-2.5625	+.0000 to –.0005 +.0000 to –.0006
C	All	+.000 to –.005
E	All	+.000 to –.005
G	All	±.005
K	All	+.000 to –.005

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	D	F	G	H	J	K	L	M	N	R* Radius *	Balls No.	Balls Dia.	DL Series Catalog Number	DL Series Item Code	DLG Series Catalog Number	DLG Series Item Code
.6250 .7500	1.7500	5/8	1/16	.993	.136	.042	1-59/64	1.092	.405	.233	10-32	.035	8	1/4	7610DL 7612DL	50600 50601	7610DLG 7612DLG	50594 50595
1.0000	2.0000	5/8	1/16	1.290	.136	.042	2-5/32	1.179	.492	.261	10-32	.035	10	1/4	7616DL	50603	7616DLG	50597
1.2500	2.5625	3/4	1/16	1.631	.190	.065	2-49/64	1.417	.605	.261	1/4-28	.035	9	3/8	7620DL	50604	7620DLG	50598

*Maximum fillet on shaft or housing which bearing will clear.

For recommended shaft and housing fits, see engineering section, page 110.

LOAD DATA

The indicated load ratings are based on 2500 hours average life (L_{50}). To determine the load ratings at 3500 and 5000 hours, 90 percent and 80 percent respectively, of the above ratings should be used.

Basic Bearing Number	Radial Capacity (Lbs.) Revolutions Per Minute 50	100	300	500	1000	1200	1800	2500	3600	5000	Max. Thrust (Lbs.)
7610-7612	1180	940	650	550	435	410	360	320	285	255	340
7616	1365	1085	750	635	505	475	415	370	330	295	375
7620	2640	2100	1460	1230	975	915	805	715	635	570	740

RADIAL BALL BEARINGS

GROUND, SINGLE ROW FLANGE MOUNTED 6900 SERIES

AVAILABLE AS COMPLETE ASSEMBLY, BEARING only or **HOUSING** only.

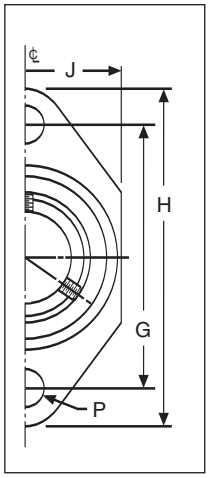
INNER RACE includes 2 setscrews.

GREASE PACKED, COMPOSITION SEALED.

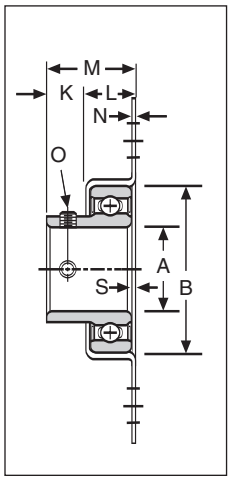
NYLON RETAINERS (**TN**) furnished as standard.

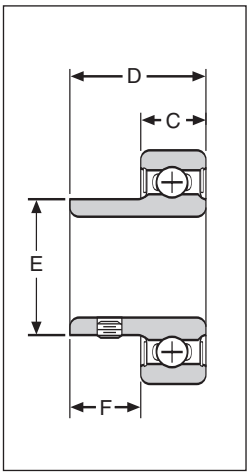
STANDARD TOLERANCES

Dimensions		Tolerance
A	All	+.005 to –.000
B	.9062-1.6250 2.000	+.0000 to –.0005 +.0000 to –.0006
C	All	+.000 to –.005



ASSEMBLY





BEARING ONLY

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	D	E	F	G Bolt Ctrs.	H	J+	K	L	M	N	O	P	S	Assembly*		Bearing Only	
																Catalog Number	Item Code	Catalog Number	Item Code
.3750	.9062	5/16	11/16	.555	3/8	1-7/8	2-1/2	1-1/8	11/32	11/32	11/16	.035	8-32	5/16	.000	6906	50572	6906B	50571
.5000 .6250	1.6250	1/2	1	.995	1/2	2-7/8	3-3/4	1-7/8	7/16	11/16	1	.062	1/4-28	7/16	.010	6908 6910	50574 50576	6908B 6910B	50573 50575
.7500 1.0000	2.0000	9/16	1-1/16	1.293	1/2	3-1/4	4-1/8	2-1/4	7/16	11/16	1-1/8	.062	1/4-28 10-32	7/16	1/16	6912 6916	50578 50580	6912B 6916B	50577 50579

*Housings do not have Catalog Numbers. To order specify bearing size-housing. Example: 6906-Housing.
+ J dimension is the overall width.

LOAD DATA

The indicated load ratings are based on 2500 hours average life (L_{50}). To determine the load ratings at 3500 and 5000 hours, 90 percent and 80 percent respectively, of the above ratings should be used.

Basic Bearing Number	Radial Capacity (Lbs.) Revolutions Per Minute			
	50	100	500	1800
6906	305	245	140	95
6908-6910	735	585	340	225
6912	850	675	395	260
6916	1140	905	530	345

RADIAL BALL BEARINGS

SEMI-GROUND, SINGLE ROW 3000 SERIES

LOW COST INCH DIMENSIONAL BEARINGS similar to 1600 Series in construction and dimensions and suitable for speeds up to 2500 R.P.M.

NYLON BALL RETAINERS (TN) furnished as standard. Steel retainers (J) available on special production order.

GREASE PACKED as standard on Types DC and DS. Types SC, SS and NS can be grease packed on special order.

NYLON SEALS more effectively retain lubricant and exclude foreign matter.

SPECIAL FEATURES including dimensions, tolerances, etc. available on special order.

ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Double Shield		Double Sealed	
	Catalog Number	Item Code	Catalog Number	Item Code
1/4	3002DS	50768	3002DC	50749
3/8	3004DS	50770	—	—
3/8	3014DS	50774	3014DC	50755
1/2	3016DS	50776	3016DC	50757
1/2	3021DS	50778	3021DC	50758
5/8	3023DS	50779	3023DC	50759
5/8	3028DS	50780	3028DC	50760
3/4	3030DS	50781	3030DC	50761
3/4	3035DS	50783	3035DC	50763
1	3041DS	50786	3041DC	50766

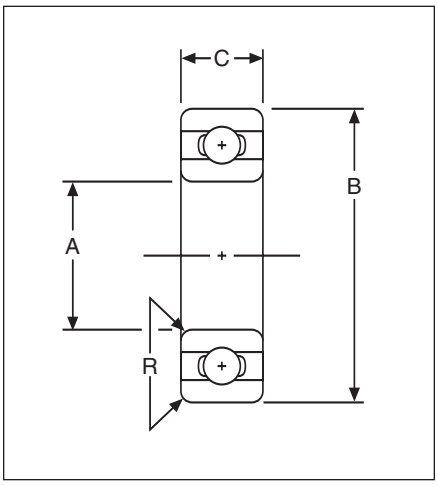
SEAL AND SHIELD ARRANGEMENTS

				
DOUBLE SEALED	DOUBLE SHIELD	SINGLE SEAL	SINGLE SHIELD	NO SHIELDS
DC	DS	SC	SS	NS

TYPES SC, SS and NS are available via special order only.

RADIAL BALL BEARINGS

SEMI-GROUND, SINGLE ROW 3000 SERIES



STANDARD TOLERANCES

Dimensions		Tolerance
A	All	+.005 to –.000
B	11/16-1-3/4 2	+.0000 to –.0005 +.0000 to –.0006
C	All	±.005

For recommended shaft and housing fits, see engineering section, page 110.

ALL DIMENSIONS IN INCHES

Basic Bearing Number	A	B	C	R * Radius	Balls	
					No.	Dia.
3002	1/4	11/16	1/4+	.012	6	1/8
3004	3/8	7/8	9/32++	.012	7	5/32
3014 3016	3/8 1/2	1-1/8	3/8	.025	7	3/16
3021 3023	1/2 5/8	1-3/8	7/16	.025	8	15/64
3028 3030	5/8 3/4	1-5/8	1/2	.025	8	1/4
3035	3/4	1-3/4	1/2	.025	8	1/4
3040 3041	7/8 1	2	9/16	.035	10	1/4

*Maximum fillet on shaft or in housing which bearing corner will clear.
+ Width SC & DC = 5/16"
++ Width SC = 11/32"

LOAD DATA

Load ratings are provided only as a guide for bearing selection and are not to be used for life calculation.

Basic Bearing Number	Radial Capacity (Lbs.) Revolutions Per Minute					Limiting Thrust (Lbs.)
	50	100	500	1800	2500	
3002	150	120	70	45	40	30
3004	250	200	120	80	70	50
3014 3016	350	280	165	105	95	75
3021 3023	575	460	270	175	155	135
3028 3030 3035	650	520	305	200	180	150
3040 3041	760	605	355	230	205	185

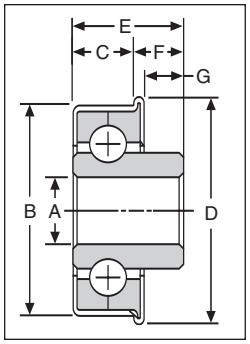
RADIAL BALL BEARINGS

UNGROUND, SINGLE ROW FLANGED 400F SERIES

FULL BALL TYPE (V) without retainer.

SUITABLE for SPEEDS up to 1200 RPM.

SOFT STEEL BAND on O.D. permits bearing to be pressed in a housing without the necessity of close housing tolerances.



STANDARD TOLERANCES

Dimensions		Tolerance
A	All	+.005 to –.000
B	All	+.005 to –.000
C	All	±.010

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

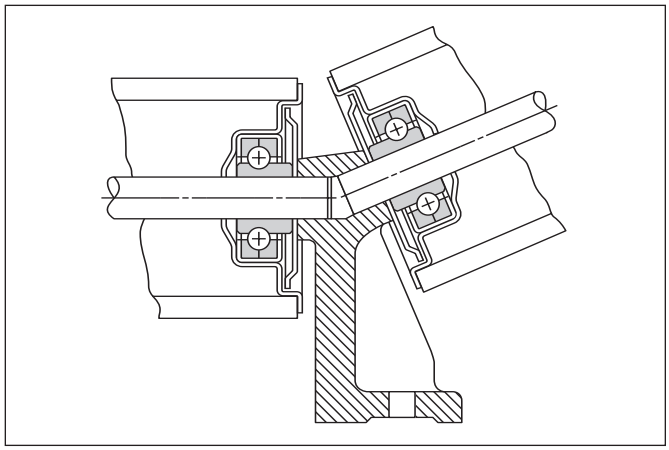
A	B	C	D	E	F	G	Balls		Catalog Number	Item Code
							Number	Dia.		
1/4	11/16	13/65	3/4	1/4	3/64	0	10	1/8	5561	50566
3/8	29/32	17/64	1	.350	.088	.048	15	1/8	5543	50565
1/2	1-1/8	.305	1-1/4	7/16	.132	1/16	18	1/8	5491	50564
1/2	1-3/8	11/32	1-1/2	.475	1/8	1/32	15	3/16	5881	50569
5/8	1-3/8	11/32	1-1/2	.475	1/8	1/32	15	3/16	5273	50559
1/2	1-1/2	3/8	1-21/32	11/16	.320	1/4	11	1/4	5327	50561
3/4	1-3/4	.462	1-15/16	37/64	1/8	1/64	14	1/4	5891	50570
3/4	2	13/32	2-1/8	9/16	5/32	1/16	17	1/4	5875	50568
1	2	13/32	2-1/8	5/8	7/32	1/8	17	1/4	5418	50563

LOAD DATA

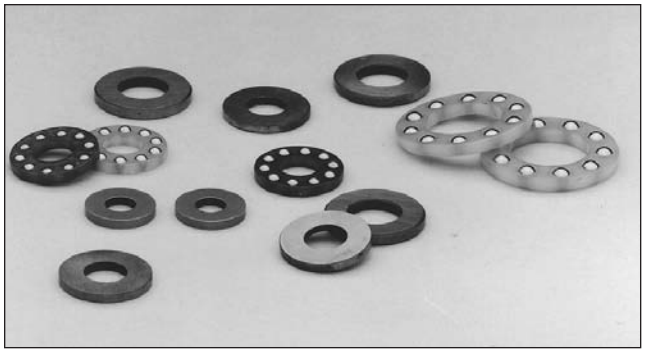
Load ratings are provided only as a guide for bearing selection and are not to be used for life calculation.

Basic Bearing Number	Radial Capacity (Lbs.) Revolutions Per Minute			
	50	200	600	1200
5561	110	53	30	21
5543	167	80	45	32
5368-5491	200	96	54	38
5881-5273	375	180	101	71
5327	492	236	132	92
5891	625	300	168	177
5875-5418	757	362	204	142

TYPICAL APPLICATION Flanged Series



THRUST BALL BEARINGS — GROUND, UNBANDED



Hardened Alloy Steel — AO Series
Hardened Stainless Steel — SAO Series
FOR LIGHT LOADS

HIGH QUALITY HARDENED STEEL BALLS, retained in a nylon cage.

HARDENED THRUST WASHERS, are ground both sides to provide smooth, flat, parallel ball raceway surfaces.

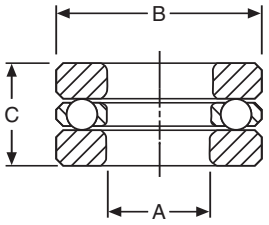
QUALITY and NUMBER OF BALLS assure high load carrying capacity.

NYLON RETAINER assures minimum frictional losses.

STANDARD TOLERANCES

Dimensions		Tolerance
A*	All	+.002 to +.007
B	All	+.000 to –.005
C	All	+.000 to –.010

*AO/SAO 16 +.002 to +.010



ALL DIMENSIONS IN INCHES
ORDER BY ITEM CODE (2 WASHERS AND 1 NYLON CAGE)

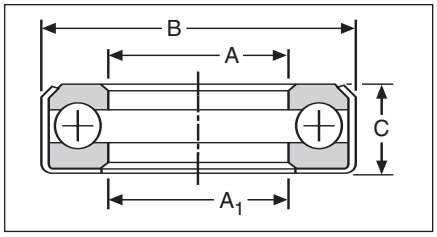
A	B	C	Balls		Basic Bearing	AO Series Alloy		SAO Series Stainless Steel	
			Number	Diameter	Number	Washer	Nylon Cage	Washer	Nylon Cage
3/16	7/16	3/16	9	1/16	AO/SAO1	06724	56807	06760	56813
1/4	9/16	7/32	10	3/32	AO/SAO5	06726	56808	06762	56814
5/16	5/8	1/4	10	3/32	AO/SAO8	06728	56809	06764	56815
3/8	11/16	9/32	12	3/32	AO/SAO10	06730	56810	06766	56816
1/2	7/8	3/8	10	1/8	AO/SAO16	06734	56812	06770	56818

LOAD DATA

The indicated load ratings are based on 2500 hours average life (L_{50}). To determine the load ratings at 3500 and 5000 hours, 90 percent and 80 percent respectively, of the above ratings should be used.

Basic Bearing Number	Thrust Capacity (Lbs.) Revolutions Per Minute			
	50	100	500	1000
AO/SAO1	30	25	14	11
AO/SAO5	64	56	31	25
AO/SAO8	68	60	34	27
AO/SAO10	85	72	42	32
AO/SAO16	250	125	70	58

THRUST BALL BEARINGS



STANDARD TOLERANCES

Dimensions		Tolerance
A	All	–.000 to +.010
A_1	All	±.010
B	All	±.010
C	All	±.010

UNGROUND, BANDED 600 SERIES

FULL BALL TYPE (V) without retainer.

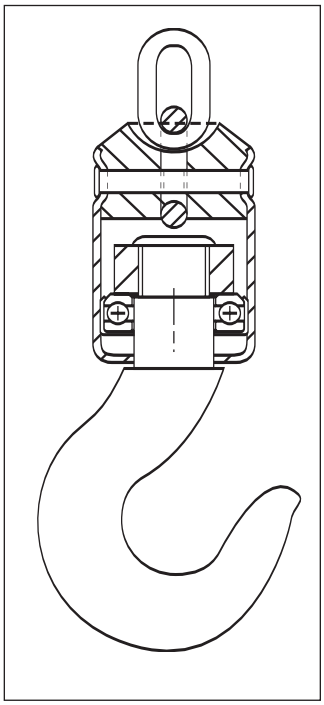
ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	A_1	B	C	Balls		Catalog Number	Item Code
				No.	Dia.		
.250	.275	27/32	.333	10	5/32	601	50537
.375	.400	1-3/64	.359	14	5/32	602	50538
.453	.478	55/64	.281	15	1/8	602-3/4	50540
.500	.525	1-17/64	.437	10	1/4	603	50541
.500	.525	1	.344	12	3/16	603-1/4	50542
.625	.656	1-1/8	.344	16	5/32	605	50543
.625	.656	1-27/64	.456	12	1/4	606	50544
.750	.775	1-21/32	.545	15	1/4	607	50545
.875	.900	1-57/64	.594	17	1/4	608	50547
1.000	1.075	2	.640	12	3/8	609	50548
1.000	1.031	1-31/32	.625	18	1/4	610	50549
1.016	1.031	1-3/4	.625	16	1/4	610-1/4	50550
1.063	1.094	1-31/32	.625	18	1/4	611	50551
1.125	1.150	2-3/32	.625	19	1/4	613	50552
1.457	1.462	2-15/32	.625	23	1/4	619	50555
1.500	1.525	2-19/32	.625	25	1/4	621	50556

LOAD DATA

Load ratings are provided only as a guide for bearing selection and are not to be used for life calculation.

Bearing Number	Thrust Capacity (Lbs.) Revolutions Per Minute						Crane Hook
	10	50	100	250	500	1000	
601	304	246	182	98	71	51	912
602	426	344	254	138	100	71	1277
602-3/4	292	236	174	94	68	48	873
603	780	630	465	252	182	129	2325
603-1/4	526	425	314	170	123	87	1570
605	487	394	291	158	114	81	1460
606	936	750	558	302	218	155	2790
607	1170	945	698	378	273	194	3490
608	1326	1071	791	428	309	220	3960
609	1706	1378	1017	551	398	284	5080
610	1404	1134	837	454	328	233	4190
610-1/4	1248	1008	744	403	291	207	3730
611	1404	1134	837	454	328	233	4190
613	1482	1197	883	479	346	246	4420
619	1794	1449	1069	579	419	298	5350
621	1950	1575	1162	630	455	324	5820



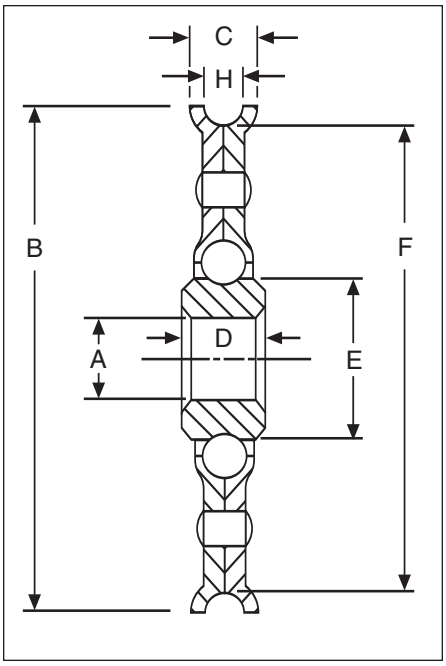
CRANE HOOK SWIVEL APPLICATION BEARING NO. 605

This standard product provided the exact bearing needed by this crane hoist manufacturer. An unground bearing provided the economy, while a full ball complement provided the required high thrust-load capacity. The bearing features a bonded non-separable assembly that provides easy installation and lubrication.

Special platings and stainless steel balls are readily available as a cost-effective way to fight corrosion and increase service life.

BALL BEARINGS SHEAVES

UNGROUND 2000 SERIES



NR 2000 Series are unground, of pressed steel construction with hardened raceways. For rope, wire rope, etc. and special uses requiring a semi-circular tread.

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	D	E	F	H	Catalog Number	Item Code
.166	1-1/4 1-21/32	9/32 5/16	7/16 7/16	3/8 3/8	1 1-11/32	7/32 7/32	NR2000 NR2006	67135 67136
1/4	2-7/8 3-1/16	17/32 37/64	1/2 1/2	1 1	2-9/16 2-9/16	13/32 13/32	NR2008 NR2010	67137 67138
5/16	3	19/32	3/4	1	2-5/8	1/2	NR2011	67139
3/8	2-3/4 2-3/4 2-3/4 2-7/8 3 3-1/16 3-5/16 4-1/16	1/2 1/2 9/16 17/32 1/2 37/64 3/4 17/32	7/16 9/16 7/16 1/2 11/16 1/2 13/16 3/4	1 1 1 1 1 1 13/16 1	2-3/8 2-3/8 2-3/8 2-9/16 2-3/8 2-9/16 2-3/8 3-9/16	3/8 3/8 7/16 13/32 3/8 13/32 7/16 13/32	NR2012 NR2012-1 NR2013 NR2014 NR2015 NR2016 NR2017 NR2024	67140 67141 67142 67143 67144 67145 67146 67149
1/2	2-7/8 4-1/16	11/16 17/32	13/16 3/4	13/16 1	2-1/4 3-9/16	17/32 13/32	NR5378 NR2025	67267 67150
5/8	2-3/4 3	7/16 19/32	9/16 3/4	13/16 1	2-3/16 2-5/8	5/16 1/2	NR2018 NR2020*	67147 67148
1	7-1/8	13/16	5/8	1-3/8	6	17/32	NR5623	67275

* Inner race “D” dimension not centered.

LOAD DATA

Load ratings are provided only as a guide for bearing selection and are not to be used for life calculation.

STANDARD TOLERANCES

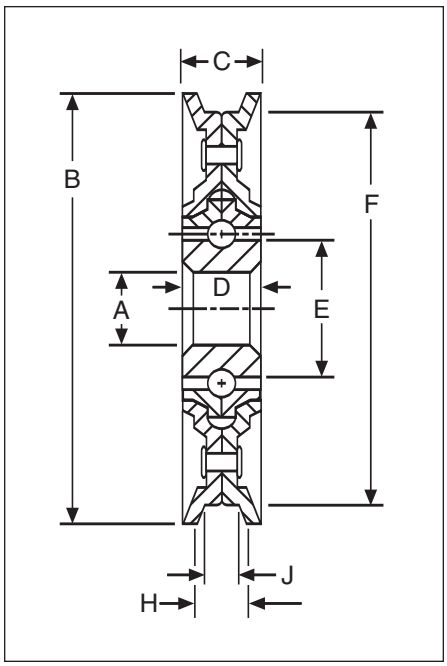
Dimensions		Tolerance
A	All	+.005 to -.000

Sheave Number	Radial Load Capacity (Lbs.) Revolutions Per Minute						Balls	
	50	100	200	300	600	900	No.	Diam.
NR2000 NR2006	88	62	42	34	24	19	10	1/8
NR2008 NR2010	300	210	144	116	81	66	14	1/4
NR2011	293	208	146	121	82	70	14	1/4
NR2012 NR2012-1	300	210	144	116	81	66	14	1/4
NR2013	230	164	115	95	65	55	14	1/4
NR2014 NR2015 NR2016 NR2017	300	210	144	116	81	66	14	1/4
							15	3/16
NR2024 NR5378 NR2025	471	334	235	194	132	112	14	1/4
							15	3/16
							14	1/4
NR2018	300	210	144	116	81	66	15	3/16
NR2020 NR5623	293	208	146	121	82	70	19	1/4

BALL BEARINGS SHEAVES

UNGROUND 2100 SERIES

NR 2100 Series are unground, of pressed steel construction with hardened raceways. For chain or belt application.



ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	D	E	F	H	J	Catalog No.	Item Code
.372	2-1/4	19/32	7/8	9/16	1-5/8	15/32	15/32	NR2105	67151
	2-5/8	1/2	5/8	13/16	2	3/8	3/8	NR2106	67152
3/8	3-1/4	19/32	11/16	1	2-11/16	15/32	7/16	NR2111-1	67154
	3-3/8	19/32	11/16	1	2-11/16	15/32	7/16	NR2111	67153
	3-3/8	19/32	7/8	1	2-11/16	15/32	7/16	NR2112	67155
1/2	3	5/8	15/16	1	2-13/16	1/2	1/2	NR2113	67156
	4-15/16	3/4	7/8	1	4	5/8	9/16	NR2118	67157
5/8	4-7/16	5/8	3/4	1	3-7/8	27/64	27/64	NR2120	67158

LOAD DATA

Load ratings are provided only as a guide for bearing selection and are not to be used for life calculation.

Sheave Number	Radial Load Capacity in Pounds Revolutions Per Minute						Balls	
	50	100	200	300	600	900	No.	Diam.
NR2105	220	153	119	85	59	48	11	3/16
NR2106	356	247	170	137	96	78	10	1/4
NR2111-1 NR2111 NR2112 NR2113	327	232	163	135	92	78	10	5/16
NR2118	500	344	240	192	134	109	14	1/4
NR2120	293	208	146	121	82	70	14	1/4

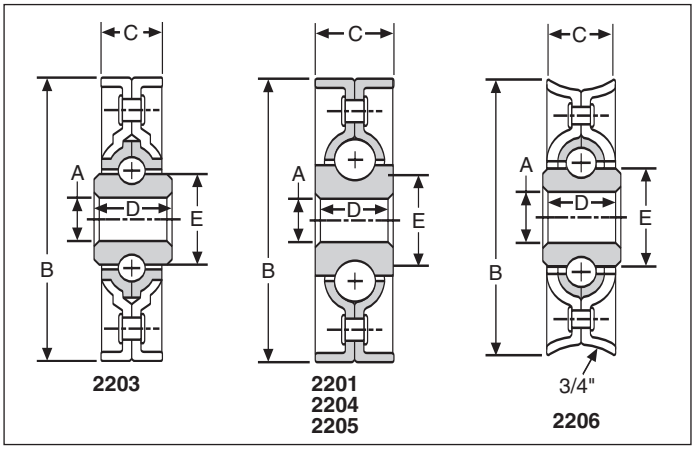
STANDARD TOLERANCES

Dimensions		Tolerance
A	All	+.005 to -.000

BALL BEARINGS WHEELS

UNGROUND 2200 SERIES

The NR 2200 series pressed steel, ball bearing type wheels conform to the drawings showing their tread types. NR2201, 2204 and 2205 have ball races and outer housing carefully hardened. NR 2203 and 2206 have hardened races and unhardened outer housings.



ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	D	E	R	Catalog No.	Item Code
1/4	1.400	1/2	7/16	9/16	—	NR2201	67159
3/8	2-1/8	1/2	5/8	13/16	—	NR2203	67160
3/8	2-1/2	11/16	11/16	1	—	NR2204	67161
17/32	2-1/2	11/16	11/16	1	—	NR2205	67162
1/2	2-3/4	9/16	11/16	1	3/4	NR2206	67163

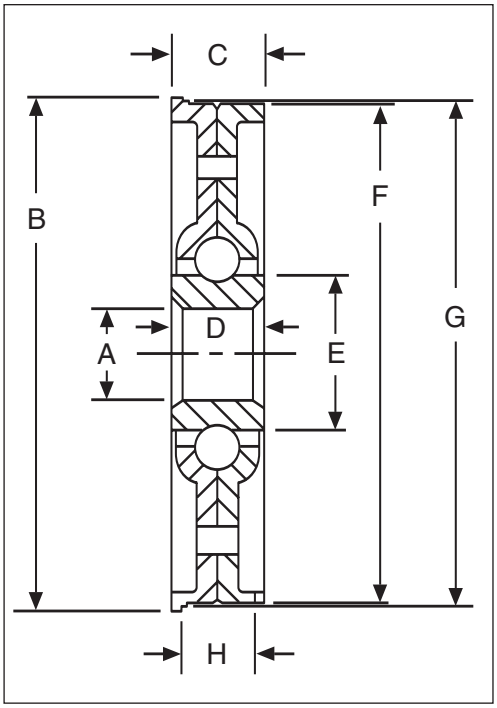
STANDARD TOLERANCES

Dimensions		Tolerance
A	All	+.005 to -.000

LOAD DATA*

Wheel Number	Radial Load Capacity in Pounds Revolutions Per Minute						Balls	
	50	100	200	300	600	900	No.	Diam.
NR2201	91	66	47	37	25	23	15	1/8
NR2203	230	164	115	95	65	55	15	3/16
NR2204 NR2205	136	100	71	56	38	34	14	1/4
NR2206	327	232	163	135	92	78	14	1/4

UNGROUND, FLANGED 2300 SERIES



The NR 2300 Series pressed steel, ball bearing type wheels are advantageous for application to wooden rollers or steel tubes, pipes, etc. The flange serves as an economical method of locating the roller in its nest. The ball races are carefully hardened while the outer housing is unhardened.

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

A	B	C	D	E	F	G	H	Catalog No.	Item Code
3/8	2	1/2	11/16	9/16	1.875	1.875	7/16	NR2308	67165
3/8	2-1/4	9/16	3/4	9/16	1.625	1.625	1/2	NR2312+	67166
1/2	3	9/16	15/16	1	2.781	2.810	1/2	NR2324	67167

+Screw holes in Flange, for application to Wood Rollers.

STANDARD TOLERANCES

Dimensions		Tolerance
A	All	+.005 to -.000

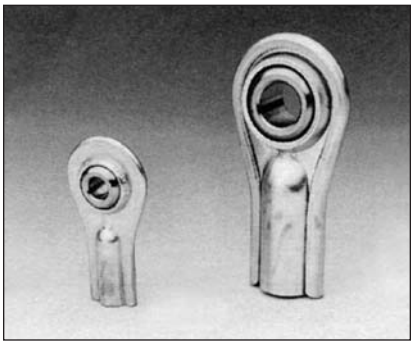
LOAD DATA*

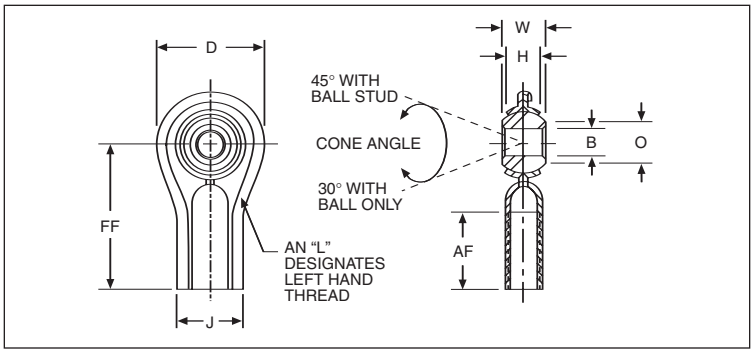
Wheel Number	Radial Load Capacity in Pounds Revolutions Per Minute						Balls	
	50	100	200	300	600	900	No.	Diam.
NR2308	77	56	40	32	21	19	15	1/8
NR2312	220	153	119	85	59	48	15	1/8
NR2324	327	232	163	135	92	78	14	1/4

*Load ratings are provided only as a guide for bearing selection and are not to be used for life calculation.

ROD ENDS — ECONOMICAL

KF FEMALE SERIES





SPECIFICATIONS

Outer Member	Low carbon steel stamping plated for corrosion resistance
Ball	Low carbon steel, case hardened plated for corrosion resistance and wear

ALL DIMENSIONS IN INCHES

Bore B	W	H	AF	FF	D	J	O	Ball Dia.	Thread
+.0025 −.0005	±.005	REF	±.060	±.030	±.030	REF	REF	REF	Class UNF-2
.1900	.312	.250	.500	1.062	.750	.450	.296	.430	10-32
.2500	.375	.287	.687	1.312	.850	.515	.346	.510	1/4-28
.3125	.437	.305	.687	1.375	1.015	.590	.438	.618	5/16-24
.3750	.500	.400	.875	1.625	1.125	.725	.508	.713	3/8-24
.5000	.625	.500	1.125	2.125	1.470	1.010	.690	.931	1/2-20

LOAD DATA

Basic Bearing Number	Ultimate Static Load (Radial) Rating (Lbs.)	Approx. Wt. (Lbs.)
3	1,000	.02
4	1,900	.04
5	2,300	.07
6	3,000	.11
8	6,100	.23

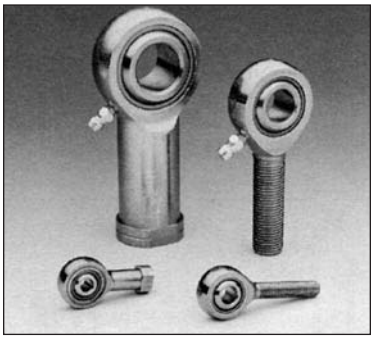
ORDER BY CATALOG NUMBER OR ITEM CODE

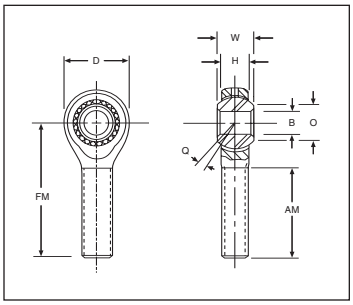
Bore	Right Hand		Left Hand	
	Catalog Number	Item Code	Catalog Number	Item Code
.1900	KF-3	65001	KFL-3	65070
.2500	KF-4	65002	KFL-4	65140
.3125	KF-5	65041	KFL-5	65141
.3750	KF-6	65042	KFL-6	65142
.5000	KF-8	65069	KFL-8	65252

NOTES: To order with optional studs, add letters "Y" or "S" to suffix. For stud specifications, see Page 83.
For Engineering Data, see Pages 79-83.

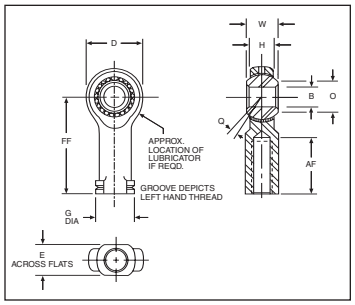
ROD ENDS — COMMERCIAL

HM-C MALE SERIES HF-C FEMALE SERIES





MALE



FEMALE

ALL DIMENSIONS IN INCHES

Bore B	W	H	AM	FM	AF	FF	D	G	E	O	Ball Dia.	Q	Thread
+.0025 -.0005	±.005	REF	±.060	±.030	±.060	±.030	±.010	REF	REF	REF	REF	REF	Class UNF-2
.1900	.312	.250	.750	1.250	.562	1.062	.750	.406	.312	.296	.430	±5-1/2°	10-32
.2500	.375	.281	1.000	1.562	.750	1.312	.750[1]	.468	.375	.346	.510	±6-1/2°	1/4-28
.3125	.437	.344	1.250	1.875	.750	1.375	.875	.500	.437	.438	.618	±5-1/2°	5/16-24
.3750	.500	.406	1.250	1.938	.937	1.625	1.000	.687	.562	.508	.713	±5°	3/8-24
.4375	.562	.437	1.375	2.125	1.062	1.812	1.125	.750	.625	.578	.806	±6°	7/16-20
.5000	.625	.500	1.500	2.438	1.187	2.125	1.312	.875	.750	.690	.931	±5°	1/2-20
.6250	.750	.562	1.625	2.625	1.500	2.500	1.500	1.000	.875	.801	1.098	±6°	5/8-18
.7500	.875	.687	1.750	2.875	1.750	2.875	1.750	1.125	1.000	1.010	1.336	±5°	3/4-16

+Tolerance +.015/–.010

SPECIFICATIONS

Outer Member	Low carbon steel plated for corrosion resistance
Ball	Case hardened steel plated for corrosion resistance and wear
Insert	Oil impregnated sintered bronze

LOAD DATA

Basic Bearing Number	Ultimate Static Load (Radial) Rating (Lbs.)		Approx. Wt. (Lbs.)	
	Male	Female	Male	Female
3	1,600	1,800	.04	.04
4	2,250	2,300	.05	.06
5	2,850	2,900	.08	.09
6	3,900	4,300	.12	.16
7	5,300	5,350	.17	.20
8	7,400	8,400	.27	.32
10	9,350	9,550	.40	.48
12	10,450	10,500	.72	.72

ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Right Hand				Left Hand			
	With Lubricator		Without Lubricator		With Lubricator		Without Lubricator	
	Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code
MALE TYPE								
.1900	—	—	HM-3C	48193	—	—	HML-3C	48208
.2500	HM-4CG	48201	HM-4C	48194	HML-4CG	48216	HML-4C	48209
.3125	HM-5CG	48202	HM-5C	48195	HML-5CG	48217	HML-5C	48210
.3750	HM-6CG	48203	HM-6C	48196	HML-6CG	48218	HML-6C	48211
.4375	HM-7CG	48204	HM-7C	48197	HML-7CG	48219	HML-7C	48212
.5000	HM-8CG	48205	HM-8C	48198	HML-8CG	48220	HML-8C	48213
.6250	HM-10CG	48206	HM-10C	48199	HML-10CG	48221	HML-10C	48214
.7500	HM-12CG	48207	HM-12C	48200	HML-12CG	48222	HML-12C	48215
FEMALE TYPE								
.1900	—	—	HF-3C	48163	—	—	HFL-3C	48178
.2500	HF-4CG	48171	HF-4C	48164	HFL-4CG	48186	HFL-4C	48179
.3125	HF-5CG	48172	HF-5C	48165	HFL-5CG	48187	HFL-5C	48180
.3750	HF-6CG	48173	HF-6C	48166	HFL-6CG	48188	HFL-6C	48181
.4375	HF-7CG	48174	HF-7C	48167	HFL-7CG	48189	HFL-7C	48182
.5000	HF-8CG	48175	HF-8C	48168	HFL-8CG	48190	HFL-8C	48183
.6250	HF-10CG	48176	HF-10C	48169	HFL-10CG	48191	HFL-10C	48184
.7500	HF-12CG	48177	HF-12C	48170	HFL-12CG	48192	HFL-12C	48185

NOTES:

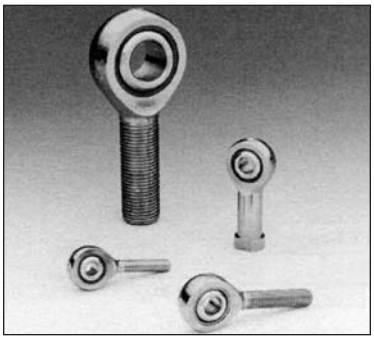
To order with optional studs, add letter “Y” or "S" to suffix. For stud specifications, see Page 83.

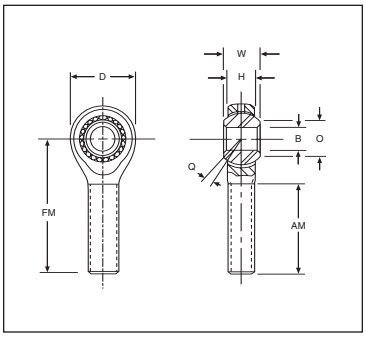
Lubricators available on sizes 4 through 12 only, studs available on all sizes.

For Engineering Data, see Pages 79-83.

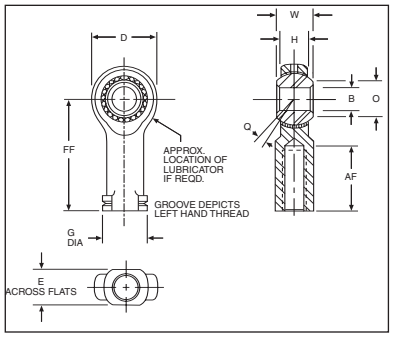
ROD ENDS — COMMERCIAL SELF LUBRICATING

CMHD MALE SERIES CFHD FEMALE SERIES





MALE



FEMALE

ALL DIMENSIONS IN INCHES

Bore B	W	H	AM	FM	AF	FF	D	G	E	O	Ball Dia.	Thread	Q
+.0025 -.0005	±.005	REF	±.060	±.030	±.060	±.030	±.010	REF	REF	REF	REF	Class UNF-2	REF
.1900	.312	.250	.750	1.250	.562	1.062	.625	.406	.312	.296	.430	10-32	±6°
.2500	.375	.281	1.000	1.562	.750	1.312	.750	.468	.375	.346	.510	1/4-28	±7°
.3125	.437	.344	1.250	1.875	.750	1.375	.875	.500	.437	.438	.618	5/16-24	±6°
.3750	.500	.406	1.250	1.938	.937	1.625	1.000	.687	.562	.508	.713	3/8-24	±5-1/2°
.4375	.562	.437	1.375	2.125	1.062	1.812	1.125	.750	.625	.578	.806	7/16-20	±6°
.5000	.625	.500	1.500	2.438	1.187	2.125	1.312	.875	.750	.690	.931	1/2-20	±5°
.6250	.750	.562	1.625	2.625	1.500	2.500	1.500	1.000	.875	.801	1.098	5/8-18	±7-1/2°
.7500	.875	.687	1.750	2.875	1.750	2.875	1.750	1.125	1.000	1.010	1.336	3/4-16	±6°

SPECIFICATIONS

Outer Member	Low carbon steel plated for corrosion resistance
Ball	Case hardened steel electroless nickel plated
Insert	Reinforced nylon

LOAD DATA

Basic Bearing Number	Ultimate Static Load (Radial) Rating (Lbs.)		Approx. Wt. (Lbs.)
	Male	Female	
3	1,150	1,200	.02
4	1,600	1,650	.04
5	2,700	2,800	.07
6	3,200	3,250	.11
7	3,750	3,800	.15
8	5,800	6,400	.23
10	7,050	7,100	.38
12	8,800	9,000	.58

ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Right Hand		Left Hand	
	Catalog Number	Item Code	Catalog Number	Item Code
MALE TYPE				
.1900	CMHD-3	48307	CMHDL-3	48315
.2500	CMHD-4	48308	CMHDL-4	48316
.3125	CMHD-5	48309	CMHDL-5	48317
.3750	CMHD-6	48310	CMHDL-6	48318
.4375	CMHD-7	48311	CMHDL-7	48319
.5000	CMHD-8	48312	CMHDL-8	48320
.6250	CMHD-10	48313	CMHDL-10	48321
.7500	CMHD-12	48314	CMHDL-12	48322
FEMALE TYPE				
.1900	CFHD-3	48291	CFHDL-3	48299
.2500	CFHD-4	48292	CFHDL-4	48300
.3125	CFHD-5	48293	CFHDL-5	48301
.3750	CFHD-6	48294	CFHDL-6	48302
.4375	CFHD-7	48295	CFHDL-7	48303
.5000	CFHD-8	48296	CFHDL-8	48304
.6250	CFHD-10	48297	CFHDL-10	48305
.7500	CFHD-12	48298	CFHDL-12	48306

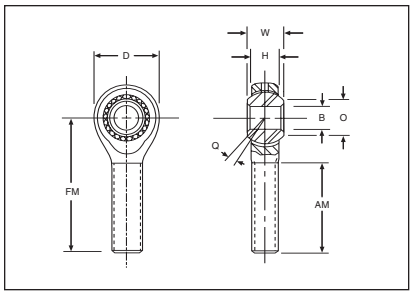
NOTES:

To order with optional studs, add letter “Y” or "S" to suffix. For stud specifications, see Page 83.

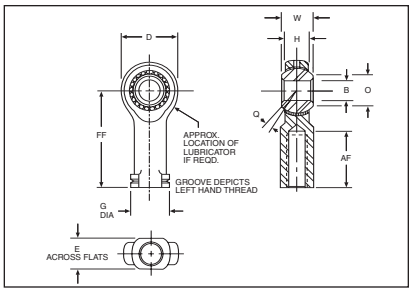
For Engineering Data, see Pages 79-83.

ROD ENDS — PRECISION

HM MALE SERIES HF FEMALE SERIES



MALE



FEMALE

ALL DIMENSIONS IN INCHES

Bore B	W	H	AM	FM	AF	FF	D	G	E	O	Ball Dia.	Q	Thread
+.0015 -.0005	±.005	REF	±.060	±.030	±.060	±.030	±.010	REF	REF	REF	REF	REF	Class UNF-2
.1900	.312	.250	.750	1.250	.562	1.062	.750	.406	.312	.296	.430	±5-1/2°	10-32
.2500	.375	.281	1.000	1.562	.750	1.312	.750(1)	.468	.375	.346	.510	±6-1/2°	1/4-28
.3125	.437	.344	1.250	1.875	.750	1.375	.875	.500	.437	.438	.618	±5-1/2°	5/16-24
.3750	.500	.406	1.250	1.938	.937	1.625	1.000	.687	.562	.508	.713	±5°	3/8-24
.4375	.562	.437	1.375	2.125	1.062	1.812	1.125	.750	.625	.578	.806	±6°	7/16-20
.5000	.625	.500	1.500	2.438	1.187	2.125	1.312	.875	.750	.690	.931	±5°	1/2-20
.6250	.750	.562	1.625	2.625	1.500	2.500	1.500	1.000	.875	.801	1.098	±6°	5/8-18
.7500	.875	.687	1.750	2.875	1.750	2.875	1.750	1.125	1.000	1.010	1.336	±5°	3/4-16
1.0000	1.375	1.000	2.125	4.125	2.125	4.125	2.750(2)	1.625	1.500	1.269	1.875	7°	1-1/4-12(4)

(1) Tolerance +.015/–.010 (2) Tolerance +.030/–.010 (3) Tolerance +.000/–.005 (4) Class 3 Threads

SPECIFICATIONS

	Sizes 3 - 12	Size 16
Outer Member	Low carbon steel plated for corrosion resistance	
Ball	Case hardened steel for corrosion resistance and wear	52100 steel heat treated plated for corrosion resistance
Insert	Oil impregnated sintered bronze	Low carbon steel plated for corrosion resistance

LOAD DATA

Basic Bearing Number	Ultimate Static Load (Radial) Rating (Lbs.)		Approx. Wt. (Lbs.)	
	Male	Female	Male	Female
3	1,600	1,800	.04	.04
4	2,250	2,300	.05	.06
5	2,850	2,900	.08	.09
6	3,900	4,300	.12	.16
7	5,300	5,350	.17	.20
8	7,400	8,400	.27	.32
10	9,350	9,550	.40	.48
12	10,450	10,500	.62	.72
16	43,540	43,540	2.41	2.13

ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Right Hand				Left Hand			
	With Lubricator		Without Lubricator		With Lubricator		Without Lubricator	
	Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code
MALE TYPE								
.1900	—	—	HM-3	48259	—	—	HML-3	48276
.2500	HM-4G	48267	HM-4	48260	HML-4G	48284	HML-4	48277
.3125	HM-5G	48268	HM-5	48261	HML-5G	48285	HML-5	48278
.3750	HM-6G	48269	HM-6	48262	HML-6G	48286	HML-6	48279
.4375	HM-7G	48270	HM-7	48263	HML-7G	48287	HML-7	48280
.5000	HM-8G	48271	HM-8	48264	HML-8G	48288	HML-8	48281
.6250	HM-10G	48272	HM-10	48265	HML-10G	48289	HML-10	48282
.7500	HM-12G	48273	HM-12	48266	HML-12G	48290	HML-12	48283
1.0000	HM-16G	48103	HM-16	48102	HML-16G	48107	HML-16	48106
FEMALE TYPE								
.1900	—	—	HF-3	48225	—	—	HFL-3	48242
.2500	HF-4G	48233	HF-4	48226	HFL-4G	48250	HFL-4	48243
.3125	HF-5G	48234	HF-5	48227	HFL-5G	48251	HFL-5	48244
.3750	HF-6G	48235	HF-6	48228	HFL-6G	48252	HFL-6	48245
.4375	HF-7G	48236	HF-7	48229	HFL-7G	48253	HFL-7	48246
.5000	HF-8G	48237	HF-8	48230	HFL-8G	48254	HFL-8	48247
.6250	HF-10G	48238	HF-10	48231	HFL-10G	48255	HFL-10	48248
.7500	HF-12G	48239	HF-12	48232	HFL-12G	48256	HFL-12	48249
1.0000	HF-16G	48105	HF-16	48104	HFL-16G	48109	HFL-16	48108

NOTES:

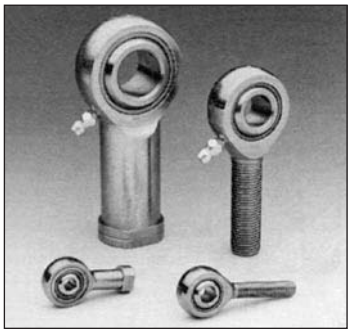
To order with optional studs, add letter “Y” or “S” to suffix. For stud specifications, see Page 83.

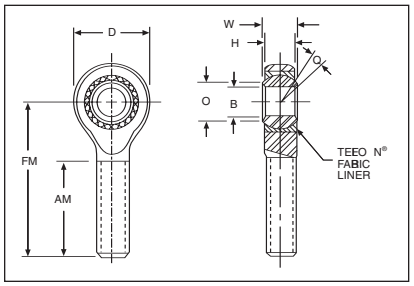
Lubricators available on sizes 4 through 16 only, studs available on sizes 3 through 12 only.

For Engineering Data, see Pages 79-83.

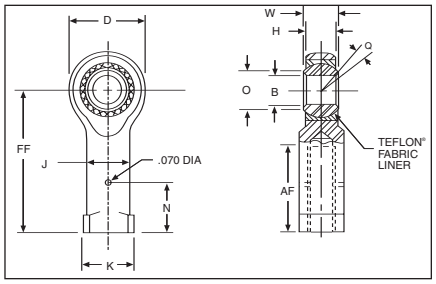
ROD ENDS — PRECISION SELF LUBRICATING

HME MALE SERIES HFE FEMALE SERIES





MALE



FEMALE

ALL DIMENSIONS IN INCHES

Bore B	W	H	AM	FM	AF	FF	D	O	J	K	N	Ball Dia.	Q	Thread
+ .0015 −.0005	+.000 −.005	±.005	+.060 −.030	±.010	+.060 −.030	±.010	±.010	REF	±.010	±.010	+.000 −.005	REF	REF	Class UNF-3
.1900	.312	.250	.750	1.250	.562	1.062	.625	.306	.312	.406	.312	.406	±6-1/2°	10-32
.2500	.375	.281	1.000	1.562	.750	1.312	.750	.331	.375	.468	.312	.500	±8°	1/4-28
.3125	.437	.344	1.250	1.875	.750	1.375	.875	.447	.437	.500	.406	.625	±7°	5/16-24
.3750	.500	.406	1.250	1.938	.937	1.625	1.000	.517	.562	.687	.469	.713	±6°	3/8-24
.4375	.562	.437	1.375	2.125	1.062	1.812	1.125	.586	.625	.750	.531	.813	±7°	7/16-20
.5000	.625	.500	1.500	2.438	1.187	2.125	1.312	.656	.750	.875	594	.906	±6°	1/2-20
.6250	.750	.562	1.625	2.625	1.500	2.500	1.500	.832	.875	1.000	.750	1.125	±8°	5/8-18
.7500	.875	.687	1.750	2.875	1.750	2.875	1.750	.978	1.000	1.125	.875	1.312	±7°	3/4-16
1.0000	1.375	1.000(1)	2.125	4.125	2.125	4.125	2.750(2)	1.269	1.500	1.625	—	1.875	±7°	1-1/4-12

(1) Tolerance +.015/–.010 (2) Tolerance +.030/–.010

SPECIFICATIONS

Outer Member	Low carbon steel plated for corrosion resistance
Ball	52100 Steel - heat treated Rc 56 Min hard chrome plated
Insert	Carbon steel - plated for corrosion resistance or stainless steel
Liner	Teflon® fabric permanently bonded to insert I.D.

Teflon® is a trade name of E.I. DuPont de Nemours & Co. Inc.

LOAD DATA

Basic Bearing Number	Ultimate Static Load (Radial) Rating (Lbs.)		Approx. Wt. (Lbs.)	
	Male	Female	Male	Female
3	1,169	1,531	.03	.04
4	2,158	2,539	.04	.06
5	2,784	3,133	.08	.09
6	3,915	3,915	.12	.16
7	4,218	4,218	.16	.20
8	6,660	6,660	.25	.32
10	7,364	7,364	.39	.48
12	11,518	11,518	.60	.72
16	43,540	43,540	2.41	2.13

ORDER BY CATALOG NUMBER OR ITEM CODE

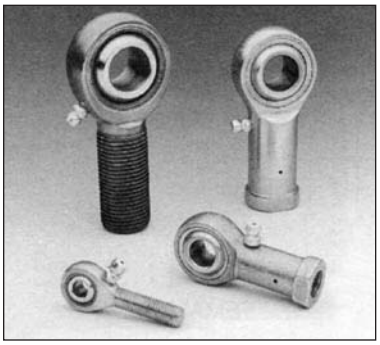
Bore	Right Hand		Left Hand	
	Catalog Number	Item Code	Catalog Number	Item Code
MALE TYPE				
.1900	HME-3	48038	HMLE-3	48059
.2500	HME-4	48039	HMLE-4	48063
.3125	HME-5	48040	HMLE-5	48065
.3750	HME-6	48041	HMLE-6	48067
.4375	HME-7	48043	HMLE-7	48068
.5000	HME-8	48044	HMLE-8	48069
.6250	HME-10	48045	HMLE-10	48076
.7500	HME-12	48046	HMLE-12	48077
1.0000	HME-16	48047	HMLE-16	48078
FEMALE TYPE				
.1900	HFE-3	48079	HFLE-3	48004
.2500	HFE-4	48080	HFLE-4	48006
.3125	HFE-5	48086	HFLE-5	48007
.3750	HFE-6	48088	HFLE-6	48008
.4375	HFE-7	48091	HFLE-7	48010
.5000	HFE-8	48093	HFLE-8	48012
.6250	HFE-10	48094	HFLE-10	48014
.7500	HFE-12	48095	HFLE-12	46017
1.000	HFE-16	48096	HFLE-16	48019

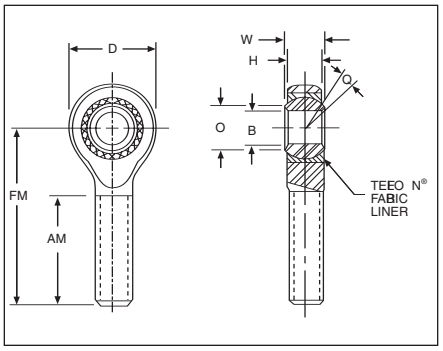
NOTE:

For Engineering Data, see Pages 79-83.

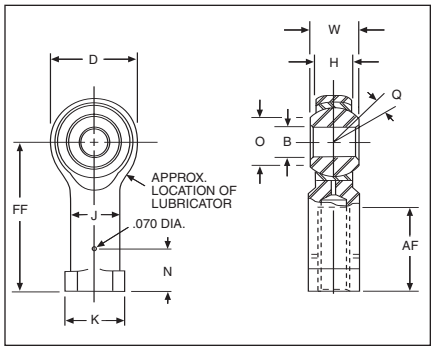
ROD ENDS — EXTRA CAPACITY

HMX MALE SERIES
HFX FEMALE SERIES





MALE



FEMALE

ALL DIMENSIONS IN INCHES

Bore B	W	H	AM	FM	AF	FF	D	O	J	K	N	Ball Dia.	Q	Female Thread	Male Thread
+.0015 −.0005	+.000 −.005	±.005	+.060 −.030	±.010	+.060 −.030	±.010	±.010	REF	±.010	±.010	+.000 −.005	REF	REF	Class UNF-3B	Class UNF-3A
.2500	.375	.281	1.000	1.562	.750	1.312	.750	.331	.375	.468	.312	.500	±8°	1/4-28	5/16-24
.3125	.437	.344	1.250	1.875	.750	1.375	.875	.447	.437	.500	.406	.625	±7°	5/16-24	3/8-24
.3750	.500	.406	1.250	1.938	.937	1.625	1.000	.517	.562	.687	.469	.718	±6°	3/8-24	7/16-20
.4375	.562	.437	1.375	2.125	1.062	1.812	1.125	.586	.625	.750	.531	.813	±7°	7/16-20	1/2-20
.5000	.625	.500	1.500	2.438	1.187	2.125	1.312	.656	.750	.875	.594	.906	±6°	1/2-20	5/8-18
.6250	.750	.562	1.625	2.625	1.500	2.500	1.500	.832	.875	1.000	.750	1.125	±8°	5/8-18	3/4-16
.7500	.875	.687	1.750	2.875	1.750	2.875	1.750	.978	1.000	1.125	.875	1.312	±7°	3/4-16	7/8-14
.7500	.875	.687	1.750	2.875	1.750	2.875	1.750	.978	1.000	1.125	.875	1.312	±7°	3/4-16	7/8-14

SPECIFICATIONS

	HMX Series	HFX Series
Outer Member	Alloy steel, heat treated magnetic particle inserted plated for corrosion resistance	Steel alloy, heat treated plated for corrosion resistance
Ball	52100 steel heat treated, hard chrome plated	52100 steel heat treated, hard chrome plated
Insert	Aluminum bronze	Alloy steel, heat treated plated for corrosion resistance or stainless steel, heat treated

LOAD DATA

Basic Bearing Number	Ultimate Static Load (Radial) (Lbs.)		Approx. Wt. (Lbs.)	
	Male	Female	Male	Female
4	5,390	6,190	.06	.06
5	7,500	7,639	.09	.09
6	9,590	9,544	.13	.15
7	11,000	10,285	.18	.20
8	13,575	16,238	.30	.32
10	17,300	17,955	.46	.48
12	23,225	28,081	.72	.72

ORDER BY CATALOG NUMBER OR ITEM CODE

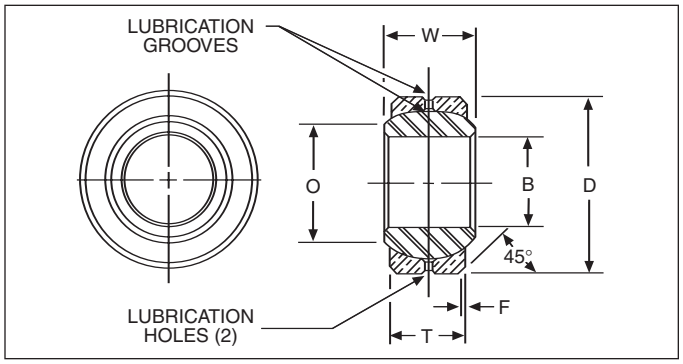
Bore	Right Hand with Lubricator		Left Hand with Lubricator	
	Catalog Number	Item Code	Catalog Number	Item Code
MALE TYPE				
.2500	HMX-4G	48337	HMXL-4G	48344
.3125	HMX-5G	48338	HMXL-5G	48345
.3750	HMX-6G	48339	HMXL-6G	48346
.4375	HMX-7G	48340	HMXL-7G	48347
.5000	HMX-8G	48341	HMXL-8G	48348
.6250	HMX-10G	48342	HMXL-10G	48349
.7500	HMX-12G	48343	HMXL-12G	48350
FEMALE TYPE				
.2500	HFX-4G	48323	HFXL-4G	48330
.3125	HFX-5G	48324	HFXL-5G	48331
.3750	HFX-6G	48325	HFXL-6G	48332
.4375	HFX-7G	48326	HFXL-7G	48333
.5000	HFX-8G	48327	HFXL-8G	48334
.6250	HFX-10G	48328	HFXL-10G	48335
.7500	HFX-12G	48329	HFXL-12G	46336

NOTE

For Engineering Data, see Pages 79-83.

SPHERICALS — PRECISION

LHA-LHB-LHSS SERIES



SPECIFICATIONS

	LHA	LHB	LHSS
Outer Member	4130 Steel or equal heat treated plated for corrosion resistance	Aluminum Bronze	410 or equal Stainless Steel
Ball	52100 Steel heat treated, plated for corrosion resistance and wear		

ORDER BY CATALOG NUMBER OR ITEM CODE
ALL DIMENSIONS IN INCHES

Bore B	D	F	T	W	O	Ball Dia.	LHA Series		LHB Series		LHSS Series	
							Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code
+.0000 −.0005	+.0000 −.0005	REF	±.005	±.005	REF	REF						
.1650	.4687	.020	.187	.250	.235	.343	LHA-2	48405	LHB-2	48417	LHSS-2	48429
.1900	.5625	.020	.218	.281	.293	.406	LHA-3	48406	LHB-3	48418	LHSS-3	48430
.2500	.6562	.022	.250	.343	.364	.500	LHA-4	48407	LHB-4	48419	LHSS-4	48431
.3125	.7500	.032	.281	.375	.419	.562	LHA-5	48408	LHB-5	48420	LHSS-5	48432
.3750	.8125	.032	.312	.406	.517	.656	LHA-6	48409	LHB-6	48421	LHSS-6	48433
.4375	.9062	.032	.343	.437	.572	.718	LHA-7	48410	LHB-7	48422	LHSS-7	48434
.5000	1.0000	.032	.390	.500	.642	.813	LHA-8	48411	LHB-8	48423	LHSS-8	48435
.5625	1.0937	.032	.437	.562	.670	.906	LHA-9	48412	LHB-9	48424	LHSS-9	48436
.6250	1.1875	.032	.500	.625	.739	.968	LHA-10	48413	LHB-10	48425	LHSS-10	48437
.7500	1.4375	.044	.593	.750	.920	1.187	LHA-12	48414	LHB-12	48426	LHSS-12	48438
.8750	1.5625	.044	.703	.875	.980	1.312	LHA-14	48415	LHB-14	48427	LHSS-14	48439
1.0000	1.7500	.044	.797	1.000	1.118	1.500	LHA-16	48416	LHB-16	48428	LHSS-16	48440

LOAD DATA

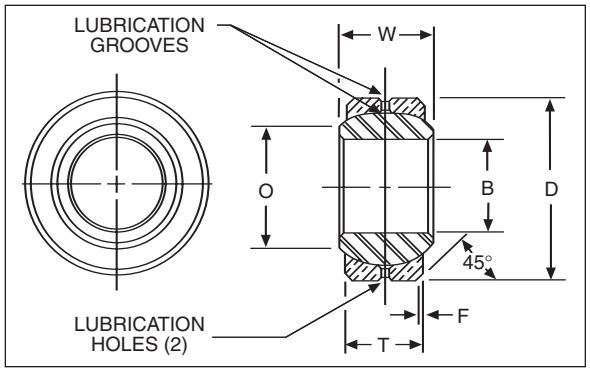
Basic Bearing Number	Maximum Static Radial Load (Lbs.)		Approx. Weight (Lbs.)
	LHA/LHSS	LHB	
2	2,000	1,000	.01
3	5,400	2,700	.02
4	8,400	4,200	.02
5	11,600	5,800	.03
6	15,600	7,800	.04
7	18,600	9,300	.05
8	22,400	11,200	.07
9	30,000	15,000	.09
10	40,000	20,000	.11
12	50,000	30,000	.21
14	86,000	43,000	.27
16	104,000	52,000	.39

NOTES:

For Engineering Data, see Pages 79-83.
For Housing Bores, see Page 82.

SPHERICALS — PRECISION SELF LUBRICATING

LHSSE-LHSSVV SERIES



ORDER BY CATALOG NUMBER OR ITEM CODE
ALL DIMENSIONS IN INCHES

Bore B	O	D	F	T	W	Ball Dia.	LHSSE Series		LHSSVV Series	
							Catalog Number	Item Code	Catalog Number	Item Code
+.0000 −.0005	REF	+.0000 −.0005	REF	±.005	+.000 −.005	REF				
.1650	.235	.4687	.020	.187	.250	.343	LHSSE-2	48021	LHSSVV-2	48453
.1900	.293	.5625	.020	.218	.281	.406	LHSSE-3	48023	LHSSVV-3	48454
.2500	.364	.6562	.022	.250	.343	.500	LHSSE-4	48025	LHSSVV-4	48455
.3125	.419	.7500	.032	.281	.375	.562	LHSSE-5	48027	LHSSVV-5	48456
.3750	.517	.8125	.032	.312	.406	.656	LHSSE-6	48029	LHSSVV-6	48457
.4375	.572	.9062	.032	.343	.437	.718	LHSSE-7	48030	LHSSVV-7	48458
.5000	.642	1.0000	.032	.390	.500	.813	LHSSE-8	48032	LHSSVV-8	48459
.5625	.670	1.0937	.032	.437	.562	.906	LHSSE-9	48033	LHSSVV-9	48460
.6250	.739	1.1875	.032	.500	.625	.968	LHSSE-10	48034	LHSSVV-10	48461
.7500	.920	1.4375	.044	.593	.750	1.187	LHSSE-12	48035	LHSSVV-12	48462
.8750	.980	1.5625	.044	.703	.875	1.312	LHSSE-14	48036	LHSSVV-14	48463
1.0000	1.118	1.7500	.044	.797	1.000	1.500	LHSSE-16	48037	LHSSVV-16	48464

SPECIFICATIONS

	LHSSE Series	LHSSVV Series
Outer Member	410 Stainless Steel	410 Stainless Steel
Ball	52100 Steel heat treated plated for corrosion resistance and wear	52100 Steel heat treated plated for corrosion resistance and wear
Self Lubricating Liner	Teflon®	Teflon® Fabric

Teflon® is a trade name of E. I. DuPont de Nemours & Co. Inc.

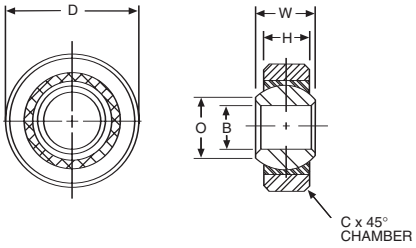
NOTES:
For Engineering Data, see Pages 79-83.

LOAD DATA

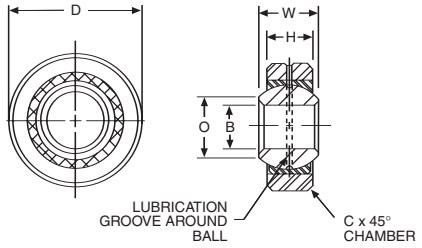
Basic Bearing Number	Maximum Static Radial Load (Lbs.)		Approx. Wt. (Lbs.)
	LHSSE	LHSSVV	
2	1,200	1,200	.010
3	3,250	3,250	.014
4	4,900	4,900	.022
5	6,450	6,450	.03
6	8,250	8,250	.04
7	10,200	10,200	.05
8	13,600	13,600	.07
9	15,900	15,900	.09
10	21,000	21,000	.11
12	30,000	30,000	.21
14	41,100	41,100	.26
16	54,700	54,700	.39

SPHERICALS — SPECIAL PURPOSE

LS SERIES
LSS SERIES



LS/LSS 3 – 10



LS 12 – 30

ORDER BY CATALOG NUMBER OR ITEM CODE
ALL DIMENSIONS IN INCHES

Bore B	D	H	w	Ball Dia.	O	C	LS Series	
.+.0025 –.0005	+.0000 –.0005	±.005	±.005	REF	REF	+.015 –.000	Catalog Number	Item Code
.1900	.6250	.187	.281	.400	.285	.016	LS-3	48381
.2500	.7500	.281	.375	.510	.346	.016	LS-4	48382
.3125	.8750	.313	.437	.618	.438	.016	LS-5	48383
.3750	1.0000	.375	.500	.713	.508	.016	LS-6	48384
.4375	1.1875	.437	.562	.806	.578	.032	LS-7	48385
.5000	1.3125	.531	.687	.931	.627	.044	LS-8	48386
.6250	1.5625	.687	.875	1.178	.789	.044	LS-10	48387
.7500	2.2500	.937	1.250	1.625	1.038	.044	LS-12	48388
1.0000	2.3750	.875	1.125	1.750	1.345	.062	LS-16	48389
1.1875	2.6250	1.000	1.250	2.000	1.562	.085	LS-19	48390
1.5000	3.2500	1.250	1.500	2.500	2.000	.085	LS-24	48391
1.8750	4.0000	1.313	1.625	3.000	2.521	.125	LS-30	48392

Bore B	D	H	w	Ball Dia.	O	C	LSS Series	
.+.0000 –.0005	+.0000 –.0005	±.005 -.005	±.000 -.000	(REF)	(REF)	+.000 –.005	Catalog Number	Item Code
.1900	.5625	.218	.281	.406	.293	.020	LSS-3	48394
.2500	.6562	.250	.343	.500	.364	.022	LSS-4	48395
.3125	.7500	.281	.375	.562	.419	.032	LSS-5	48396
.3750	.8125	.312	.406	.656	.517	.032	LSS-6	48397
.4375	.9062	.343	.437	.718	.572	.032	LSS-7	48398
.5000	1.0000	.390	.500	.813	.642	.032	LSS-8	48399
.5625	1.0937	.437	.562	.906	.670	.032	LSS-9	48400
.6250	1.1875	.500	.625	.968	.739	.032	LSS-10	48401
.7500	1.4375	.593	.750	1.187	.920	.044	LSS-12	48402
.8750	1.5625	.703	.875	1.312	.980	.044	LSS-14	48403
1.0000	1.7500	.797	1.000	1.500	1.118	.044	LSS-16	48404

SPECIFICATIONS

	LS Series		LSS Series
	Size 3 - 10	Size 12 - 30	All
Outer Member	Low carbon steel, plated for corrosion resistance	Carbon steel, cadmium or zinc plated	4130 Steel or equal, RC 36-42 cadmium plated
Ball	Low carbon steel, case hardened, plated for corrosion	Chrome steel heat treated	S.A.E. 52100 Steel heat treated and chrome plated
Insert	Sintered Bronze Oil impregnated	Brass	None

LOAD DATA

	LS SERIES		LSS SERIES	
Basic Bearing Number	Maximum Static Radial Load in Lbs.	Approx. Wt.(Lbs.)	Maximum Static Radial Load in Lbs.	Approx. Wt.(Lbs.)
3	1,520	.02	5,400	.014
4	2,900	.04	8,400	.022
5	3,900	.05	11,600	.030
6	5,400	.08	15,600	.038
7	7,100	.12	18,600	.048
8	9,900	.18	22,400	.065
9			30,000	.086
10	16,300	.33	40,000	.110
12	47,600	.94	50,000	.204
14			86,000	.263
16	48,200	1.00	104,000	.386
19	63,000	1.27		
24	98,000	2.38		
30	123,000	3.75		

NOTES:

For Engineering Data, see Pages 79–83.

ENGINEERING DATA

ENVIRONMENT AND MOUNTING

Corrosive Environments

All components are protected by plating or corrosion inhibiting oil.

Lubrication and Contaminants

The rating of all series with metal-on-metal bearing members is based on the presence of an adequate lubricant film. Ratings for the Reinforced Nylon race series are based on dry operation with the inherent lubrication provided by the bronze ball.

A controlled internal clearance is present in all metal-on-metal bearings. The reinforced Nylon race series are molded with a positive interference fit-up which excludes contaminants and results in an excellent self-wiping action.

Protection from contaminants should be provided wherever possible. Grease fittings or lubricant entry provisions are available for most metal-on-metal bearings. Periodic relubrication will improve operation under severe conditions. Contaminants are also flushed out during relubrication. Where relubrication is difficult or impractical, the self-lubricating features of the sintered ball or race materials and the reinforced Nylon race provide built-in protection.

Caution:

The lubricator mounting hole in housings reduces the strength of housings by varying amounts depending on size and location.

Mounting

Sintered bronze balls may be distorted by excessive clamping pressure. Care should be used in tightening a nut against the ball to prevent distortion or binding. Caution: certain ANSI bolt series with fillets under the head will interfere with proper assembly. Use of a countersunk washer is suggested.

Temperature and Water Immersion

Self Aligning bearings may be operated between –30°F and +300°F, with wider ranges obtained by the use of special lubricants. Reinforced nylon race bearings may be operated between –30°F and +150°F. Prolonged immersion of Nylon races in water can cause an increase in torque.

ENGINEERING DATA

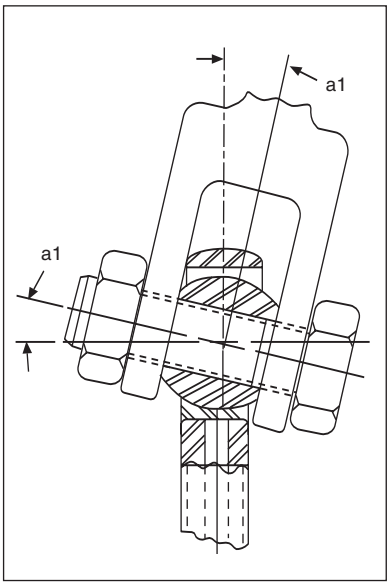
Mounting and Misalignment Factors

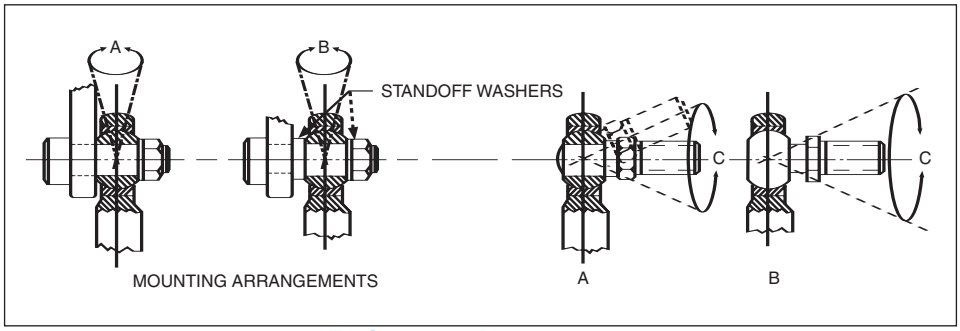
The single biggest reason rod end bearings are used is for their ability to absorb gross misalignment and still transmit motion in the preferred direction. To overcome misalignment, the ball or housing rotates as far as necessary or until it strikes an obstruction. The amount of misalignment a bearing can absorb is limited by the mounting arrangement. Shown below are common mounting arrangements, along with an indication of the misalignment absorbing capabilities of each. The table lists the maximum angular displacement in each mounting mode.

Rod Ends offer the least misalignment absorbing capability when fitted closely between the legs of a clevis or when the ball is bolted against the face of a lever. The limit is reached when the housing head strikes the mounting member.

Adding a standoff washer with the same diameter as the ball face increases misalignment absorbing capability. The limit is reached when the washer strikes the face.

The greatest misalignment compensation results when the ball is fitted with a stud, the shank diameter of which equals the ball bore *chamfer*, (see A). One piece ball studs (see B) of similar proportions also allow similar misalignment. Exceeding these dimensional limits may deform the race, so care should be taken to choose the proper mounting arrangement.





Reference Letters

D – Head Diameter or Outer Race Diameter
H – Housing Width
W – Ball Width

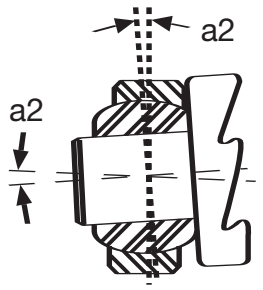
$$A_1 = \text{Sin}^{-1}\frac{W}{D} - \text{Sin}^{-1}\frac{H}{D}$$

ANGLE OF MISALIGNMENT (A1)

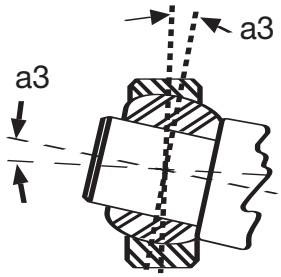
Size	SERIES			
	KF	HM-C/HF-C HM/HF	CMHD/CFHD	HME/HFE HMX/HFX
-3	±15°	±5-1/2°	±6°	±6-1/2°
-4	±15°	±6-1/2°	±7°	±8°
-5	±15°	±5-1/2°	±6°	±7°
-6	±15°	±5°	±5-1/2°	±6°
-7	—	±6°	±6°	±7°
-8	±15°	±5°	±5°	±6°
-10	—	±6°	±7-1/2°	±8°
-12	—	±5°	±6°	±7°
-16	—	±7°	—	±7°

ENGINEERING DATA

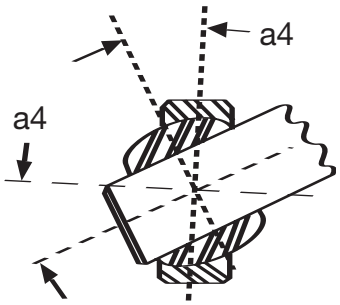
Spherical bearings offer a greater variety of mounting positions compared to the rod end bearings. The angle of misalignment is calculated based on its mounting arrangement. Shown are three common mountings and the formulae for calculating the angle of misalignment.



$a_2 = \text{Sin}^{-1}\frac{W}{A} - \text{Sin}^{-1}\frac{H}{A}$



$a_3 = \text{Sin}^{-1}\frac{W}{E} - \text{Sin}^{-1}\frac{H}{E}$



$a_4 = \text{Sin}^{-1}\frac{B}{E} - \text{Sin}^{-1}\frac{H}{E}$

Reference Letters

B – Ball Bore
C – Outer Race Chamfer
D – Head Diameter or Outer Race Diameter
E – Ball Diameter
H – Housing Width
A – $\sqrt{(D\text{-}2C)^2 + H^2}$
W – Ball Width

SPHERICAL BEARINGS

Series LS	Mounting Arrangements			Series LHA LHB LHSS LHSSE LHSSVV	Mounting Arrangements		
	a_2	a_3	a_4		a_2	a_3	a_4
-3	±9°	±16 1/2°	±34 1/2°	-2	±8 1/2°	±13 1/2°	±28°
-4	±8°	±14 1/2°	±29°	-3	±7°	±11°	±29 1/2°
-5	±9°	±14°	±30°	-4	±9°	±13°	±30°
-6	±8°	±12 1/2°	±27°	-5	±8°	±12°	±26°
-7	±6 1/2°	±11°	±25°	-6	±7 1/2°	±10 1/2°	±23°
-8	±7 1/2°	±12 1/2°	±23°	-7	±6 1/2°	±9 1/2°	±20 1/2°
-10	±8°	±12°	±23°	-8	±7°	±10°	±20°
-12	±9°	±15°	±27°	-9	±7 1/2°	±10°	±20°
-16	±6 1/2°	±10°	±25°	-10	±7°	±9°	±19°
-19	±6°	±18 1/2°	±23 1/2°	-12	±7°	±9°	±21°
-24	±5°	±7°	±23°	-14	±7°	±9°	±16°
-30	±5°	±7°	±25°	-16	±7 1/2°	±9 1/2°	±16°

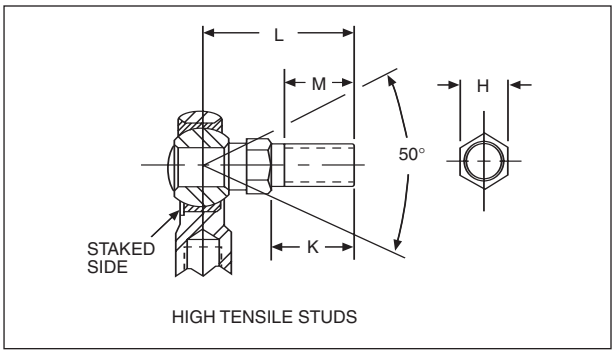
ENGINEERING DATA

HOUSING BORE FOR PRESS FIT OF SPHERICAL BEARINGS

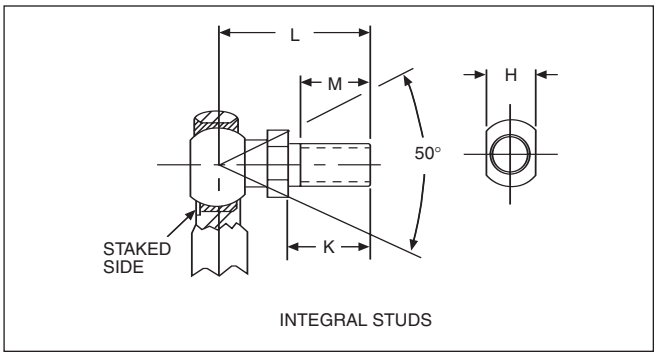
Basic Bearing Size	D Bearing O.D. +.0000 /-.0005	HOUSING BORE RECOMMENDED (Aluminum or Steel)
LS SERIES		
3	.6250	.6248/.6243
4	.7500	.7498/.7493
5	.8750	.8748/.8743
6	1.0000	.9998/.9993
7	1.1875	1.1873/1.1868
8	1.3125	1.3123/1.3118
10	1.5625	1.5623/1.5618
12	2.2500	2.2498/2.2493
16	2.3750	2.3748/2.3743
19	2.6250	2.6248/2.6243
24	3.2500	3.2498/3.2493
30	4.0000	3.9998/3.9993

Basic Bearing Size	D Bearing O.D. +.0000 /-.0005	HOUSING BORE RECOMMENDED (Aluminum or Steel)
LHA, LHB, LHSSE, LHSSVV SERIES		
2	.4687	.4685/.4680
3	.5625	.5623/.5618
4	.6562	.6560/.6555
5	.7500	.7498/.7493
6	.8125	.8123/.8118
7	.9062	.9060/.9055
8	1.0000	.9998/.9993
9	1.0937	1.0935/1.0930
10	1.1875	1.1873/1.1868
12	1.4375	1.4373/1.4368
14	1.5625	1.5623/1.5618
16	1.7500	1.7498/1.7493

STUD — SPECIFICATIONS



HIGH TENSILE STUDS



INTEGRAL STUDS

Steel studs are available in the CMHD/CFHD, HM/HF, HM-C/HF-C and KF Series to facilitate right angle connections. Standard misalignment is 50° in all sizes. Threads are only available as right hand. There are two types of studs available:

High Tensile Steel Studs–(Y Suffix)

High tensile steel studs are available for sizes 3 through 12. These studs are machined for exact fit-up within the ball bore, providing smooth operation and high performance. The studs are assembled to maintain the internal clearances inherent in the Rod Ends. They are permanently secured in the bore of the ball, threaded for easy mounting and have a hex section to facilitate tightening. The stud is designed to accommodate 50° misalignment in any direction, and provides maximum load capacity.

Integral Ball Studs–(S Suffix)

The ball and stud are combined into a single unit of case hardened machined plated steel. Wrench flats are provided for tightening. These studs offer the same operational features as the high tensile studs, with slightly reduced load capacity. The integral studs are available in sizes 3 through 8 only.

NUMBERING SYSTEM

High Tensile Steel Studs

Use a “Y” suffix after the complete catalog number

Example: CFHDL-3**Y**

Integral Ball Stud

Use a “S” suffix after the complete catalog number

Example: HF-5**S**

Materials

Rod End: Refer to basic Rod End specification page

Stud: High tensile steel - Plated for corrosion resistance

Integral Stud: Low carbon steel - case hardened - plated for corrosion resistance

DIMENSIONS AND LOAD DATA

DIMENSIONS IN INCHES

To Fit Rod End Size	Stud Thread UNF-2	H ±.005	K ±.010	L ±.015	M MIN	Static Load Rating (Lbs.) High-Tensile Stud	Static Load Rating (Lbs.) Ball Stud
3	10-32	.312	.500	1.016	.437	350	250
4	1/4-28	.375	.562	1.047	.500	850	550
5	5/16-24	.438	.687	1.234	.594	1,600	1,050
6	3/8-24	.500	.906	1.570	.812	2,400	1,500
7	7/16-20	.625	1.125	1.968	.938	2,700	1,800
8	1/2-20	.625	1.125	2.000	.938	3,100	2,200
10	5/8-18	.750	1.500	2.500	1.250	4,500	N/A
12	3/4-16	1.000	1.812	3.000	1.625	6,000	N/A

MOUNTED BEARINGS

Mounted Bearings offer a simple, convenient method of providing load support. Selection for most applications may be readily accomplished from a single selection chart, based on shaft size, radial and thrust load requirements. Installation normally requires only bolting to a suitable mounting surface and securing bearing to shaft with setscrews or eccentric locking collar provided.

The Boston Gear Mounted Bearing line is one of the most comprehensive available to industry. Ranging from light duty, plain bearing blocks to precision units. They all feature Boston Gear's tradition of design excellence and precision manufacture.

LIGHT DUTY SERIES

PPB — Split cast iron housing with bore and mounting base machined.

SRP — PPB Series with a Bost-Bronz (oil impregnated) sleeve bearing.

PS — Stamped steel housing with pillow block, 2 bolt and 3 bolt flange configuration. Extended inner race, (2) setscrews locking to shaft. Prelubricated spherical O.D. bearing.

XL — Ductile iron housing with pillow block, 2 bolt and 3 bolt flange configuration. Extended inner race, (2) setscrews locking to shaft. Prelubricated spherical O.D. bearing.

STANDARD DUTY SERIES

All Series — Solid one-piece cast iron housing of American manufacture with removable zerk-type threaded grease fitting. Precision machined base and spherical bore. Available in pillow block, 2 bolt and 4 bolt flanges.

H & L Series — Eccentric shaft lock of international manufacture.

S Series — Extended inner race with double setscrews for positive shaft locking.

MEDIUM DUTY SERIES

MB Series — Solid one-piece heavy duty cast iron housing with removable zerk-type threaded grease fitting. Available in pillow block 4 bolt flange and piloted flange with precision machined base, pilot diameter and spherical bore. Spherical O.D. bearing of international manufacture with extended inner race and double setscrews for positive shaft locking and smoothness of operation.

REPLACEMENT BEARINGS AND LOCKING COLLARS FOR ECCENTRIC LOCKING COLLAR SERIES

ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	INTERNATIONAL BEARINGS					
	Replacement Bearings		Locking Collars		Bearing and Carrier (A Series Only)	
	Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code
1/2	NX3008M	67374	NX3008LC	67373	3A-1/2 B&C	07030
5/8	NX3010M	67377	—	—	3A-5/8 B&C	07032
3/4	NX4012M	67380	NX4012LC	67379	4A-3/4 B&C	07014
7/8	NX5014M	67383	—	—	5A-7/8 B&C	07034
15/16	NX5015M	67386	NX5015LC	67385	5A-15/16 B&C	07036
1	NX5016M	67389	NX5016LC	67388	5A-1 B&C	07022
1-1/8	NX6018M	67392	—	—	6A-1-1/8 B&C	07038
1-3/16	NX6019M	67395	NX6019LC	67394	6A-1-3/16 B&C	07040
1-1/4S	NX6020M	67398	NX6020LC	67397	6A-1-1/4 B&C	07042
1-1/4	NX7104M	67401	—	—	—	—
1-5/16	NX7105M	67404	NX7105LC	67403	—	—
1-3/8	NX7106M	67407	NX7106LC	67406	—	—
1-7/16	NX7107M	67410	NX7107LC	67409	—	—
1-1/2	NX8108M	67413	NX8108LC	67412	—	—
1-5/8	NX9110M	67416	NX9110LC	67415	—	—
1-11/16	NX9111M	67419	NX9111LC	67418	—	—
1-3/4	NX9112M	67422	NX9112LC	67421	—	—
1-15/16	NX10115M	67425	NX10115LC	67424	—	—
2	NX11200M	67428	NX11200LC	67427	—	—
2-3/16	NX11203M	67431	NX11203LC	67430	—	—
2-1/4	NX11204M	67434	—	—	—	—
2-7/16	NX11207M	67437	NX11207LC	67436	—	—

(FOR USE WITH THE L, H, F, T AND A SERIES BEARINGS)

REPLACEMENT BEARINGS FOR SETSCREW LOCKING SERIES

PS & XL SERIES

Bore	Catalog Number	Item Code
1/2	NBG15-1/2	68880
5/8	NBG15-5/8	68881
3/4	NBG15-3/4	68882
7/8	NBG15-7/8	68883
15/16	NBG15-15/16	68884
1	NBG15-1	68885
1-1/16	NBG15-1-1/16	68886
1-1/8	NBG15-1-1/8	68887
1-3/16	NBG15-1-3/16	68888
1-1/4S	NBG15-1-1/4S	68889
1-3/8	NBG15-1-3/8	68891
1-7/16	NBG15-1-7/16	68892

(FOR USE WITH THE PS, PS2, PS3, XL, XL2 AND XL3 SERIES BEARINGS)

S SERIES

Bore	Catalog Number	Item Code
1/2	NBG25-1/2	68893
5/8	NBG25-5/8	68894
3/4	NBG25-3/4	68895
7/8	NBG25-7/8	68896
15/16	NBG25-15/16	68897
1	NBG25-1	68898
1-1/16	NBG25-1-1/16	68899
1-1/8	NBG25-1-1/8	68900
1-3/16	NBG25-1-3/16	68901
1-1/4S	NBG25-1-1/4S	68902
1-5/16	NBG25-1-5/16	68903
1-3/8	NBG25-1-3/8	68904
1-7/16	NBG25-1-7/16	68905
1-1/2	NBG25-1-1/2	68906
1-5/8	NBG25-1-5/8	68907
1-11/16	NBG25-1-11/16	68908
1-3/4	NBG25-1-3/4	68909
1-15/16	NBG25-1-15/16	68910
2	NBG25-2	68911
2-3/16	NBG25-2-3/16	68912
2-1/4	NBG25-2-1/4	68913
2-7/16	NBG25-2-7/16	68914

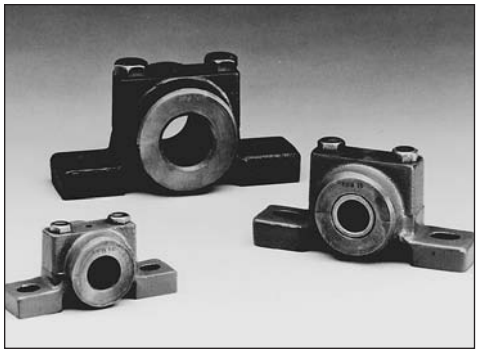
(FOR USE WITH THE SF, SH, SL AND ST SERIES BEARINGS)

MB SERIES

Bore	Catalog Number	Item Code
1-7/16	NBG35-1-7/16	68915
1-1/2	NBG35-1-1/2	68916
1-11/16	NBG35-1-11/16	68917
1-3/4	NBG35-1-3/4	68918
1-15/16	NBG35-1-15/16	68919
2	NBG35-2	68920
2-3/16	NBG35-2-3/16	68921
2-1/4	NBG35-2-1/4	68922
2-7/16	NBG35-2-7/16	68923
2-1/2	NBG35-2-1/2	68924
2-11/16	NBG35-2-11/16	68925
2-15/16	NBG25-2-15/16	68926
3	NBG35-3	68927
3-3/16	NBG35-3-3/16	68928
3-1/4	NBG35-3-1/4	68929
3-7/16	NBG35-3-7/16	68930
3-1/2	NBG35-3-1/2	68931

(FOR USE WITH THE MB, MBF AND MBP SERIES BEARINGS)

PILLOW BLOCKS — LIGHT DUTY — PPB SERIES
SPLIT CAST IRON — SRP SERIES — WITH BOST-BRONZ BUSHINGS



The bottom surface and the split surfaces are ground. Both end surfaces of the bore are finished perpendicular to the base. Bolt holes in the base are slotted except Cat. No. PPB4 which has drilled holes. PPB Series blocks have an oil hole drilled in center of cap.†

ORDER BY CATALOG NUMBER OR ITEM CODE

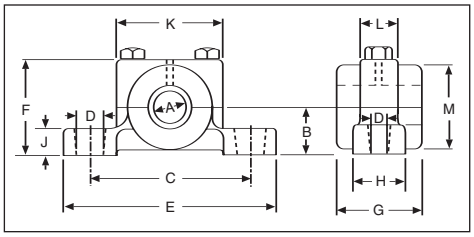
Bore	PPB SERIES		SRP SERIES			
			Pillow Blocks		Replacement Bearing	
	Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code
1/4	PPB4	34304	SRP4	34434	B46-2	34542
3/8	PPB6	34306	SRP6	34436	B68-3	34634
1/2	PPB8	34308	SRP8	34438	B812-4	34752
5/8	PPB10	34310	SRP10	34440	B1014-6	34852
3/4	PPB12	34312	SRP12	34442	B1216-6	34934
7/8	PPB14	34314	—	—	—	—
15/16	PPB15	34316	SRP15	34444	B1520-8	35042
1	PPB16	34318	SRP16	34446	B1620-8	35068
1-3/16	PPB19	34320	SRP19	34448	B1924-8	35172
1-1/4	PPB20	34322	SRP20	34450	B2024-8	35186
1-7/16	PPB23	34324	—	—	—	—
1-1/2	PPB24	34326	—	—	—	—

*Two required.

†The 1/4" size is made of brass and has no oil holes.

STANDARD TOLERANCES

Dimensions		Tolerance
PPB Series		
Bore	All	+.000 to –.001
SRP Series		
Bore	.252–1.003 1.1905–1.2530	+.000 to –.001 +.000 to –.002



ALL DIMENSIONS IN INCHES

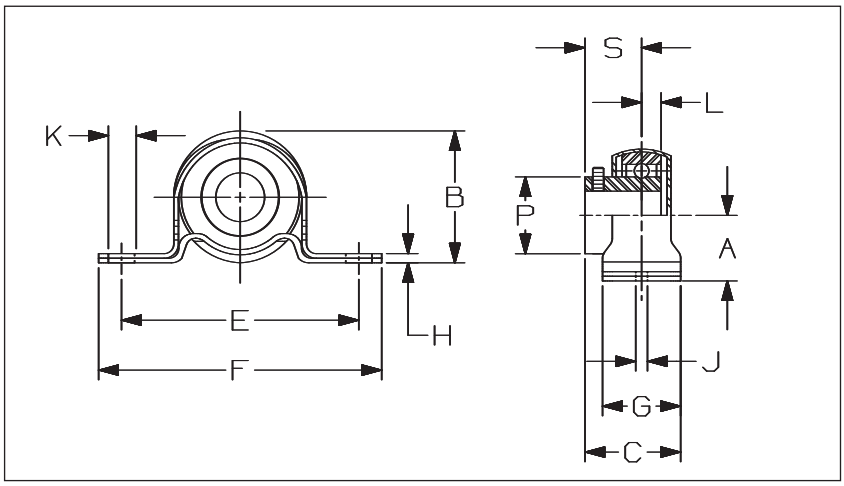
A (Bore)	B	C	D	E	F	G	H	J	K	L	M
PPB SERIES											
.2500	1/4	1-1/8	1/8	1-1/2	1/2	1/2	3/8	1/4	3/4	3/8	7/16
.3760 .5010	9/16	2-1/8	5/16x3/16	2-3/4	1-1/8	1	5/8	5/16	1-7/16	7/16	1
.6260 .7510	13/16	2-7/8	1/2x5/16	3-3/4	1-5/8	1-1/2	1	1/2	2	11/16	1-1/2
.8760 .9385 1.0010	1-1/8	3-3/4	5/8x3/8	5	2-1/4	2	1-1/4	5/8	2-1/2	7/8	2
1.1885 1.2510 1.4385 1.5010	1-3/8	4-1/2	3/4x1/2	6	2-3/4	2-1/2	1-1/2	3/4	3	1	2-1/2
SRP SERIES											
.2510 .3770	9/16	2-1/8	5/16x3/16	2-3/4	1-1/8	1	5/8	5/16	1-7/16	7/16	1
.5020	13/16	2-7/8	1/2x5/16	3-3/4	1-5/8	1-1/2	1	1/2	2	11/16	1-1/2
.6270 .7530	1-1/8	3-3/4	5/8x3/8	5	2-1/8	2	1-1/4	5/8	2-1/2	7/8	2
.9405 1.0030 1.1905 1.2530	1-3/8	4-1/2	3/4x1/2	6	2-3/4	2-1/2	1-1/2	3/4	3	1	2-1/2

PILLOW BLOCKS—LIGHT DUTY SETSCREW LOCKING

PS SERIES PRESSED STEEL HOUSING

FEATURES —

Quality pressed steel outer housing.
Deep groove ball bearings for high radial and thrust loads.
Spherical outer race for full self-alignment.
Synthetic lip type seals.
Positive locking by setscrews through extended inner race.
Lubricated for life.
Housing halves snap together for ease of assembly.



ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Catalog Number	Item Code
1/2	PS-1/2	64500
5/8	PS-5/8	64501
3/4	PS-3/4	64502
7/8	PS-7/8	64503
15/16	PS-15/16	64504
1	PS-1	64505
1-1/16	PS-1-1/16	64506
1-1/8	PS-1-1/2	64507
1-3/16	PS-1-3/16	64508
1-1/4S	PS-1-1/4S	64509

STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.001 to –.000

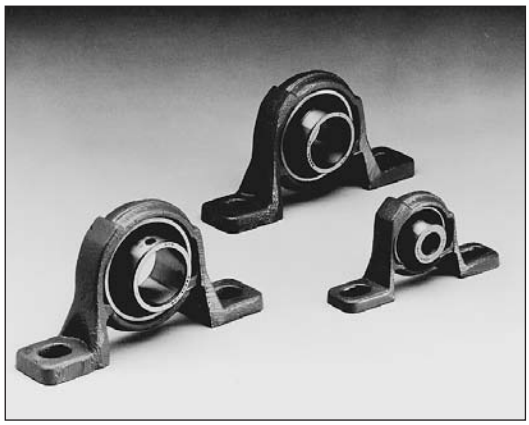
ALL DIMENSIONS IN INCHES

Bore	A	B	C	E	F	G	H	J	K	L	P	R* Setscrew UNF	S	Bolt Size	Approx. Weight (Lbs.)
1/2 5/8	7/8	1-3/4	1.125	2-11/16	3-5/8	1	.133	.34	.54	15/64	31/32	10—32	5/8	5/16	.52 .48
3/4	1	2-1/16	1.203	3	4-1/8	1	.178	.40	.54	9/32	1-11/64	10—32	45/64	5/16	.58
7/8 15/16 1	1-1/8	2-7/32	1.328	3-3/8	4-1/2	1-1/8	.208	.40	.54	19/64	1-11/32	10—32	49/64	3/8	.67 .64 .61
1-1/16 1-1/8 1-3/16 1-1/4S	1-5/16	2-5/8	1.390	3-3/4	4-7/8	1-1/8	.238	.53	.75	5/16	1-39/64	1/4—28	53/64	3/8	1.10 1.05 1.00 .95

*2 at 120°
Eccentric Locking Collar bearings are available to special order.
For Load Ratings, See Engineering Section, Page 108.
Replacement Bearings are shown on Page 86.

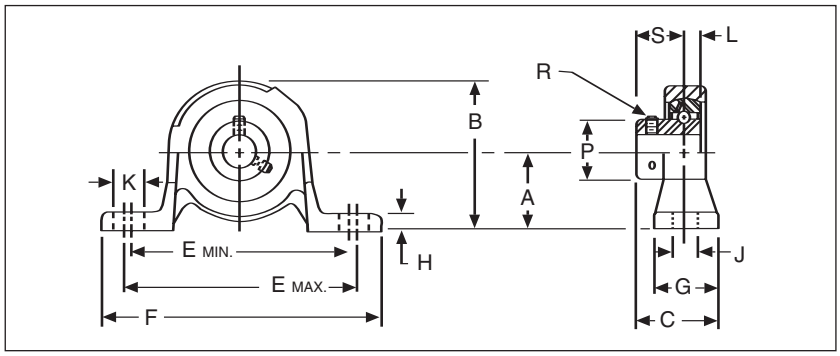
PILLOW BLOCKS — LIGHT DUTY
SETSCREW LOCKING

XL SERIES
CAST DUCTILE HOUSING



FEATURES —

One-piece housing (ductile casting).
Deep groove ball bearings for high radial and thrust loads.
Machined housing bore and spherical outer race for full self-alignment.
Synthetic lip type seal.
Positive locking by setscrews through extended inner race.



ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Catalog Number	Item Code
1/2	XL-1/2	64534
5/8	XL-5/8	64535
3/4	XL-3/4	64536
7/8	XL-7/8	64537
15/16	XL-15/16	64538
1	XL-1	64539
1-1/16	XL-1-1/16	64540
1-1/8	XL-1-1/8	64541
1-3/16	XL-1-3/16	64542
1-1/4S	XL-1-1/4S	64543
1-3/8	XL-1-3/8	64545
1-7/16	XL-1-7/16	64546

STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.001 to –.000

ALL DIMENSIONS IN INCHES

Bore	A	B	C	E Min.	E Max.	F	G	H	J	K	L	P	R* Setscrew UNF	S	Bolt Size	Approx. Weight (Lbs.)
1/2 5/8	1-3/16	2-5/32	1-1/8	3-3/16	3-11/16	4-1/2	1	9/32	7/16	11/16	15/64	31/32	10—32	5/8	3/8	.6
3/4	1-5/16	2-7/16	1-15/64	3-5/8	3-7/8	4-3/4	1-1/16	5/16	7/16	9/16	9/32	1-11/64	10—32	45/64	3/8	.8
7/8 15/16 1	1-7/16	2-21/32	1-11/32	3-7/8	4-1/8	5	1-1/8	11/32	7/16	9/16	19/64	1-11/32	10—32	49/64	3/8	1.0
1-1/16 1-1/8 1-3/16 1-1/4S	1-11/16	3-5/32	1-31/64	4-1/2	4-3/4	6	1-5/16	3/8	9/16	11/16	5/16	1-39/64	1/4—28	53/64	1/2	1.4
1-3/8 1-7/16	1-7/8	3-9/16	1-11/16	4-3/4	5	6-3/8	1-3/8	13/32	9/16	11/16	11/32	1-27/32	1/4—28	1	1/2	1.9

*2 at 120°
These units also available with Eccentric Locking Collars on Special Order.
For Load Ratings, see Engineering Section, Page 109.
Replacement Bearings are shown on Page 86.

PILLOW BLOCKS — STANDARD DUTY
ECCENTRIC LOCKING COLLAR

L SERIES
H SERIES

L SERIES LOW BACKING
H SERIES HIGH BACKING

FEATURES —

Rigid one piece housing.
Chrome alloy steel balls.
Spherical outer race.
Synthetic lip type seals.
Eccentric locking collar.
1/4-28 threaded grease fitting.

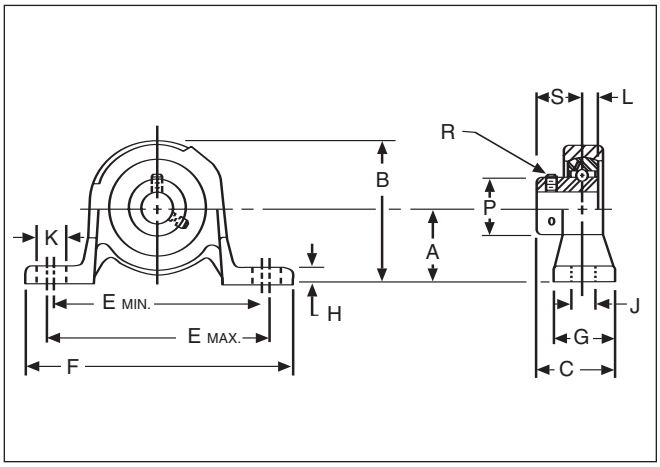
ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Low Backing L Series		High Backing H Series	
	Catalog Number	Item Code	Catalog Number	Item Code
1/2	3L-1/2	06906	3H-1/2	06902
5/8	3L-5/8	06908	3H-5/8	06904
3/4	4L-3/4	06912	4H-3/4	06910
7/8	5L-7/8	06920	5H-7/8	06914
15/16	5L-15/16	06922	5H-15/16	06916
1	5L-1	06924	5H-1	06918
1-1/8	6L-1-1/8	06928	6H-1-1/8	06932
1-3/16	6L-1-3/16	06930	6H-1-3/16	06936
1-1/4S	6L-1-1/4S	06934	6H-1-1/4S	06926
1-1/4	7L-1-1/4*	06858	7H-1-1/4*	06850
1-5/16	7L-1-5/16*	06860	7H-1-5/16*	06852
1-3/8	7L-1-3/8*	06862	7H-1-3/8*	06854
1-7/16	7L-1-7/16*	06864	7H-1-7/16*	06856
1-1/2	8L-1-1/2*	06868	8H-1-1/2*	06866
1-5/8	9L-1-5/8*	06876	9H-1-5/8*	06870
1-11/16	9L-1-11/16*	06878	9H-1-11/16*	06872
1-3/4	9L-1-3/4*	06880	9H-1-3/4*	06874
1-15/16	10L-1-15/16*	06884	10H-1-15/16*	06882
2	11L-2*	06890	11H-2*	06886
2-3/16	11L-2-3/16*	06892	11H-2-3/16*	06888
2-1/4	12L-2-1/4*	06898	12H-2-1/4*	06894
2-7/16	12L-2-7/16*	06900	12H-2-7/16*	06896

*Bearings equipped with steel flinger.
Replacement Bearings are shown on Page 85.

PILLOW BLOCKS — STANDARD DUTY
ECCENTRIC LOCKING COLLAR

L SERIES
H SERIES



STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.0012 to –.0000

SHAFT HEIGHT DIMENSIONS IN INCHES

Bore	Low Backing			High Backing		
	A	B	H	A	B	H
1/2 5/8	1-1/16	2-5/32	1/2	1-3/16	2-9/32	5/8
3/4	1-1/4	2-15/32	9/16	1-5/16	2-17/32	5/8
7/8 15/16 1	1-5/16	2-21/32	5/8	1-7/16	2-25/32	3/4
1-1/8 1-3/16 1-1/4S	1-9/16	3-1/8	3/4	1-11/16	3-1/4	7/8
1-1/4 1-5/16 1-3/8 1-7/16	1-13/16	3-11/16	1	1-7/8	3-3/4	1-1/16
1-1/2	1-15/16	4	1-1/8	2	4-1/16	1-3/16
1-5/8 1-11/16 1-3/4	2-1/16	4-1/4	1-1/4	2-1/8	4-5/16	1-5/16
1-15/16	2-3/16	4-1/2	1-3/8	2-1/4	4-9/16	1-7/16
2 2-3/16	2-7/16	4-15/16	1-1/2	2-1/2	5	1-9/16
2-1/4 2-7/16	2-11/16	5-7/16	1-5/8	2-3/4	5-1/2	1-11/16

ALL DIMENSIONS IN INCHES

Bore	C	E		F	G	J	K	L	P	R Setscrew UNF	S	Bolt Size	Approx. Wt. (Lbs.)	
		Min.	Max.										L	H
1/2 5/8	1-5/8	3-5/16	4	5-1/16	1-1/2	7/16	25/32	1/4	1-9/64	1/4-28	7/8	3/8	1.1	1.2
3/4	1-45/64	3-7/16	4-1/8	5-1/4	1-9/16	7/16	25/32	19/64	1-19/64	1/4-28	59/64	3/8	1.6	1.6
7/8 15/16 1	1-47/64	3-7/16	4-1/4	5-1/2	1-5/8	7/16	11/16	19/64	1-1/2	1/4-28	59/64	3/8	1.9	1.9
1-1/8 1-3/16 1-1/4S	1-59/64	4-5/16	4-15/16	6-1/4	1-3/4	9/16	7/8	23/64	1-3/4	5/16-24	1-3/64	1/2	2.6	2.7
1-1/4 1-5/16 1-3/8 1-7/16	2-13/64	4-3/4	5-3/8	6-11/16	1-7/8	9/16	7/8	47/64	2-3/16	3/8-24	1-17/64	1/2	4.1	4.3
1-1/2	2-3/8	5-1/4	5-13/16	7-1/4	2	9/16	27/32	27/32	2-23/64	3/8-24	1-3/8	1/2	5.5	5.6
1-5/8 1-11/16 1-3/4	2-7/16	5-9/16	6-1/8	7-3/4	2-1/8	9/16	27/32	27/32	2-1/2	3/8-24	1-3/8	1/2	6.5	6.6
1-15/16	2-5/8	6-1/16	6-5/8	8-1/4	2-1/4	11/16	31/32	31/32	2-3/4	3/8-24	1-1/2	5/8	8.0	8.1
2 2-3/16	2-29/32	6-7/16	7-3/8	8-7/8	2-3/8	11/16	1-5/32	1-3/32	3	7/16-20	1-23/32	5/8	9.5	10.0
2-1/4 2-7/16	3-3/32	6-15/16	7-7/8	9-5/8	2-1/2	11/16	1-5/32	1-7/32	3-5/16	7/16-20	1-27/32	5/8	11.8	11.9

For Load Ratings, see Engineering Section, Page 109.

PILLOW BLOCKS — STANDARD DUTY
EXTENDED INNER RACE — SETSCREW LOCKING

SL SERIES
SH SERIES

SL SERIES LOW BACKING
SH SERIES HIGH BACKING

FEATURES —

One-piece, high grade cast iron housing.
Deep groove ball bearings for high radial and thrust loads.
Precision machined housing bore and spherical outer race for self-alignment.
Synthetic lip type seals with steel flinger.
Positive locking by setscrews through extended inner race.
1/4-28 threaded grease fitting and channel through outer race allow relubrication.

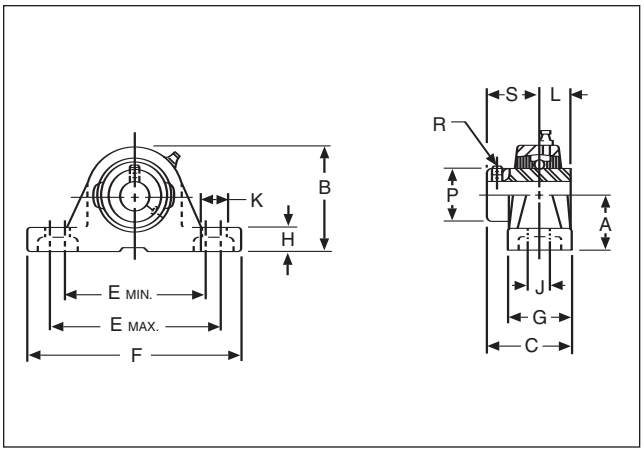
ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Low Backing		High Backing	
	Catalog Number	Item Code	Catalog Number	Item Code
1/2	SL-1/2*	64680	SH-1/2*	64679
5/8	SL-5/8*	64682	SH-5/8*	64681
3/4	SL-3/4	64684	SH-3/4	64683
7/8	SL-7/8	64686	SH-7/8	64685
15/16	SL-15/16	64688	SH-15/16	65687
1	SL-1	64690	SH-1	64689
1-1/8	SL-1-1/8	64692	SH-1-1/8	64691
1-3/16	SL-1-3/16	64694	SH-1-3/16	64693
1-1/4S	SL-1-1/4S	64696	SH-1-1/4S	64695
1-1/4	SL-1-1/4	64698	SH-1-1/4	64697
1-5/16	SL-1-5/16	64700	SH-1-5/16	64699
1-3/8	SL-1-3/8	64702	SH-1-3/8	64701
1-7/16	SL-1-7/16	64704	SH-1-7/16	64703
1-1/2	SL-1-1/2	64706	SH-1-1/2	64705
1-5/8	SL-1-5/8	64708	SH-1-5/8	64707
1-11/16	SL-1-11/16	64710	SH-1-11/16	64709
1-3/4	SL-1-3/4	64712	SH-1-3/4	64711
1-15/16	SL-1-15/16	64714	SH-1-15/16	64713
2	SL-2	64716	SH-2	64715
2-3/16	SL-2-3/16	64718	SH-2-3/16	64717
2-1/4	SL-2-1/4	64720	SH-2-1/4	64719
2-7/16	SL-2-7/16	64722	SH-2-7/16	64721

*Bearings not equipped with steel flinger.
Replacement Bearings are shown on Page 86.

PILLOW BLOCKS — STANDARD DUTY
EXTENDED INNER RACE — SETSCREW LOCKING

SL/SH SERIES



STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.0012 to –.0000

SHAFT HEIGHT DIMENSIONS IN INCHES

Bore	Low Backing			High Backing		
	A	B	H	A	B	H
1/2 5/8	1-1/16	2-5/32	1/2	1-3/16	2-9/32	5/8
3/4	1-1/4	2-15/32	9/16	1-5/16	2-17/32	5/8
7/8 15/16 1	1-5/16	2-21/32	5/8	1-7/16	2-25/32	3/4
1-1/8 1-3/16 1-1/4S	1-9/16	3-1/8	3/4	1-11/16	3-1/4	7/8
1-1/4 1-5/16 1-3/8 1-7/16	1-13/16	3-11/16	1	1-7/8	3-3/4	1-1/16
1-1/2	1-15/16	4	1-1/8	2	4-1/16	1-3/16
1-5/8 1-11/16 1-3/4	2-1/16	4-1/4	1-1/4	2-1/8	4-5/16	1-5/16
1-15/16	2-3/16	4-1/2	1-3/8	2-1/4	4-9/16	1-7/16
2 2-3/16	2-7/16	4-15/16	1-1/2	2-1/2	5	1-9/16
2-1/4 2-7/16	2-11/16	5-7/16	1-5/8	2-3/4	5-1/2	1-11/16

ALL DIMENSIONS IN INCHES

Bore	C	E		F	G	J	K	L	P	R* Setscrew (UNF)	S	Bolt Size	Approx. Wt. (Lbs.)	
		Min.	Max.										L	H
1/2 5/8	1-3/8	3-5/16	4	5-1/16	1-1/2	7/16	25/32	9/32	31/32	10-32	5/8	3/8	1.25	1.38
3/4	1-1/2	3-7/16	4-1/8	5-1/4	1-9/16	7/16	25/32	1/2	1-11/64	10-32	23/32	3/8	1.75	1.75
7/8 15/16 1	1-37/64	3-3/4	4-1/4	5-1/2	1-5/8	7/16	11/16	9/16	1-21/64	10-32	25/32	3/8	2.00	2.00
1-1/8 1-3/16 1-1/4S	1-3/4	4-5/16	4-15/16	6-1/4	1-3/4	9/16	7/8	5/8	1-39/64	1/4-28	7/8	3/8	2.75	2.88
1-1/4 1-5/16 1-3/8 1-7/16	1-15/16	4-3/4	5-3/8	6-11/16	1-7/8	9/16	7/8	11/16	1-27/32	1/4-28	1	1/2	4.25	4.50
1-1/2	2-3/16	5-1/4	5-13/16	7-1/4	2	9/16	27/32	3/4	2-3/32	5/16-24	1-3/16	1/2	5.63	5.75
1-5/8 1-11/16 1-3/4	2-33/64	5-9/16	6-1/8	7-3/4	2-1/8	9/16	27/32	3/4	2-17/64	5/16-24	1-3/16	1/2	6.63	6.75
1-15/16	2-13/32	6-1/16	6-5/8	8-1/4	2-1/4	11/16	31/32	3/4	2-29/64	5/16-24	1-5/16	5/8	8.25	8.25
2 2-3/16	2-1/2	6-7/16	7-3/8	8-7/8	2-3/8	11/16	1-5/32	7/8	2-23/32	5/16-24	1-5/16	5/8	10.00	10.25
2-1/4 2-7/16	2-13/16	6-15/16	7-7/8	9-5/8	2-1/2	11/16	1-5/32	1	3-1/32	3/8-24	1-9/16	5/8	12.25	12.38

*2 at 120°

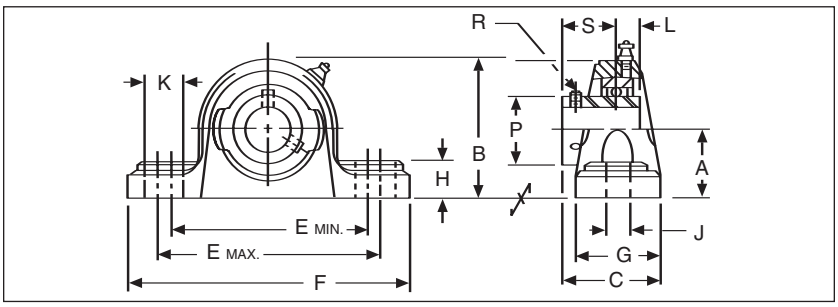
For Load Ratings, see Engineering Section, Page 109.

PILLOW BLOCKS — MEDIUM DUTY
EXTENDED INNER RACE — SETSCREW LOCKING

MB SERIES

FEATURES —

One-piece high grade cast iron housing.
Deep groove ball bearings for high radial and thrust loads.
Precision machined housing bore and spherical race for full self-alignment.
Synthetic lip type seal with steel flinger.
Positive locking by setscrews through extended inner race.
1/4-28 threaded grease fitting and channel through outer race allow relubrication.



STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.001 to –.000

ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Catalog Number	Item Code
1-7/16	MB-1-7/16	64573
1-1/2	MB-1-1/2	64574
1-11/16 1-3/4	MB-1-11/16 MB-1-3/4	64575 64576
1-15/16 2	MB-1-15/16 MB-2	64577 64578
2-3/16 2-1/4	MB-2-3/16 MB-2-1/4	64579 64580
2-7/16 2-1/2	MB-2-7/16 MB-2-1/2	64581 64582
2-11/16	MB-2-11/16	64583
2-15/16 3	MB-2-15/16 MB-3	64584 64585
3-3/16 3-1/4	MB-3-3/16 MB-3-1/4	64586 64587
3-7/16 3-1/2	MB-3-7/16 MB-3-1/2	64588 64589

ALL DIMENSIONS IN INCHES

Bore	A	B	C	E Min.	E Max.	F	G	H	J	K	L	P	R* Setscrew (UNF)	S	Bolt Size	Approx. Weight (Lbs.)
1-7/16	2-1/8	4-3/16	2-17/64	5-1/16	6-5/16	6-1/2	2-1/4	3/4	9/16	1-3/16	3/4	1-27/32	5/16-24	1-9/64	1/2	6.8
1-1/2	2-5/16	4-9/16	2-1/2	5-9/16	6-11/16	8-1/4	2-5/8	13/16	11/16	1-1/4	3/4	2-3/32	5/16-24	1-3/16	5/8	9.0
1-11/16 1-3/4	2-5/16	4-5/8	2-19/32	5-1/2	6-3/4	8-1/4	2-5/8	13/16	11/16	1-5/16	3/4	2-17/64	5/16-24	1-9/32	5/8	9.5
1-15/16 2	2-1/2	5-1/16	2-3/4	6	7-1/2	8-7/8	2-7/8	7/8	11/16	1-7/16	7/8	2-23/32	5/16-24	1-5/16	5/8	11.7
2-3/16 2-1/4	2-3/4	5-5/8	3-1/8	6-5/8	7-7/8	9-5/8	3-1/8	1-1/16	13/16	1-7/16	1	3-1/32	3/8-24	1-9/16	3/4	16.2
2-7/16 2-1/2	3	6-3/16	3-3/8	7-3/16	8-13/16	10-3/8	3-1/4	1-1/16	13/16	1-5/8	1-3/16	3-27/64	3/8-24	1-3/4	3/4	21.5
2-11/16	3-1/2	6-15/16	3-3/8	7-15/16	10-1/16	11-7/8	3-1/2	1-1/8	15/16	2	1-5/16	3-43/64	3/8-24	1-3/4	7/8	29.2
2-15/16 3	3-1/2	7-1/8	3-11/16	7-15/16	10-1/16	11-7/8	3-1/2	1-1/4	15/16	2	1-5/16	3-7/8	1/2-20	1-15/16	7/8	31.5
3-3/16 3-1/4	4	8	4-1/32	9-3/4	12-1/2	15	4	1-1/4	15/16	2-5/16	1-11/32	4-3/16	1/2-20	2-1/32	7/8	41.1
3-7/16 3-1/2	4	8-1/4	4-13/32	9-11/16	12-9/16	15	4-3/8	1-5/16	15/16	2-3/8	1-9/16	4-25/64	1/2-20	2-7/32	7/8	47.8

*2 at 120°

For Load Ratings, See Engineering Section, Page 109.
Replacement Bearings are shown on Page 86.

FLANGED UNITS —LIGHT DUTY SETSCREW LOCKING

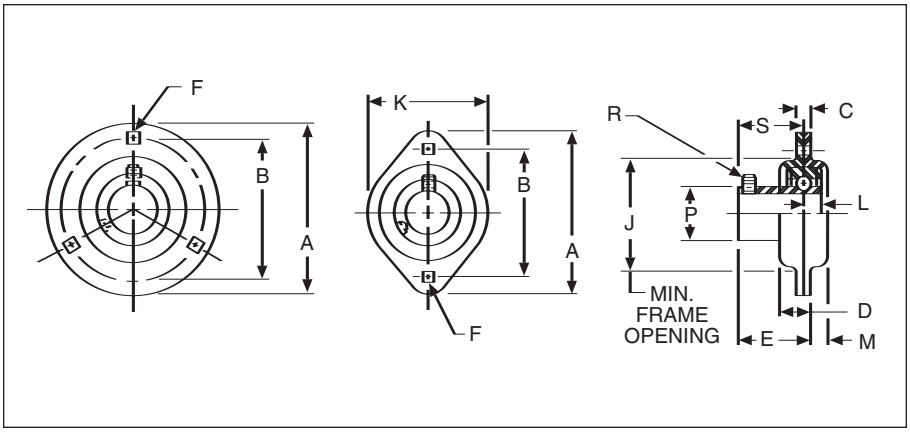
PS2/PS3 SERIES PRESSED STEEL HOUSING

ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	3-BOLT		2-BOLT	
	Catalog Number	Item Code	Catalog Number	Item Code
1/2	PS3-1/2	64520	PS2-1/2	64510
5/8	PS3-5/8	64521	PS2-5/8	64511
3/4	PS3-3/4	64522	PS2-3/4	64512
7/8	PS3-7/8	64523	PS2-7/8	64513
15/16	PS3-15/16	64524	PS2-15/16	64514
1	PS3-1	64525	PS2-1	64515
1-1/16	PS3-1-1/16	64526	PS2-1-1/16	64516
1-1/8	PS3-1-1/8	64527	PS2-1-1/8	64517
1-3/16	PS3-1-3/16	64528	PS2-1-3/16	64518
1-1/4S	PS3-1-1/4S	64529	PS2-1-1/4S	64519
1-1/4	PS3-1-1/4	64530		
1-3/8	PS3-1-3/8	64532	-----	-----
1-7/16	PS3-1-7/16	64533		

STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.001 to –.000



ALL DIMENSIONS IN INCHES

Bore	A	B	C	D	E	F Sq.	J	K	L	M	P	R* Setscrew UNF	S	Bolt Size	Approx. Weight (Lbs.)	
															PS3	PS2
1/2	3-3/16	2-1/2	.150	23/64	45/64	9/32	1-15/16	2-5/16	15/64	13/64	31/32	10-32	5/8	1/4	.63	.51
5/8															.59	.47
3/4	3-9/16	2-13/16	.166	25/64	25/32	11/32	2-3/16	2-5/8	9/32	7/32	1-11/64	10-32	45/64	5/16	.74	.60
7/8	3-3/4	3	.166	27/64	27/32	11/32	2-3/8	2-51/64	19/64	1/4	1-11/32	10-32	49/64	5/16	.87	.70
15/16															.84	.67
1															.81	.64
1-1/16	4-7/16	3-9/16	.208	29/64	15/16	13/32	2-13/16	3-5/16	5/16	1/4	1-39/64	1/4-28	53/64	3/8	1.42	1.08
1-1/8															1.37	1.03
1-3/16															1.32	.98
1-1/4S															1.27	.93
1-1/4	4-13/16	3-15/16	.208	31/64	1-7/64	13/32	3-3/16	—	11/32	9/32	1-27/32	1/4-28	1	3/8	1.93	—
1-3/8															1.84	
1-7/16															1.74	

*2 at 120°
Eccentric Locking Collar bearings are available to special order.
On 1-1/4" through 1-7/16" Hole Diameters, Eccentric Collar bearings will have extended inner races on both sides and will project beyond "M" dimension.
For Load Ratings, see Engineering Section, Page 108.
Replacement Bearings are shown on Page 86.

FLANGED UNITS —LIGHT DUTY SETSCREW LOCKING

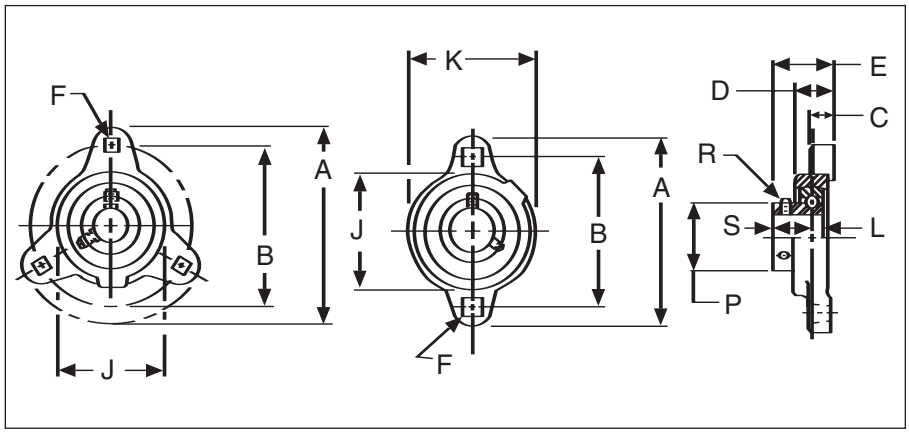
XL2/XL3 SERIES CAST DUCTILE HOUSING

ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	3-BOLT		2-BOLT	
	Catalog Number	Item Code	Catalog Number	Item Code
1/2	XL3-1/2	64560	XL2-1/2	64547
5/8	XL3-5/8	64561	XL2-5/8	64548
3/4	XL3-3/4	64562	XL2-3/4	64549
7/8	XL3-7/8	64563	XL2-7/8	64550
15/16	XL3-15/16	64564	XL2-15/16	64551
1	XL3-1	64565	XL2-1	64552
1-1/16	XL3-1-1/16	64566	XL2-1-1/16	64553
1-1/8	XL3-1-1/8	64567	XL2-1-1/8	64554
1-3/16	XL3-1-3/16	64568	XL2-1-3/16	64555
1-1/4S	XL3-1-1/4S	64569	XL2-1-1/4S	64556
1-3/8	XL3-1-3/8	64571	XL2-1-3/8	64558
1-7/16	XL3-1-7/16	64572	XL2-1-7/16	64559

STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.001 to –.000



ALL DIMENSIONS IN INCHES

Bore	A	B	C	D	E	F Sq.	J	K	L	P	R* Setscrew UNF	S	Bolt Size	Approx. Weight (Lbs.)	
														XL3	XL2
1/2 5/8	3-3/16	2-1/2	27/64	11/16	1	9/32	1-13/16	1-15/16	15/64	31/32	10-32	5/8	1/4	.6	.5
3/4	3-9/16	2-13/16	7/16	3/4	1-1/8	11/32	2-1/16	2-1/4	9/32	1-11/64	10-32	45/64	3/16	.7	.7
7/8 15/16 1	3-3/4	3	7/16	3/4	1-1/8	11/32	2-5/16	2-1/2	19/64	1-11/32	10-32	49/64	5/16	.8	.8
1-1/16 1-1/8 1-3/16 1-1/4S	4-7/16	3-9/16	15/32	27/32	1-19/64	13/32	2-13/16	2-15/16	5/16	1-39/64	1/4-28	53/64	3/8	1.2	1.2
1-3/8 1-7/16	4-13/16	3-15/16	1/2	29/32	1-1/2	13/32	3-3/16	3-3/8	11/32	1-27/32	1/4-28	1	3/8	1.6	1.5

*2 at 120°
These units also available with Eccentric Locking Collars on Special Order.
For Load Ratings, See Engineering Section, Page 109.
Replacement Bearings are shown on Page 86.

FLANGED UNITS — STANDARD DUTY
ECCENTRIC LOCKING COLLAR

F SERIES
T SERIES

F SERIES 4-BOLT
T SERIES 2-BOLT

FEATURES —

Rigid one-piece high housing.
Chrome alloy steel balls. Spherical outer race.
Synthetic lip type seals.
Eccentric locking collar.
1/4-28 threaded grease fitting.

ORDER BY CATALOG NUMBER OR ITEM CODE

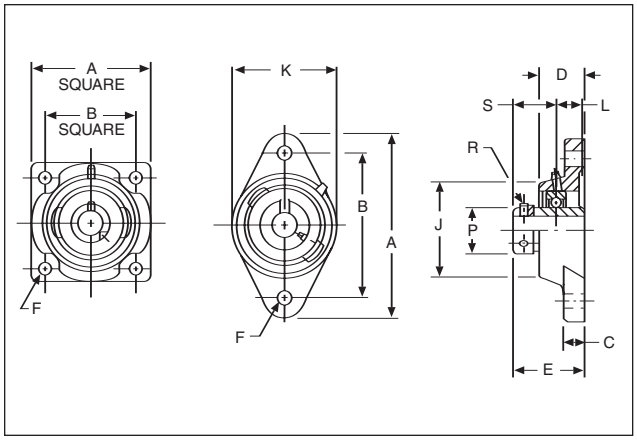
Bore	4-BOLT FLANGES F SERIES		2-BOLT FLANGES T SERIES	
	Catalog Number	Item Code	Catalog Number	Item Code
1/2 5/8	3F-1/2 3F-5/8	06938 06940	3T-1/2 3T-5/8	06982 06984
3/4	4F-3/4	06942	4T-3/4	06986
7/8 15/16 1	5F-7/8 5F-15/16 5F-1	06944 06946 06948	5T-7/8 5T-15/16 5T-1	06988 06990 06992
1-1/8 1-3/16 1-1/4S	6F-1-1/8 6F-1-3/16 6F-1-1/4S	06950 06952 06954	6T-1-1/8 6T-1-3/16 6T-1-1/4S	06994 06996 06998
1-1/4 1-5/16 1-3/8 1-7/16	7F-1-1/4* 7F-1-5/16* 7F-1-3/8* 7F-1-7/16*	06956 06958 06960 06962	7T-1-1/4* 7T-1-5/16* 7T-1-3/8* 7T-1-7/16*	07000 07002 07004 07006
1-1/2	8F-1-1/2*	06964	—	—
1-5/8 1-11/16 1-3/4	9F-1-5/8* 9F-1-11/16* 9F-1-3/4*	06966 06968 06970	— — —	— — —
1-15/16	10F-1-15/16*	06972	10T-1-15/16*	50695
2 2-3/16	11F-2* 11F-2-3/16*	06974 06976	— —	— —
2-1/4 2-7/16	12F-2-1/4* 12F-2-7/16*	06978 06980	— —	— —

*Bearings equipped with steel flinger.

Replacement Bearings are shown on Page 85.

FLANGED UNITS — STANDARD DUTY
ECCENTRIC LOCKING COLLAR

F SERIES
T SERIES



STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.0012 to –.0000

ENVELOPE AND BOLT SPACING DIMENSIONS IN INCHES

Bore	4-BOLT		2-BOLT		
	A	B	A	B	K
1/2 5/8	2-7/8	2-1/8	3-3/4	3	2-9/32
3/4	3-3/8	2-1/2	4-13/32	3-17/32	2-37/64
7/8 15/16 1	3-3/4	2-3/4	4-57/64	3-57/64	2-53/64
1-1/8 1-3/16 1-1/4S	4-1/4	3-1/4	5-19/32	4-19/32	3-19/64
1-1/4 1-5/16 1-3/8 1-7/16	4-5/8	3-5/8	6-1/8	5-1/8	3-11/64
1-1/2	5-1/8	4	—	—	—
1-5/8 1-11/16 1-3/4	5-3/8	4-1/8	—	—	—
1-15/16	5-5/8	4-3/8	7-7/16	6-3/16	4-9/16
2 2-3/16	6-3/8	5-1/8	—	—	—
2-1/4 2-7/16	6-7/8	5-5/8	—	—	—

ALL DIMENSIONS IN INCHES

Bore	C	D	E	F Bolt	J	L	P F T	R* Setscrew UNF	S	Approx. Weight (Lbs.)	
										F	T
1/2 5/8	7/16	1-1/16	1-37/64	3/8	2	1/4	1-9/64	1/4-28	7/8	.9	.9
3/4	1/2	1-7/32	1-13/16	3/8	2-1/4	19/64	1-19/64	1/4-28	59/64	1.7	1.2
7/8 15/16 1	9/16	1-1/4	1-27/32	7/16	2-1/2	19/64	1-1/2	1/4-28	59/64	2.0	1.6
1-1/8 1-3/16 1-1/4S	9/16	1-11/32	2	7/16	2-15/16	23/64	1-3/4	5/16-24	1-3/64	2.7	2.1
1-1/4 1-5/16 1-3/8 1-7/16	5/8	1-3/8	2-1/8	1/2	3-1/4	47/64	2-3/16	3/8-24	1-17/64	3.7	2.8
1-1/2	11/16	1-37/64	2-11/32	1/2	3-3/4	27/32	2-23/64	3/8-24	1-3/8	5.0	—
1-5/8 1-11/16 1-3/4	11/16	1-39/64	2-11/32	9/16	3-7/8	27/32	2-1/2	3/8-24	1-3/8	5.4	—
1-15/16	11/16	1-51/64	2-19/32	9/16	4-1/8	31/32	2-3/4	3/8-24	1-1/2	6.0	4.8
2 2-3/16	3/4	1-31/32	2-15/16	5/8	4-1/2	1-3/32	3	7/16-20	1-23/32	8.4	—
2-1/4 2-7/16	3/4	2-1/8	3-3/16	5/8	4-7/8	1-7/32	3-5/16	7/16-20	1-27/32	10.0	—

*2 at 120°.

For Load Ratings, See Engineering Section, Page 109.

FLANGED UNITS — STANDARD DUTY
EXTENDED INNER RACE—SETSCREW LOCKING

SF SERIES
ST SERIES

SF SERIES 4-BOLT
ST SERIES 2-BOLT

FEATURES —

One-piece high grade cast iron housing.
Deep groove ball bearings for high radial and thrust loads.
Precision machined housing bore and spherical outer race for self-alignment.
Synthetic lip type seal with steel flinger.
Positive locking by setscrews through extended inner race.
1/4-28 threaded grease fitting and channel through outer race allow relubrication.

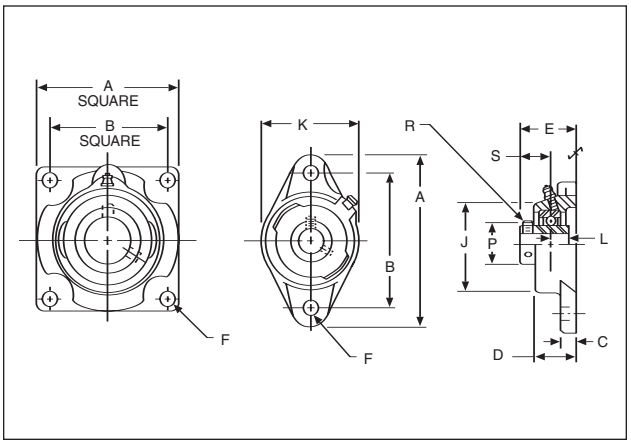
ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	4-BOLT		2-BOLT	
	Catalog Number	Item Code	Catalog Number	Item Code
1/2	SF-1/2	64736	ST-1/2	64723
5/8	SF-5/8	64737	ST-5/8	64724
3/4	SF-3/4	64738	ST-3/4	64725
7/8	SF-7/8	64739	ST-7/8	64726
15/16	SF-15/16	64740	ST-15/16	64727
1	SF-1	64741	ST-1	64728
1-1/8	SF-1-1/8	64742	ST-1-1/8	64729
1-3/16	SF-1-3/16	64743	ST-1-3/16	64730
1-1/4S	SF-1-1/4S	64744	ST-1-1/4S	64731
1-1/4	SF-1-1/4	64745	ST-1-1/4	64732
1-5/16	SF-1-5/16	64746	ST-1-5/16	64733
1-3/8	SF-1-3/8	64747	ST-1-3/8	64734
1-7/16	SF-1-7/16	64748	ST-1-7/16	64735
1-1/2	SF-1-1/2	64749	—	—
1-5/8	SF-1-5/8	64750	—	—
1-11/16	SF-1-11/16	64751	—	—
1-3/4	SF-1-3/4	64752	—	—
1-15/16	SF-1-15/16	64753	ST-1-15/16	50696
2	SF-2	64754	—	—
2-3/16	SF-2-3/16	64755	—	—
2-1/4	SF-2-1/4	64756	—	—
2-7/16	SF-2-7/16	64757	—	—

Replacement Bearings are shown on Page 86.

FLANGED UNITS — STANDARD DUTY
EXTENDED INNER RACE — SETSCREW LOCKING

SF/ST SERIES



ENVELOPE AND BOLT SPACING DIMENSIONS IN INCHES

Bore	4-BOLT		2-BOLT		
	A	B	A	B	K
1/2 5/8	2-7/8	2-1/8	3-3/4	3	2-9/32
3/4	3-3/8	2-1/2	4-13/32	3-17/32	2-37/64
7/8 15/16 1	3-3/4	2-3/4	4-57/64	3-57/64	2-53/64
1-1/8 1-3/16 1-1/4S	4-1/4	3-1/4	5-19/32	4-19/32	3-19/64
1-1/4 1-5/16 1-3/8 1-7/16	4-5/8	3-5/8	6-1/8	5-1/8	3-11/64
1-1/2	5-1/8	4	—	—	—
1-5/8 1-11/16 1-3/4	5-3/8	4-1/8	—	—	—
1-15/16	5-5/8	4-3/8	7-7/16	6-3/16	4-9/16
2 2-3/16	6-3/8	5-1/8	—	—	—
2-1/4 2-7/16	6-7/8	5-5/8	—	—	—

STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.0012 to –.0000

ALL DIMENSIONS IN INCHES

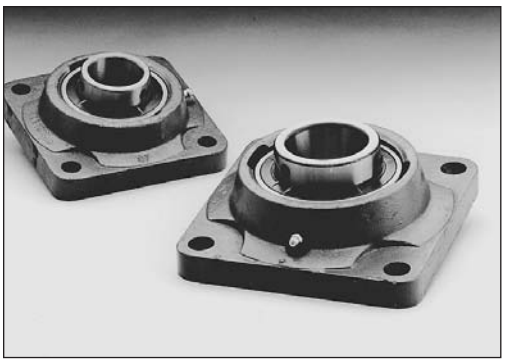
Bore	C	D	E	F Bolt	J	L	P	R* Setscrew UNF	S	Approx. Weight (Lbs.)	
										SF	ST
1/2 5/8	7/16	1-1/16	1-17/64	3/8	2	9/32	31/32	10-32	5/8	.9	.9
3/4	1/2	1-7/32	1-31/64	3/8	2-1/4	1/2	1-11/64	10-32	23/32	1.7	1.2
7/8 15/16 1	9/16	1-1/4	1-9/16	7/16	2-1/2	9/16	1-11/32	10-32	25/32	2.0	1.6
1-1/8 1-3/16 1-1/4S	9/16	1-11/32	1-11/16	7/16	2-15/16	5/8	1-39/64	1/4-28	7/8	2.7	2.1
1-1/4 1-5/16 1-3/8 1-7/16	5/8	1-3/8	1-27/32	1/2	3-5/16	11/16	1-27/32	1/4-28	1	3.7	2.8
1-1/2	11/16	1-37/64	2-1/64	1/2	3-3/4	3/4	2-3/32	5/16-24	1-3/16	5.0	—
1-5/8 1-11/16 1-3/4	11/16	1-39/64	2-1/64	9/16	3-7/8	3/4	2-17/64	5/16-24	1-3/16	5.4	—
1-15/16	11/16	1-51/64	2-3/8	9/16	4-1/8	3/4	2-29/64	5/16-24	1-9/32	6.0	4.8
2 2-3/16	3/4	1-31/32	2-17/32	5/8	4-1/2	7/8	2-23/32	5/16-24	1-5/16	8.4	—
2-1/4 2-7/16	3/4	2-1/8	2-29/32	5/8	4-7/8	1	3-1/32	3/8-24	1-9/16	10.0	—

*2 AT 120°

For Load Ratings, See Engineering Section, Page 109.

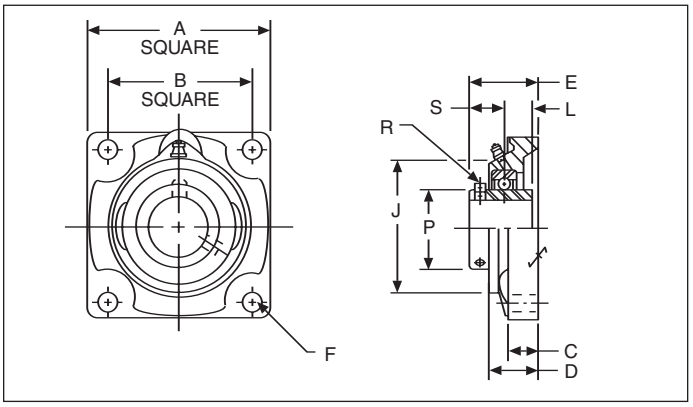
FLANGED UNITS — MEDIUM DUTY
EXTENDED INNER RACE — SETSCREW LOCKING

MBF SERIES



FEATURES —

One-piece high grade cast iron housing.
Deep groove ball bearings for high radial and thrust loads.
Precision machined housing bore and spherical outer race for full self-alignment.
Synthetic lip type seal with steel flinger.
Positive locking by setscrews through extended inner race.
1/4-28 threaded grease fitting and channel through outer race allow relubrication.



ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Catalog Number	Item Code
1-7/16	MBF-1-7/16	64590
1-1/2	MBF-1-1/2	64591
1-11/16 1-3/4	MBF-1-11/16 MBF-1-3/4	64592 64593
1-15/16 2	MBF-1-15/16 MBF-2	64594 64595
2-3/16 2-1/4	MBF-2-3/16 MBF-2-1/4	64596 64597
2-7/16 2-1/2	MBF-2-7/16 MBF-2-1/2	64598 64599
2-11/16	MBF-2-11/16	64600
2-15/16 3	MBF-2-15/16 MBF-3	64601 64602
3-3/16 3-1/4	MBF-3-3/16 MBF-3-1/4	64603 64604
3-7/16 3-1/2	MBF-3-7/16 MBF-3-1/2	64605 64606

STANDARD TOLERANCES

Dimensions		Tolerance
Bore	1-7/16-1-3/4 1-15/16-3-1/2	+.0010 to –.0000 +.0012 to –.0000

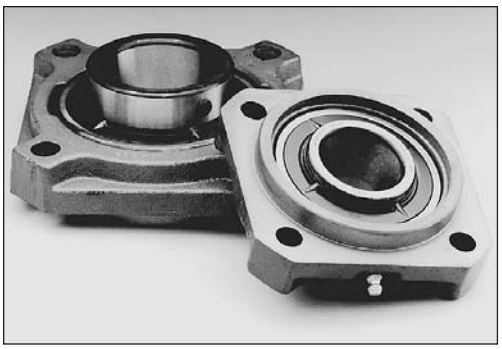
ALL DIMENSIONS IN INCHES

Bore	A	B	C	D	E	F Bolt	J	L	P	R* Setscrew UNF	S	Approx. Weight (Lbs.)
1-7/16	5-1/8	4	11/16	1-37/64	2-5/32	1/2	3-3/4	3/4	1-27/32	5/16-24	1-9/64	5.5
1-1/2	5-3/8	4-1/8	11/16	1-39/64	2-5/32	9/16	3-7/8	3/4	2-3/32	5/16-24	1-3/16	6.0
1-11/16 1-3/4	5-5/8	4-3/8	11/16	1-51/64	2-3/8	9/16	4-1/8	3/4	2-17/64	5/16-24	1-9/32	6.8
1-15/16 2	6-3/8	5-1/8	3/4	1-31/32	2-17/32	5/8	4-1/2	7/8	2-23/32	5/16-24	1-5/16	10.5
2-3/16 2-1/4	6-7/8	5-5/8	3/4	2-1/8	2-29/32	5/8	4-7/8	1	3-1/32	3/8-24	1-9/16	12.1
2-7/16 2-1/2	7-1/8	5-7/8	3/4	2-5/32	3-1/16	5/8	5-3/4	1-3/16	3-27/64	3/8-24	1-3/4	16.4
2-11/16	7-5/8	6	3/4	2-5/16	3-3/16	3/4	5-3/4	1-5/16	3-43/64	3/8-24	1-3/4	20.6
2-15/16 3	7-5/8	6	13/16	2-7/16	3-1/2	3/4	6-1/4	1-5/16	3-7/8	1/2-20	1-15/16	21.4
3-3/16 3-1/4	8-3/8	6-3/4	15/16	2-13/32	3-17/32	3/4	6-7/8	1-11/32	4-3/16	1/2-20	2-1/32	26.7
3-7/16 3-1/2	8-3/8	6-3/4	15/16	2-11/16	3-31/32	3/4	7	1-9/16	4-25/64	1/2-20	2-7/32	20.0

*2 AT 120°
For Load Ratings, See Engineering Section, Page 109.
Replacement Bearings are shown on Page 86.

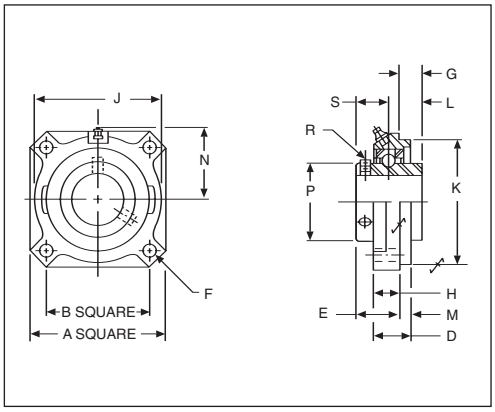
PILOTED FLANGED UNITS — MEDIUM DUTY
EXTENDED INNER RACE — SETSCREW LOCKING

MBP SERIES



FEATURES —

One-piece high grade cast iron housing.
Deep groove ball bearings for high radial and thrust loads.
Precision machined housing bore and spherical outer race for full self-alignment.
Synthetic lip type seal with steel flinger.
Positive locking by setscrews through extended inner race.
1/4-28 threaded grease fitting and channel through outer race allow relubrication.



ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Catalog Number	Item Code
1-7/16	MBP-1-7/16	64607
1-1/2	MBP-1-1/2	64608
1-11/16 1-3/4	MBP-1-11/16 MBP-1-3/4	64609 64610
1-15/16 2	MBP-1-15/16 MBP-2	64611 64612
2-3/16 2-1/4	MBP-2-3/16 MBP-2-1/4	64613 64614
2-7/16 2-1/2	MBP-2-7/16 MBP-2-1/2	64615 64616
2-11/16	MBP-2-11/16	64617
2-15/16 3	MBP-2-15/16 MBP-3	64618 64619
3-7/16 3-1/2	MBP-3-7/16 MBP-3-1/2	64620 64621

STANDARD TOLERANCES

Dimensions		Tolerance
Bore	1-7/16-1-3/4 1-15/16-3-1/2	+.0010 to –.0000 +.0012 to –.0000
K	All	+.000 to –.002

ALL DIMENSIONS IN INCHES

Bore	A	B	D	E	F Bolt	G	H	J	K	L	M	N	P	R* Setscrew UNF	S	Approx. Weight (Lbs.)
1-7/16	4-1/4	3-3/32	1-5/16	1-17/32	7/16	13/32	7/8	4	3-5/8	3/4	7/16	2-1/4	1-27/32	5/16-24	1-9/64	5.5
1-1/2	4-1/4	3-3/32	1-11/32	1-9/16	7/16	3/8	29/32	4	3-5/8	3/4	7/16	2-9/32	2-3/32	5/16-24	1-3/16	6.0
1-11/16 1-3/4	4-15/16	3-5/8	1-3/8	1-11/16	1/2	11/32	15/16	4-1/2	4-1/4	3/4	7/16	2-9/16	2-17/64	5/16-24	1-9/32	6.8
1-15/16 2	5-3/16	3-13/16	1-3/8	1-21/32	1/2	17/32	15/16	4-3/4	4-1/2	7/8	7/16	2-3/4	2-23/32	5/16-24	1-5/16	10.5
2-3/16 2-1/4	5-13/16	4-1/4	1-15/32	1-7/8	1/2	11/16	31/32	5-3/8	5	1	1/2	3-1/16	3-1/32	3/8-24	1-9/16	12.1
2-7/16 2-1/2	6-1/4	4-19/32	1-5/8	2-1/8	1/2	13/16	1-1/8	5-3/4	5-1/2	1-3/16	1/2	3-9/32	3-27/64	3/8-24	1-3/4	16.4
2-11/16	7-1/8	5-5/16	1-21/32	2-5/32	5/8	29/32	1-5/32	6-9/16	6-3/8	1-5/16	1/2	3-11/32	3-43/64	3/8-24	1-3/4	20.6
2-15/16 3	7-1/8	5-5/16	1-7/8	2-3/8	5/8	7/8	1-1/4	6-9/16	6-3/8	1-5/6	5/8	3-23/32	3-7/8	1/2-20	1-15/16	21.4
3-7/16 3-1/2	8-3/8	6-3/32	1-31/32	2-21/32	3/4	1-1/8	1-11/32	7-3/4	7-3/8	1-9/16	5/8	4-5/16	4-25/64	1/2-20	2-7/32	30.0

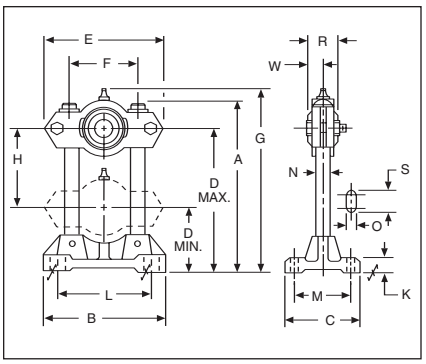
*2 AT 120°
For Load Ratings, See Engineering Section, Page 109
Replacement Bearings are shown on Page 86.

ADJUSTABLE SHAFT SUPPORTS — STANDARD DUTY ECCENTRIC LOCKING COLLAR

A SERIES

FEATURES —

Rigid one piece housing.
Chrome alloy steel balls.
Spherical outer race.
Synthetic lip type seals.
Eccentric locking collar.
1/4-28 threaded grease fitting.



STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.001 to –.000

ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Catalog Number	Item Code
1/2	3A-1/2	07008
5/8	3A-5/8	07010
3/4	4A-3/4	07012
7/8	5A-7/8	07016
15/16	5A-15/16	07018
1	5A-1	07020
1-1/8	6A-1-1/8	07024
1-3/16	6A-1-3/16	07026
1-1/4S	6A-1-1/4S	07028

ALL DIMENSIONS IN INCHES

Bore	A	B	C	D		E	F	G	H	
				Min.	Max.			Max.	Min.	Max.
1/2 5/8	7-1/8	5-1/8	3-1/8	2-13/32	6-1/16	4-7/8	2-3/4	7-7/16	2-1/2	3-21/32
3/4	7-1/8	5-1/8	3-1/8	2-17/32	6-1/16	4-7/8	2-3/4	7-9/16	2-13/16	3-17.32’
7/8 15/16 1	8-1/4	6-1/4	3-3/4	2-25/32	7-1/16	5-11/16	3-1/8	8-11/16	3	4-9/32
1-1/8 1-3/16 1-1/4S	11-1/4	8-1/8	4-1/2	3-1/2	9-15/16	7-11/16	4-3/8	11-25/32	3-7/16	6-7/16

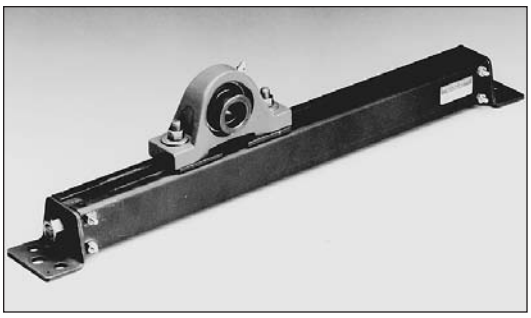
Bore	K	L	M	N	O	R	S	W	Bolt Size
1/2 5/8	5/8	3-15/16	2-1/4	5/8	3/8	1-9/16	11/16	15/16	5/16
3/4	5/8	3-15/16	2-1/4	5/8	3/8	1-23/32	11/16	1-3/64	5/16
7/8 15/16 1	3/4	4-13/16	2-3/4	3/4	1/2	1-3/4	15/16	1-1/16	7/16
1-1/8 1-3/16 1-1/4S	1	6-3/8	3-1/4	1-1/4	5/8	2-5/16	1-1/8	1-3/16	9/16

NOTE: For applications where direction of radial bearing load is away from base, it is recommended that a hole be drilled near the end of each post and a suitable size pin inserted, as a safety precaution.

Replacement Bearings are shown on Page 85.

TAKE-UP FRAMES

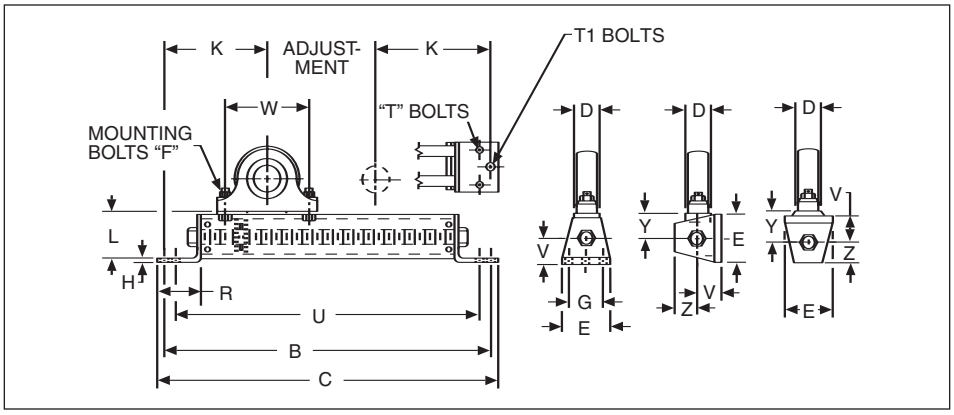
TU SERIES



Boston Gear Take-up Frames are designed for use with Boston's Standard Duty Pillow Blocks. Pillow Block units are not included.

FEATURES —

Bolted steel frame
3 or 4 bolt frame mounting
Bolt hole centers adjustable



ALL DIMENSIONS IN INCHES

Pillow Block Bore	Adjust-ment	B	C	D	E	F Bolts	G	H	K	L	R
1/2-1	6 9 12	16 19 22	17 20 23	1-3/4	2-5/8	3/8	1-5/8	3/16	5	2-1/8	1-3/4
1-1/8-1-3/4	6 9 12 18	19-1/8 22-1/8 25-1/8 31-1/8	20-1/4 23-1/4 26-1/4 32-1/4	2-3/8	3-1/8	1/2	2-1/8	1/4	6-9/16	2-11/16	2-3/16
1-15/16-2-7/16	9 12 18 24	25-5/16 28-5/16 34-5/16 40-5/16	26-9/16 29-9/16 35-9/16 41-9/16	3	4	5/8	2-3/4	5/16	8-5/32	3-5/16	2-3/4

ORDER BY CATALOG NUMBER OR ITEM CODE

Pillow Block Bore	Adjust-ment	Bolts		U	V	W		Y	Z	Catalog Number	Item Code
		T	T1			Min.	Max.				
1/2-1	6 9 12	5/16	3/8	15-1/4 18-1/4 21-1/4	1-1/16	3	5	1-1/16	15/16	TU816-6 TU816-9 TU816-12	29827 29828 29829
1-1/8-1-3/4	6 9 12 18	3/8	1/2	18-1/8 21-1/8 24-1/8 30-1/8	1-11/32	3-3/4	7-1/4	1-11/32	1-3/32	TU1828-6 TU1828-9 TU1828-12 TU1828-18	29830 29831 19832 29833
1-15/16-2-7/16	9 12 18 24	1/2	5/8	24-1/16 27-1/16 33-1/16 39-1/16	1-5/8	4-1/4	9	1-11/16	1-13/16	TU3139-9 TU3139-12 TU3139-18 TU3139-24	29834 29835 29836 29837

ANALYSIS OF RADIAL BEARING LOADS FOR UNMOUNTED AND MOUNTED ROLLING ELEMENTS

RADIAL LOAD

Radial bearing loads are determined by analysis of all the forces applied to a shaft. In many instances this becomes a complex analysis and should be performed with expertise. However, many applications involve simple loading and may be calculated with basic information.

Many shafts are supported by two bearings, with a load "L" applied either between two bearings, as in Figure 1; or with load overhung, as in Figure 2. In either case, the reaction on the bearing is dependent upon:

a. The point of load application
b. The magnitude of the load.
c. The distance between the bearing centers.

With the above information known, the reactions, due to the loads, on the bearings, may be calculated.

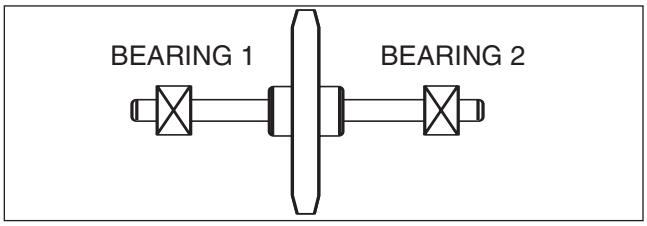


FIGURE 1.

When the applied load is located between the two bearings, it is commonly referred to as "Straddle" loading.

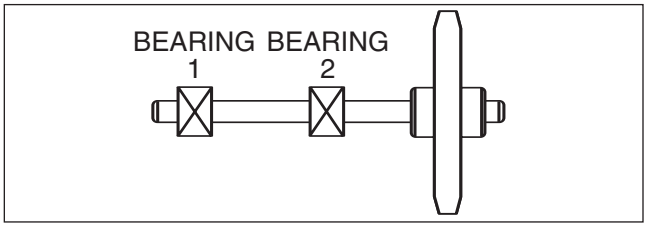


FIGURE 2.

When the applied load is located outside the two bearings, it is commonly referred to as "Overhung" loading.

The loading of a shaft usually is the result of forces generated by gearing, sprockets or pulleys, the weight of these parts and friction.

Normally the weight of the parts and friction are ignored. However, if the weight of these parts is large, they should be considered.

In this text we are mainly considering radial loading of the shaft. Each load should be calculated individually as the sum of these will be used to calculate the load imposed on the bearings.

LOAD CONNECTION FACTOR

Loads applied by various types of drives may be calculated with use of the following load connection factors and formula:

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

L =Load (Lbs.)

T = Torque (Lb-Ins.) $\quad T = \frac{(63025)(H.P.)}{RPM}$

K = Load Connection Factor

D = P.D. of Sprocket, Pinion, or Pulley (In.)

Load Connection Factors (K)

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

Example "A"

Load smooth and steady 8 hours per day.

#40 Chain Drive
30 Tooth Sprocket
4.783 Sprocket P.D.
2 HP
500 RPM
5/8 Shaft Dia.

With the above information the load can be calculated as follows:

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

$$T = \frac{63025 \times 2}{RPM} = 252 \text{ In. Lbs.}$$

K = 1.0 From Load Connection Factor Table

D = 4.783

$$L = \frac{2 \times 252 \times 1.0}{4.783}$$

L =105 lbs. Radial Load

ANALYSIS OF RADIAL BEARING LOADS FOR UNMOUNTED AND MOUNTED ROLLING ELEMENTS (Continued)

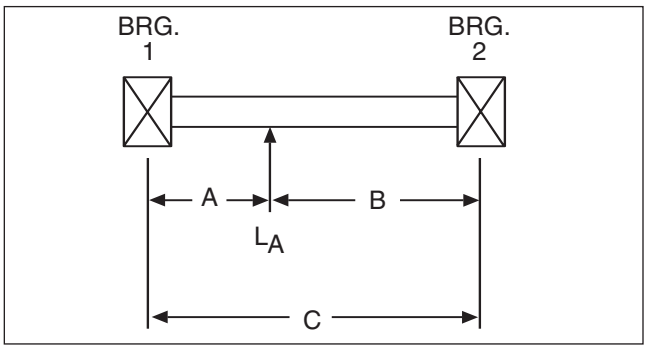
MAGNITUDE OF LOAD ACTING ON BEARINGS

Once the applied load or loads that act on the shaft is determined, we may now apply it to the bearings.

There are many types of loadings that can be imposed on a bearing:

Straddle Loaded Bearings

Radial Applied Load Acting On Shaft



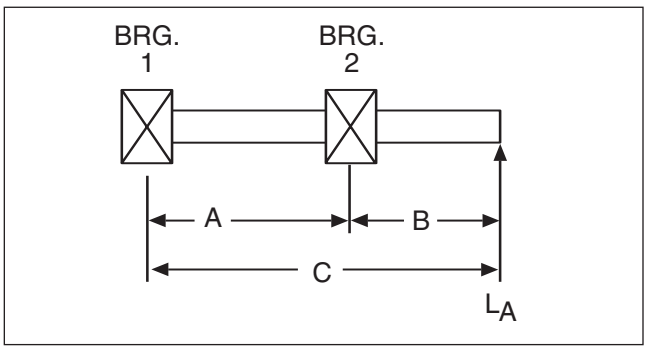
Load Bearing I = $L_I = \frac{L_A \times B}{C}$

Load Bearing II = $L_{II} = \frac{L_A \times A}{C}$

Check $L_I + L_{II} = L_A$

Overhung Loaded Bearings

Radial Applied Load Acting On Shaft



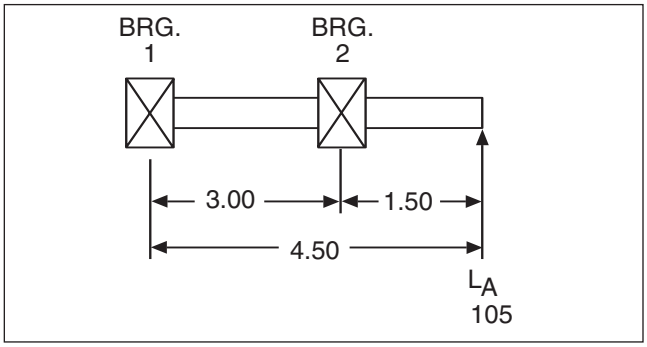
Load Bearing I = $L_I = \frac{L_A \times B}{A}$

Load Bearing II = $L_{II} = \frac{L_A \times C}{A}$

Check $L_{II} - L_I = L_A$

Example "B"

Load given in Example "A" = 105 lbs. is in overhung condition, as shown.



LOAD BEARING I

$L_I = \frac{L_A \times B}{A}$

$L_I = \frac{105 \times 1.50}{3.00}$

$L_I = 52.5$ lbs.

LOAD BEARING II

$L_2 = \frac{L_A \times C}{A}$

$L_2 = \frac{105 \times 4.5}{3.0}$

$L_2 = 157.5$ lbs.

CHECK

$L_{II} - L_I = LA$

157.5 – 52.5 = 105

105 = 105

BALL AND MOUNTED BALL BEARING SELECTION

Bearing selection for the majority of applications can be made directly from the Load Rating Tables. Mounted bearings are listed individually on each page. The mounted bearings tables are located on Pages 108-109.

The following procedure may be followed:

1. Determine the actual radial load to be supported by the bearing. For applications involving heavy shock loads or severe vibration, actual load should be multiplied by a service factor from 1.1 to 1.5 depending on the severity of these conditions.

Service Factor	Operating Conditions
.8	Uniform — not more than 15 minutes in 2 hours.
1.0	Moderate Shock — not more than 15 minutes in 2 hours. Uniform — not more than 10 hours per day
1.25	Moderate Shock — not more than 10 hours per day. Uniform — more than 10 hours per day.
1.50	Heavy Shock — not more than 15 minutes in 2 hours. Moderate Shock — more than 10 hours per day.
1.75	Heavy Shock — not more than 10 hours per day.
2.0	Heavy Shock — more than 10 hours per day.

2. Select a bearing from the table that has a radial load rating equal to or greater than the actual radial load determined in Step 1, for the life desired at the required operating speed.

   Ball bearing rating tables are based on an "Average" bearing life of 2500 hours. Average or medium life (L_{50}) is the life that may be expected from 50% or more of a given group of bearings operating under an identical steady load condition. The minimum life (L_{10}) is the life expectancy of at least 90% of a group of bearings and is approximately 1/5 average.

Example 'C'

Using loading from Example "B," select a mounted bearing suitable to give an average life (L_{50}) of 15,000 hours.

Known—

Load Bearing I = 52.5
Load Bearing II = 157.5
Shaft Diameter 5/8 (From Example "A")
Service Factor 1 (From Example "A")
500 RPM (From Example "A")

From the Rating Table, Page 109, as shown, a standard duty bearing (either eccentric collar or extended set screw inner race) may be selected.

MOUNTED BALL BEARING RADIAL LOAD CAPACITIES
LIGHT DUTY

PS SERIES PILLOW BLOCKS

Shaft Sizes	Average Life (L_{50}) Hours	Speed (R.P.M.) Radial Load (Pounds)							
		50	100	500	1000	1500	1800	2000	2500
1/2 5/8	2,500	300	300	300	300	300	300	300	300
	5,000	300	300	300	300	300	300	300	300
	7,500	300	300	300	245	215	200	195	180
	15,000	300	300	280	220	195	180	175	165
	75,000	300	300	245	195	170	160	155	140
3/4	2,500	350	350	350	350	350	350	350	350
	5,000	350	350	350	350	350	350	350	350
	7,500	350	350	350	330	285	270	260	240
	15,000	350	350	350	300	260	245	235	220
	75,000	350	350	350	260	225	215	205	190
7/8 15/16 1	2,500	400	400	400	400	400	400	400	400
	5,000	400	400	400	400	400	400	400	400
	7,500	400	400	400	360	315	295	285	265
	15,000	400	400	400	325	285	270	260	240
	75,000	400	400	360	285	250	235	225	210
1-1/16 1-1/8 1-3/16 1-1/4	2,500	600	600	600	600	600	600	600	600
	5,000	600	600	600	600	600	600	600	600
	7,500	600	600	600	500	435	410	395	370
	15,000	600	600	570	455	395	375	360	335
	75,000	600	600	500	395	345	325	315	295

PS2 AND PS3 SERIES FLANGED UNITS

Shaft Sizes	Average Life (L_{50}) Hours	Speed (R.P.M.) Radial Load (Pounds)							
		50	100	500	1000	1500	1800	2000	2500
1/2 5/8	2,500	600	600	600	530	460	435	420	390
	5,000	600	600	530	420	365	385	330	310
	7,500	600	530	310	245	215	200	195	180
	15,000	600	480	280	220	195	180	175	165
	75,000	530	420	245	195	170	160	155	140
3/4	2,500	700	700	700	700	620	585	560	520
	5,000	700	700	700	560	490	460	445	415
	7,500	700	700	415	330	285	270	260	240
	15,000	700	645	375	300	260	245	235	220
	75,000	700	560	330	260	225	215	205	190
7/8 15/16 1	2,500	800	800	800	775	680	640	615	570
	5,000	800	800	775	615	540	505	490	455
	7,500	800	775	455	360	315	295	285	265
	15,000	800	705	410	325	285	270	260	240
	75,000	775	615	360	285	250	235	225	210
1-1/16 1-1/8 1-3/16 1-1/4S	2,500	1100	1100	1100	1080	940	885	855	795
	5,000	1100	1100	1080	855	750	700	680	630
	7,500	1100	1080	630	500	435	410	395	370
	15,000	1100	980	570	455	395	375	360	335
	75,000	1080	855	500	395	345	325	315	295
1-1/4 1-5/16 1-3/8 1-7/16	2,500	1400	1400	1400	1400	1245	1175	1130	1050
	5,000	1400	1400	1400	1130	990	930	895	835
	7,500	1400	1400	835	660	580	545	525	485
	15,000	1400	1295	755	600	525	495	475	440
	75,000	1400	1130	660	525	460	430	415	385

MOUNTED BALL BEARING RADIAL LOAD CAPACITIES

XL, S, H, L, F, T AND MB SERIES

Series		Average	Speed (R.P.M.)												
			Radial Load (Pounds)												
XL All S (All) H-L-F-T Shaft Size	MB (All) Shaft Size	Life (L^{50}) Hours	50	100	500	1000	1500	1800	2000	2500	3000	3600	4000	4500	5000
1/2 5/8	—	2,500 5,000 7,500 15,000 75,000	1580 1255 730 665 580	1255 995 580 525 460	730 580 340 305 270	580 460 270 245 210	505 400 235 210 185	475 375 220 200 175	460 365 210 195 170	425 340 195 180 155	400 320 185 170 150	375 300 175 160 140	365 290 170 155 135	350 275 160 145 130	340 270 155 140 125
3/4	—	2,500 5,000 7,500 15,000 75,000	1930 1530 895 810 710	1530 1215 710 645 560	895 710 415 375 330	710 560 330 300 260	620 490 285 260 225	585 460 270 245 215	560 445 260 235 205	520 415 240 220 190	490 390 225 205 180	460 365 215 195 170	445 355 205 185 165	430 335 200 180 155	415 330 190 175 150
7/8 15/16 1	—	2,500 5,000 7,500 15,000 75,000	2115 1675 980 890 775	1675 1330 775 705 615	980 775 455 410 360	775 615 360 325 285	680 540 315 285 250	640 505 295 270 235	615 490 285 260 225	570 455 265 240 190	540 425 250 225 200	505 400 235 210 185	490 385 225 205 180	470 370 215 195 170	455 360 210 190 165
1-1/8 1-5/16 1-1/4S	—	2,500 5,000 7,500 15,000 75,000	2955 2340 1370 1245 1085	2340 1855 1085 985 860	1370 1085 635 575 505	1085 860 505 455 400	945 750 440 400 350	890 705 415 375 325	860 680 400 360 315	800 635 370 335 295	750 595 350 315 275	705 560 325 295 260	685 540 315 285 250	655 515 305 275 240	
1-1/4 1-5/16 1-3/8 1-7/16	—	2,500 5,000 7,500 15,000 75,000	3890 3085 1805 1635 1430	3085 2445 1430 1300 1135	1805 1430 835 760 665	1430 1135 665 600 525	1250 990 580 525 460	1175 930 545 495 430	1135 900 525 475 415	1055 835 490 445 385	990 785 460 415 365	930 740 430 390 340	900 715 415 380 330		
1-1/2	1-7/16	2,500 5,000 7,500 15,000 75,000	4935 3915 2290 2080 1815	3915 3105 1815 1605 1440	2290 1815 1060 965 845	1815 1440 845 765 665	1585 1260 735 665 585	1495 1180 690 630 550	1440 1140 665 605 530	1335 1060 620 565 490	1260 1000 585 530 465	1180 940 550 500 435			
1-5/8 1-11/16 1-3/4	1-1/2	2,500 5,000 7,500 15,000 75,000	5295 4200 2455 2230 1950	4200 3330 1950 1770 1545	2455 1950 1140 1035 905	1950 1545 905 820 715	1700 1350 790 715 625	1600 1270 740 675 590	1545 1225 715 650 570	1435 1140 665 605 530	1350 1070 625 570 500				
1-15/16	1-11/16 1-3/4	2,500 5,000 7,500 15,000 75,000	5295 4200 2455 2230 1950	4200 3330 1950 1770 1545	2455 1950 1140 1035 905	1950 1545 905 820 715	1700 1350 790 715 625	1600 1270 740 675 590	1545 1225 715 650 570	1435 1140 665 605 530	1350 1070 625 570 500				
2 2-3/16	1-15/16 2	2,500 5,000 7,500 15,000 75,000	6545 5190 3035 2755 2410	5190 4120 2410 2190 1910	3035 2410 1410 1280 1120	2410 1910 1120 1015 885	2100 1670 975 885 775	1980 1570 915 835 725	1910 1515 885 805 705	1775 1410 825 745 655					
2-1/4 2-7/16	2-3/16 2-1/4	2,500 5,000 7,500 15,000 75,000	7910 6275 3670 3330 2910	6275 4975 2910 2645 2310	3670 2910 1700 1545 1350	2910 2310 1350 1225 1070	2540 2020 1180 1070 935	2390 1805 1110 1010 880	2310 1830 1070 970 850	2145 1700 995 905 790					
—	2-7/16 2-1/2	2,500 5,000 7,500 15,000 75,000	9395 7455 4630 3955 3455	7455 5910 3455 3140 2740	4360 3455 2020 1835 1605	3455 2740 1605 1455 1270	3020 2400 1400 1270 1110	2840 2250 1315 1200 1045	2740 2175 1270 1155 1010	2545 2020 1180 1075 940					
—	2-11/16	2,500 5,000 7,500 15,000 75,000	9990 7925 4635 4210 3675	7925 6285 3675 3340 2915	4635 3675 2150 1950 1705	3675 2915 1705 1550 1350	3210 2550 1490 1350 1180	3020 2395 1400 1275 1110	2915 2310 1350 1230 1075	2705 2150 1255 1140 995					
—	2-15/16 3	2,500 5,000 7,500 15,000 75,000	11720 9300 5400 4935 4315	9300 7375 4315 3920 3420	5440 4315 2525 2290 2000	4315 3420 2000 1820 1585	3765 2990 1750 1585 1385	3545 2810 1645 1495 1305	3420 2715 1585 1440 1260	3175 2525 1475 1340 1170					
—	3-3/16 3-1/4	2,500 5,000 7,500 15,000 75,000	12630 10020 5860 5320 4645	10020 7945 4645 4225 3685	5860 4645 2720 2470 2160	4645 3685 2160 1960 1710	4055 3225 1885 1710 1495	3820 3025 1770 1610 1405	3685 2925 1710 1555 1360	3420 2720 1590 1445 1260					
—	3-7/16 3-1/2	2,500 5,000 7,500 15,000 75,000	14500 11505 6730 6110 5335	11505 9125 5335 4850 4235	6730 5335 3120 2835 2480	5335 4235 2480 2250 1965	4660 3700 2165 1965 1715	4385 3475 2035 1850 1615	4235 3355 1965 1785 1560	3930 3120 1825 1655 1450					

These ball bearings will also accommodate thrust loads of up to 50% of the radial load ratings listed with no resultant decrease in the radial load capacity.
For ratings higher than 5000 RPM, consult Factory.

APPLICATION DATA — UNMOUNTED BEARINGS

LUBRICATION

Either oil or grease can be used for lubricating bearings. Boston bearings are supplied slushed (open bearings) with a rust inhibiting oil, or prepacked with grease (sealed or shielded bearings) at the factory. However, special purpose lubricants can be used when required. It is recommended that bearing selection include consideration of the lubricant specifications and whether the lubricant will be applied in service or prepacked at the factory. Good lubrication adds measurably to the life of a bearing.

PRECAUTIONS

1. Keep bearings clean and protected with covering until ready to install.
2. Make preliminary examination of shaft and housing for correct window size. Also check for chips, filings and burrs.
3. Press inner race on shaft or outer race in housing preferably by use of arbor press. Never transmit mounting press forces through balls from one race to the other.
4. Avoid hammer blows.

RECOMMENDED SHAFT FITS — 1600-3000-7500-7600 SERIES

Bearing Bore		Shaft Rotating				Shaft Stationary			
		Shaft Diameter		Theoretical Fit		Shaft Diameter		Theoretical Fit	
Max.	Min.	Max.	Min.	Tight	Loose	Max.	Min.	Tight	Loose
.2500	.2495	.2500	.2495	.0005	.0005	.2495	.2490	.0000	.0010
.3125	.3120	.3125	.3120	.0005	.0005	.3120	.3115	.0000	.0010
.3750	.3745	.3750	.3745	.0005	.0005	.3745	.3740	.0000	.0010
.4375	.4370	.4375	.4370	.0005	.0005	.4370	.4365	.0000	.0010
.5000	.4995	.5000	.4995	.0005	.0005	.4995	.4990	.0000	.0010
.6250	.6245	.6250	.6245	.0005	.0005	.6245	.6240	.0000	.0010
.7500	.7495	.7500	.7495	.0005	.0005	.7495	.7490	.0000	.0010
.8750	.8745	.8752	.8747	.0007	.0003	.8745	.8740	.0000	.0010
1.0000	.9995	1.0002	.9997	.0007	.0003	.9995	.9990	.0000	.0010
1.1250	1.1245	1.1252	1.1247	.0007	.0003	1.1245	1.1240	.0000	.0010
1.2500	1.2405	1.2502	1.2497	.0007	.0003	1.2495	1.2490	.0000	.0010

RECOMMENDED HOUSING FITS — 1600-3000-7500-7600 SERIES

Bearing Outside Diameter		Housing Rotating				Housing Stationary			
		Housing Inside Diameter		Theoretical Fit		Housing Inside Diameter		Theoretical Fit	
Max.	Min.	Max.	Min.	Tight	Loose	Max.	Min.	Tight	Loose
.6875	.6870	.6877	.6870	.0005	.0007	.6880	.6875	.0000	.0010
.8750	.8745	.8752	.8745	.0005	.0007	.8755	.8750	.0000	.0010
.9063	.9058	.0965	.9058	.0005	.0007	.9068	.9063	.0000	.0010
1.1250	1.1245	1.1252	1.1242	.0008	.0007	1.1255	1.1250	.0000	.0010
1.3750	1.3745	1.3752	1.3742	.0008	.0007	1.3755	1.3750	.0000	.0010
1.6250	1.6245	1.6252	1.6242	.0008	.0007	1.6258	2.6250	.0000	.0013
1.7500	1.7495	1.7502	1.7492	.0008	.0007	1.7508	1.7500	.0000	.0013
2.0000	1.9994	2.0002	1.9990	.0010	.0008	2.0010	2.0000	.0000	.0016
2.5000	2.4994	2.5002	2.4990	.0010	.0008	2.5010	2.5000	.0000	.0016
2.5625	2.5619	2.5627	2.5615	.0010	.0008	2.5635	2.5625	.0000	.0016

Note: 3000 Series Dim Are Nom. +.0005
7600 Series Dim Are Nom. +.0008

APPLICATION DATA — MOUNTED BEARINGS

LUBRICATION

Boston Gear ball and tapered roller bearing Pillow Blocks and Flanged Cartridges are factory lubricated prior to shipping. Those designed with the relubrication feature periodically require grease during operation. The interval between relubrication and the amount necessary to insure a long operational life are determined by the specific application.

Loading, speed, and environmental conditions must be considered when determining the proper interval between relubrication.

Hours Operated Per Day	Weeks							
	1-250 RPM	251-500 RPM	501-750 RPM	751-1000 RPM	1001-1500 RPM	1501-2000 RPM	2001-2500 RPM	2501 3000 RPM
8	12	12	10	7	5	4	3	2
16	12	7	5	4	2	2	1	1
24	10	5	3	2	1	1	1	1

The table above may be used as a guide for establishing lubrication intervals for applications where contamination is not present.

For unusual operating conditions not covered by the table, consult the factory for our recommendations. Normal bearing operation temperatures range from “cool-to-the-touch” to “too-hot-to-touch” for more than a few seconds, depending on the load, speed, and ambient temperature.

The type of grease used in Boston bearing units allows satisfactory operation at temperatures to 225°F and speeds to 6500 RPM.

Bearings are prelubricated with a No. 2 consistency lithium base grease, and it is recommended that the Lith EP-2 or an equivalent grease be used when relubrication is requierd. When relubricating bearings, it is preferable that the shaft be rotating. This rotation of the shaft will aid in preventing excessive filling and insure proper distribution of the grease.

Grease should be added slowly to the bearing. When a slight bead appears from under the seal, the bearing will usually contain the proper amount of lubricant.

PRECAUTIONS

The shaft must be clean, straight and free from nicks and burns and should fit the bearing as snugly as possible. Recommended shaft tolerance — Low Speed (or Light Load) +.0 to –.002; Normal Speed (or Load) +.0 to –.001; High Speed (or Heavy Load) a light press fit is desirable.

The use of flats at setscrew locations will permit ease of shaft removal.

MOUNTING

Setscrew Locking Type

Housing should be fastened to the mounting structure. Back out setscrews to clear shaft. After lubricating the shaft, slide it through the bearings and tighten setscrews to recommended torque, see Table below.

Eccentric Locking Collar Type

When sliding the shaft through the bore bearing inner ring, be sure that the counterbore of eccentric collar “A” is toward eccentric boss “B” on inner ring.

Turn eccentric collar “A” in the direction in which the shaft will rotate. Hand tight is often sufficient but a spanner wrench or drift pin may be inserted in spanner wrench hole “C” and used to set the collar (Note: DO NOT USE A DIRECT HAMMER BLOW to set the collar as such a blow may fracture the inner ring.) Not recommended for severe reversing applications.

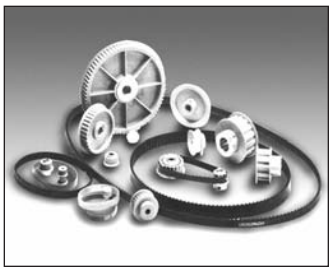
Tighten set screw in eccentric collar firmly against shaft to recommended torque, see Table below.

Set Screw Diameter	Hex Width Across Flats	Tightening Torque (In.-Lbs.)
1/4	1/8	70
5/16	5/32	140
3/8	5/16	220
7/16	7/32	350
1/2	1/4	515
5/8	5/16	1200

NOTE: PS, PS2 and PS3 series: It is particularly important on these units that shaft be in place before the housing is secured to the mounting structure. The self-aligning steel stampings clamp the outer race when bolts are tightened making further shaft alignment impossible.

NOTES

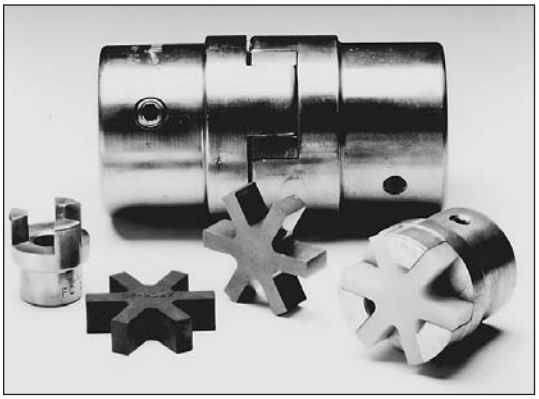
SHAFT ACCESSORIES



SECTION CONTENTS

INSERT (3-JAW) TYPE

FC SERIES



PRECISION MACHINED BORED OR SOLID HUBS

THREE TYPES OF INSERTS for different service requirements

NO LUBRICATION NEEDED

BORE SIZES FROM 3/8" TO 2-1/8"

COMPLETE WITH KEYWAY AND SETSCREW

REFERENCE PAGES

Alignment—149
Keyways and Setscrews—150

COUPLING INSERTS

OIL-IMPREGNATED BOST-BRONZ— Recommended for high torque loads, particularly at slower speeds.

OIL-RESISTANT SYNTHETIC RUBBER—Recommended where quietness is desired, particularly at motor speeds.

POLYURETHANE—Recommended where moderate to heavy shock loads are encountered.

LOAD DATA

HORSEPOWER AND TORQUE RATING AT RECOMMENDED SPEEDS FOR INSERTS INDICATED

Coupling Size	Shaft Diameter Range	Maximum Horsepower Rating At RPM Of *								Max. Torque (Lb. Ins.)
		50	100	300	690	870	1150	1750	3450	
XFCBB BOST-BRONZ INSERTS										
FC12	3-8–5/8	.16	.32	.95	2.2	2.8	3.6	5.6	—	200
FC15	1/2–7/8	.40	.79	2.4	5.5	6.9	9.1	13.9	—	500
FC20	1/2-1-1/8	.79	1.6	4.8	10.9	13.8	18.2	—	—	1000
FC25	3/4–1-3/8	1.4	2.9	8.6	19.7	24.8	—	—	—	1800
FC30	1–1-5/8	2.5	5.1	15.2	35.0	—	—	—	—	3200
FC38	1-1/4–1-7/8	5.6	11.1	33.3	—	—	—	—	—	7000
FC45	1-3/4–2-1/8	8.7	17.5	—	—	—	—	—	—	11000
XFCR RUBBER INSERTS										
FC12	3/8–5/8	—	.10	.31	.71	.90	1.2	1.8	3.6	65
FC15	1/2–7/8	—	.20	.60	1.4	1.7	2.3	3.5	56.8	125
FC20	1/2–1-1/8	—	.40	1.2	2.7	3.5	4.6	6.9	13.7	250
FC25	3/4–1-3/8	—	.71	2.1	4.9	6.2	8.2	12.5	24.6	450
FC30	1–1-5/8	—	1.3	3.8	8.8	11.0	14.6	22.2	43.8	800
FC38	1-1/4–1-7/8	—	2.5	7.6	17.5	22.1	29.2	44.4	—	1600
FC45	1-3/4–2-1/8	—	4.4	13.3	30.7	38.7	51.1	77.7	—	2800
XFCA POLYURETHANE INSERTS										
FC12	3/8–5/8	.09	.19	.56	1.2	1.6	2.0	3.0	5.7	125
FC15	1/2–7/8	.18	.37	1.1	2.5	3.1	4.0	6.0	11.3	250
FC20	1/2–1-1/8	.35	.70	2.1	4.6	5.7	7.5	11.1	20.7	470
FC25	3/4–1-3/8	.62	1.2	3.7	8.1	10.1	13.1	19.3	35.8	845
FC30	1–1-5/8	1.1	2.2	6.5	14.4	17.9	23.3	34.3	63.6	1500
FC38	1-1/4–1-7/8	2.2	4.3	12.9	28.4	35.3	45.8	67.3	—	3000
FC45	1-3/4–2-1/8	3.7	7.5	22.4	49.2	61.0	79.0	115.9	—	5250

*For uniform load.

SELECTION PROCEDURE

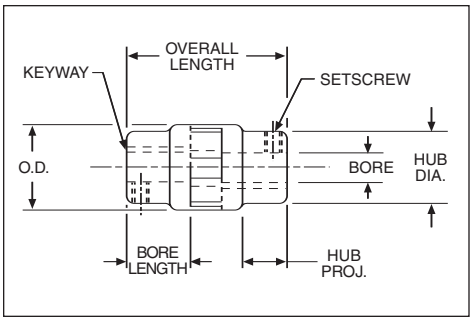
1. From Table select Service Factor.
2. Determine Design Load
   Design HP = Application HP x S.F.
   or
   Design Torque = Application Torque x S.F.
3. Select coupling size from Load Rating Table which has a rating equal to or greater than the design load.

COUPLING SERVICE FACTORS

Load Classification	Service Factor
Uniform	1.0
Moderate Shock	1.75
Heavy Shock	2.50

INSERT (3-JAW) TYPE

FC SERIES
BORED AND SOLID HUBS



STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.001 – .000

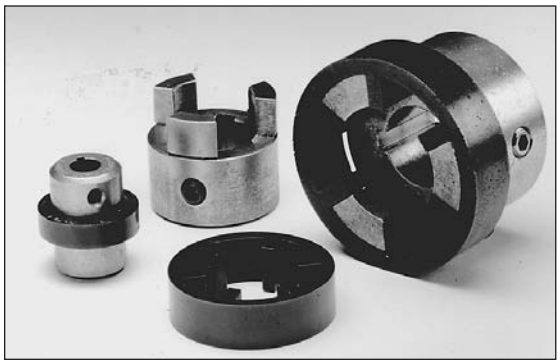
ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE
To order complete coupling order two coupling halves and one coupling insert

Coupling Size	Bore	Bore Length+	O.D.	Overall Length++	Hub		Assembly Clearance	Coupling Halves		Bost-Bronz		Rubber		Polyurethane	
					Dia.	Proj.		Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code
FC12	—	—	1-1/4	2-5/16	1	5/8	3-3/16	FC12 SOLID	47448	XFCBB12	08064	XFCR12	08078	XFCA12	08050
	3/8	27/32						FC12-3/8	08246						
	7/16							FC12-7/16	08248						
	1/2							FC12-1/2	08250						
	5/8							FC12-5/8	52405						
FC15	—	—	1-1/2	2-3/4	1-1/4	3/4	3-3/4	FC15 SOLID	47449	XFCBB15	08066	XFCR15	08080	XFCA15	08052
	1/2	1-1/32						FC15-1/2	08252						
	9/16							FC15-9/16	61421						
	5/8							FC15-5/8	08254						
	3/4							FC15-3/4	08256						
	7/8							FC15-7/8	61422						
FC20	—	—	2	3-11/16	1-3/4	1-1/8	4-13/16	FC20 SOLID	47450	XFCBB20	08068	XFCR20	08082	XFCA20	08054
	1/2	1-7/16						FC20-1/2	08258						
	9/16							FC20-9/16	66063						
	5/8							FC20-5/8	08260						
	3/4							FC20-3/4	08262						
	7/8							FC20-7/8	08264						
	15/16							FC20-15/16	08266						
	1							FC20-1	08268						
	1-1/8							FC20-1-1/8	52406						
FC25	—	—	2-1/2	4-1/8	2-1/4	1-1/4	5-3/8	FC25 SOLID	47451	XFCBB25	08070	XFCR25	08084	XFCA25	08056
	3/4	1-19/32						FC25-3/4	08270						
	7/8							FC25-7/8	08272						
	1							FC25-1	08274						
	1-1/8							FC25-1-1/8	08276						
	1-3/16							FC25-1-3/16	08278						
	1-1/4							FC25-1-1/4	08280						
	1-3/8							FC25-1-3/8	52408						
FC30	—	—	3	5-15/32	2-3/4	1-11/16	7	FC30 SOLID	47452	XFCBB50	08072	XFCR30	08080	XFCA30	08058
	1	2-5/32						FC30-1	08282						
	1-1/8							FC30-1-1/8	08284						
	1-1/4							FC30-1-1/4	08286						
								FC30-1-3/8	08288						
	1-7/16							FC30-1-7/16	08290						
	1-1/2							FC30-1-1/2	08292						
	1-5/8							FC30-1-5/8	52409						
FC38	—	—	3-3/4	6-5/16	3-1/2	1-7/8	8-3/16	FC38 SOLID	24650	XFCBB38	08074	XFCR38	08088	XFCA38	08060
	1-1/4	2-5/8						FC38-1-1/4	08294						
	1-1/2							FC38-1-1/2	08296						
	1-9/16							FC38-1-9/16	08298						
	1-5/8							FC38-1-5/8	08300						
	1-3/4							FC38-1-3/4	08302						
	1-7/8							FC38-1-7/8	08304						
FC45	—	—	4-1/2	7-3/16	4	2-1/8	9-5/16	FC45 SOLID	24816	XFCBB45	08076	XFCR45	08090	XFCA45	08062
	1-3/4	3						FC45-1-3/4	08306						
	1-7/8							FC45-1-7/8	08308						
	2							FC45-2	08310						
	2-1/8							FC45-2-1/8	08312						

+Length of hole in each half.
++Total length of coupling with jaws engaged full depth.
†Total length of coupling with jaws completely disengaged for insert assembly.

SPIDER RING (3-JAW) TYPE

BF SERIES
BOST-FLEX®

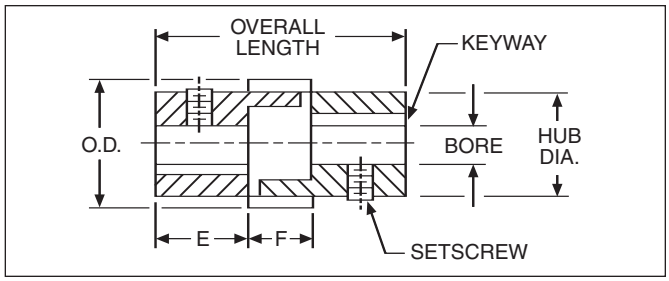


ECONOMICAL 3-JAW COUPLING

SPIDER RING URETHANE INSERT absorbs shock and vibration. Provides through opening for close coupling of shafts.

BORE SIZES FROM 3/8" TO 1-1/4"

COMPLETE WITH KEYWAY AND SETSCREW.



STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.001 – .000

REFERENCE PAGES

Alignment—149
Keyways and Setscrews—150

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE
Includes two coupling halves and one coupling insert

Coupling Size	Bore A	Bore B	Hub Diameter	O.D.	Overall Length	E	F	Assembly Clearance	Approx. Weight (Oz.)	Coupling Catalog Number	Coupling Item Code	Replacement Insert Item Code
BF7	3/8	3/8	7/8	1-7/32	1-5/16	1/2	5/16	1-5/8	2	BF7 3/8–3/8	11730	11722
		1/2								BF7 3/8–1/2	11734	
	1/2	1/2								BF7 1/2–1/2	11732	
BF10	1/2	1/2	1-1/4	1-19/32	1-15/16	3/4	7/16	2-3/8	6.5	BF10 1/2–1/2	11736	11724
		5/8								BF10 1/2–5/8	11742	
		3/4								BF10 1/2–3/4	11744	
	5/8	5/8								BF10 5/8–5/8	11738	
		3/4								BF10 5/8–3/4	11746	
	3/4	3/4								BF10 3/4–3/4	11740	
BF13	3/4	3/4	1-5/8	1-31/32	2-7/16	15/16	9/16	3	14	BF13 3/4–3/4	11748	11726
		7/8								BF13 3/4–7/8	11754	
		1								BF13 3/4–1	11756	
	7/8	7/8								BF13 7/8–7/8	11750	
		1								BF13 7/8–1	11758	
	1	1								BF13 1–1	11752	
BF18	1	1	2-1/4	2-23/32	2-15/16	1-1/8	11/16	3-5/8	37	BF18 1–1	11760	11728
		1-1/8								BF18 1–1-1/8	11766	
		1-1/4								BF18 1–1-1/4	11768	
	1-1/8	1-1/8								BF18 1-1/8–1-18	11762	
		1-1/4								BF18 1-1/8–1-1/4	11770	
	1-1/4	1-1/4								BF18 1-1/4–1-1/4	11764	

SELECTION PROCEDURE

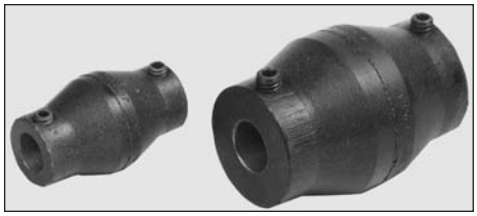
For Service Factors and Procedures, refer to FC Couplings (Page 114).

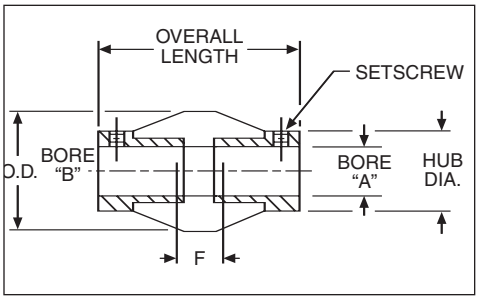
HORSEPOWER AND TORQUE RATINGS

Size	Revolutions per Minute 100	300	690	870	1150	1750	3450	Max Torque (Lb. Ins.)
BF 7	.044	.13	.31	.39	.51	.78	1.5	28
BF 10	.11	.34	.78	1.00	1.30	2.00	3.9	72
BF13	.25	.76	1.70	2.20	2.90	4.40	8.8	160
BF 18	.48	1.40	3.30	4.10	5.50	8.30	16.4	300

SHEAR TYPE

BG SERIES





METAL HUBS JOINED BY PERMANENTLY BONDED ELASTOMER require no lubrication. Flexible in any direction—accommodates misalignment up to 1/32" parallel, 2" angular.

HIGH TORSIONAL DEFLECTION isolates low frequency vibration.

BORE SIZES FROM 1/8" TO 1"

COMPLETE WITH STANDARD SETSCREWS (Not installed).

STANDARD TOLERANCES

Dimensions		Tolerance
Bore	1/8 – 3/8	+.001 – .000
	1/2 – 5/8	+.0015 – .000
	3/4 – 1	+.002 – .000

REFERENCE PAGES

Alignment—149
Keyways and Setscrews—150

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

Coupling Size	Bore A	Bore B	Hub Diameter	O.D.	Overall Length	F	Catalog Number	Item Code
BG47	1/8	1/8	7/16	9/16	13/16	3/16	BG47-2-2	49887
		3/16					BG47-2-3	49888
		1/4					BG47-2-4	49889
	3/16	3/16					BG47-3-3	49890
		1/4					BG47-3-4	47891
	1/4	1/4					BG47-4-4	47892
BG11-1	3/16	3.16	5/8	13/16	1-3/8	11/32	BG11-1-3-3	49893
		1/4					BG11-1-3-4	49394
	1/4	1/4					BG11-1-4-4	49395
		5/16					BG11-1-4-5	49896
	5/16	5/16					BG11-1-5-5	49897
BG11-2	1/4	1/4	3/4	1	1-3/4	13/32	BG11-2-4-4	49898
		5/16					BG11-2-4-5	49899
		3/8					BG11-2-4-6	49900
	5/16	5/16					BG11-2-5-5	49901
		3/8					BG11-2-5-6	49902
	3/8	3/8					BG11-2-6-6	49903
BG11-3	5/16	5/16	7/8	1-1/4	2-1/8	15/32	BG11-3-5-5	49904
		3/8					BG11-3-5-6	49905
		1/2					BG11-3-5-8	49906
	3/8	3/8					BG11-3-6-6	49907
		1/2					BG11-3-6-8	49908
	1/2	1/2					BG11-3-8-8	49909
BG11-4	3/8	3/8	1	1-3/8	2-1/4	17/32	BG11-4-6-6	49910
		1/2					BG11-4-6-8	49911
		5/8					BG11-4-6-10	49912
	1/2	1/2					BG11-4-8-8	49913
		5/8					BG11-4-8-10	49914
	5/8	5/8					BG11-4-10-10	49915
BG11-5	1/2	1/2	1-1/8	1-5/8	2-1/2	19/32	BG11-5-8-8	49916
		5/8					BG11-5-8-10	49917
		3/4					BG11-5-8-12	49918
	5/8	5/8					BG11-5-10-10	49919
	3/4	3/4					BG11-5-12-12	49920
BG11-6	1/2	1/2	1-3/8	1-13/16	2-11/16	11/16	BG11-6-8-8	49921
		3/4					BG11-6-8-12	49922
	5/8	5/8					BG11-6-10-10	49923
		3/4					BG11-6-10-12	49924
	3/4	3/4					BG11-6-12-12	49925
BG11-7	1/2	3/4	1-1/2	2	2-7/8	3/4	BG11-7-8-12	49926
	5/8	5/8					BG11-7-10-10	49927
	3/4	3/4					BG11-7-12-12	49929
		7/8					BG11-7-12-14	49930
	1	1					BG11-7-16-16	49931

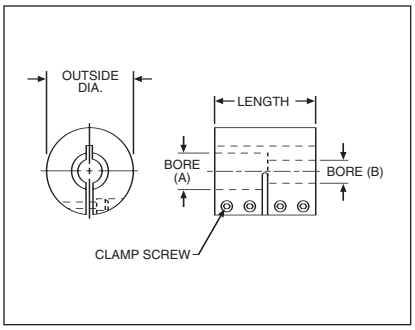
LOAD DATA

HORSEPOWER AND TORQUE RATINGS

Size	Revolutions per Minute							Max Torque (Lb. Ins.)
	100	300	690	870	1150	1750	3450	
BG-47	.001	.003	.008	.010	.013	.020	.039	.72
BG11-1	.004	.011	.025	.031	.041	.062	.123	2.25
BG11-2	.007	.021	.049	.062	.082	.125	.246	4.50
BG11-3	.014	.043	.099	.124	.164	.250	.493	9.00
BG11-4	.019	.057	.131	.166	.219	.333	.657	12.00
BG11-5	.029	.086	.197	.248	.328	.500	.985	18.00
BG11-6	.043	.129	.296	.313	.493	.750	1.478	27.00
BG11-7	.057	.171	.394	.497	.657	1.000	1.971	36.00

CLAMPING TYPE

SCC SERIES



LOW CARBON STEEL COUPLINGS with a black oxide finish.

BORE SIZES FROM 1/4" to 2"

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

Bore A	Bore B	O.D.	Length	Clamp Screws (4)	Catalog Number	Item Code
1/4	1/4	13/16	1-1/4	4-40	SCC1/4 x 1/4	49289
3/8	1/4 3/8	1-1/16	1-5/8	6-32	SCC3/8 x 1/4 SCC3/8 x 3/8	49290 49291
1/2	3/8 1/2	1-1/4	1-7/8	8-32	SCC1/2 x 3/8 SCC1/2 x 1/2	49292 49293
5/8	1/2 5/8	1-1/2	2-1/4	10-32	SCC5/8 x 1/2 SCC5/8 x 5/8	49294 49295
3/4	1/2 5/8 3/4	1-3/4	2-5/8	1/4-28	SCC3/4 x 1/2 SCC3/4 x 5/8 SCC3/4 x 3/4	49296 49297 49298
7/8	5/8 7/8	1-7/8	2-7/8	1/4-28	SCC7/8 x 5/8 SCC7/8 x 7/8	49299 49300
1	1	2	3	1/4-28	SCC1 x 1	49302
1-1/8	1 1-1/8	2-1/8	3-1/4	1/4-28	SCC1-1/8 x 1 SCC1-1/8 x 1-1/8	49303 49304
1-1/4	1 1-1/4	2-1/4	3-3/8	1/4-28	SCC1-1/4 x 1 SCC1-1/4 x 1-1/4	49305 49306
1-3/8	1 1-3/8	2-3/8	3-5/8	1/4-28	SCC1-3/8 x 1 SCC1-3/8 x 1-3/8	49307 49308
1-1/2	1 1-1/2	2-1/2	3-3/4	1/4-28	SCC1-1/2 x 1 SCC1-1/2 x 1-1/2	49309 49310
1-3/4	1-3/4	3	4-1/2	516-24	SCC1-3/4 x 1-3/4	49312
2	2	3-1/4	4-7/8	5/16-24	SCC2 x 2	49314

STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.001 – .000

Load Data

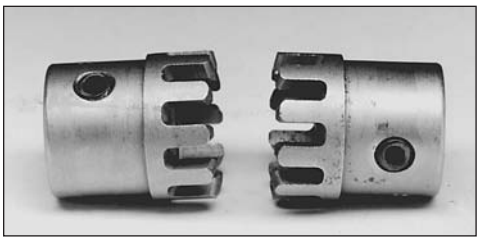
Capacity is based on a standard steel, one piece coupling mounted with recommended screw torque on a dry shaft. Capacities shown are for general guidance only. In applications involving control of torque loads, capacity should be determined experimentally on actual parts involved.

TORQUE CAPACITY

Bore	Torque Capacity (Lb. Ins.)	Screw Size	Recommended Screw Torque (Lb. Ins.)
1/4	72	4-40	20
3/8	192	6-32	30
1/2	480	8-32	55
5/8	1200	10-32	90
3/4 7/8 1 1-1/8 1-1/4 1-3/8 1-1/2	1500 1680 1920 2200 3000 3500 4000	1/4-28	220
1-3/4 2	5400 6000	5/16-24	435

MULTI-JAW TYPE

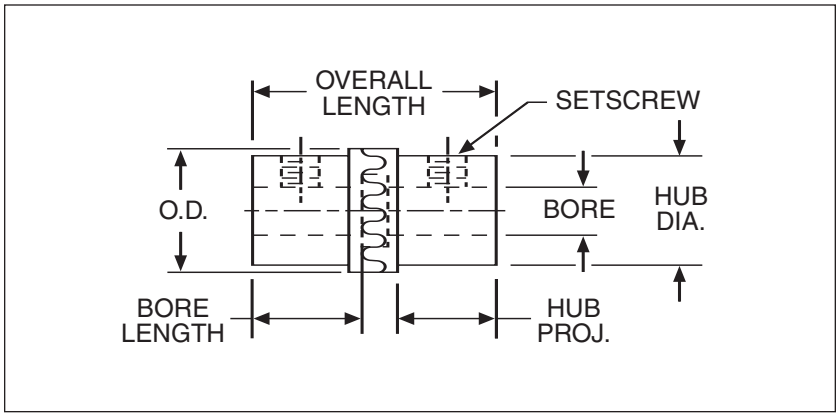
FA SERIES



UNTREATED STEEL COUPLINGS for use in light duty applications, require no lubrication.

BORE SIZES FROM 3/16" to 1/2"

COMPLETE WITH STANDARD SETWCREWS



STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	± .0005

REFERENCE PAGES

Alignment—149
Keyways and Setscrews—150

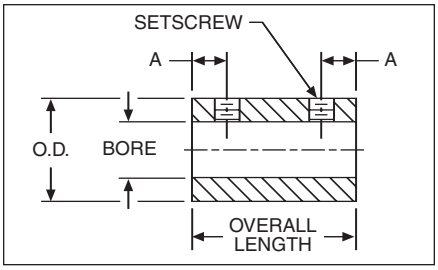
ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

Coupling Size	Bore	O.D.	Length†	Bore Length++	Assembly Clearance‡	Hub		Teeth	Steel	
						Dia.	Proj.		Catalog Number	Item Code
FA5	3/16 7/32 1/4	1/2	1-1/8	1/2	1-9/32	7/16	7/16	10	FA5 3/16-3/16 FA5 7/32-7/32 FA5 1/4-1/4	07900 07902 07904
FA75	5/16 3/8	3/4	1-1/2	5/8	1-3/4	11/16	33/64	10	FA75 5/16-5/16 FA75 3/8-3/8	07910 07912
FA10	7/16 1/2	1	2	7/8	2-9/32	15/16	3/4	12	FA10 7/16-7/16 FA10 1/2-1/2	07908 07906

†Total length of coupling with jaws engaged full depth.
++Length of hole in each half.
‡Approximate total length of coupling with jaws completely disengaged.

RIGID (ONE PIECE) TYPE

CR SERIES



BORE SIZES FROM 1/4" to 1-1/4"
COMPLETE WITH STANDARD SETSCREWS

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	O.D.	Overall Length	A	Catalog Number	Item Code
1/4	1/2	3/4	3/16	CR4	34200
5/16	5/8	1	1/4	CR5	34202
3/8	3/4	1	1/4	CR6	34204
1/2	1	1-1/2	3/8	CR8	34206
5/8	1-1/4	2	1/2	CR10	34208
3/4	1-1/2	2	1/2	CR12	34210
7/8	1-3/4	2	1/2	CR14	34212
1	2	3	3/4	CR16	34214
1-1/4	2-1/4	4	1	CR20	34216

STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.001 – .000

REFERENCE PAGES

Keyways and Setscrews—150

SLEEVE TYPE

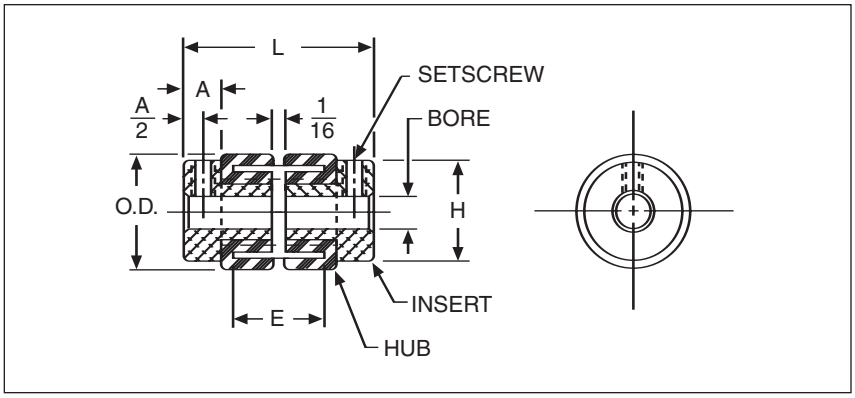
FCP SERIES

SPLINED HUBS AND URETHANE SLEEVE accommodate misalignment to 5°.

SLEEVE STOCK available for producing special lengths.

NO LUBRICATION NEEDED

COMPLETE WITH SETSCREWS



MATERIALS

Urethane Sleeves
Delrin Hubs
Aluminum Alloy Inserts

STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.001 – .000

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	O.D.	A	E	H	L	Setscrew	Complete Coupling		Insert and Hub Assembly		Sleeve Only	
							Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code
.125 .1875 .250	37/64	7/32	7/16	9/16	15/16	4 – 40 6 – 32	FCP21 – 1/8 FCP21 – 3/16 FCP21 – 1/4	54893 54894 54895	XFCP21 – 1/8 XFCP21 – 3/16 XFCP21 – 1/4	54903 54904 54905	X5R21 – 16	54913
.3125 .375 .4375 .500	1-5/64	3/8	11/16	1	1-9/16	8 – 32 10 – 32 1/4 – 20	FCP23 – 5/16 FCP23 – 3/8 FCP23 – 7/16 FCP23 – 1/2	54899 54900 54901 54902	XFCP23 – 5/16 XFCP23 – 3/8 XFCP23 – 7/16 XFCP23 – 1/2	54909 54910 54911 54912	X5R23 – 32	54915

LOAD DATA

HORSEPOWER RATINGS (MAXIMUM)
AT 1750 RPM

Size	Horsepower
FCP21	1/20
FCP23	1/2

SLEEVE STOCK

ORDER BY CATALOG NUMBER
OR ITEM CODE

O.D.	Length (Inches)	Catalog Number	Item Code
1/2 1	12	5R21 – 16S 5R23 – 32S	54916 54918

PIN AND BLOCK TYPE STEEL AND STAINLESS STEEL

J/JS SERIES

Boston Gear precision machined J and JS Series Universal Joints are designed for connecting shafts at angles up to 30 degrees and speeds up to 2000 RPM. All sizes are stocked with both solid and bored hubs.

Joints J100 and J100B and larger are equipped with self-closing, ball valve oilers, creating an oil reservoir to provide enclosed lubrication.

The self-locking assembly ring on joints with 7/8" and larger hub diameter, fits into recess provided in center bearing block and snaps around groove in small bearing pin — assuring locking of entire assembly allowing for quick and easy disassembly and reassembly.

Joints with 3/4" and smaller hub diameters are locked by riveting the small bearing pin. Joint covers (boots) keep dirt and moisture out and lubricants in.

SELECTION

Torque ratings may be calculated from data in tables. The tables indicate the Rated Static Torque (Lb. Ins.) of alloy and stainless steel joints and Speed-Angle factors suggested for various operating conditions.

The approximate service torque rating of a particular joint is obtained by dividing the Rated Static Torque by the appropriate Speed-Angle factor.

Selecting a universal to satisfy a specified torque requirement is also made convenient with the data provided.

The designated torque load should be multiplied by the appropriate Speed-Angle factor to obtain an equivalent static torque load.

A universal with a rated static torque equal to or greater than the calculated torque load would then be selected.

EXAMPLE:

A pair of universal joints are desired to transmit 1/2 HP from one shaft running at 500 RPM to another located at an angle of 10 degrees (from a straight line).

The joints will be connected by an intermediate shaft and arranged to operate at equal angles of 5 degrees.
A Speed-Angle factor of 9 is indicated in the table for an operating angle of 5 degrees and a speed of 500 RPM.

$$\text{Torque Load} = \frac{63025 \times HP}{RPM} = \frac{63025 \times 1/2}{500} = 63 \text{ Lb. Ins.}$$

J100 size alloy steel or JS175 size stainless steel universals would be suggested for this application.

SPEED-ANGLE FACTORS

Speed In RPM	Operating Angle – Degrees (Deviation From Straight Line)														
	0	1/2	1	2	3	4	5	6	8	10	12	15	20	25	30
2000	21	22	23.2	25.2	27.4	29.4	31.6	–	–	–	–	–	–	–	–
1800	19	20	21.0	22.8	24.8	26.6	28.6	30.4	–	–	–	–	–	–	–
1600	17	17.8	18.8	20.4	22.2	23.8	25.6	27.2	–	–	–	–	–	–	–
1400	15	15.8	16.6	18.0	19.6	21.0	22.6	24.0	27	–	–	–	–	–	–
1200	13	13.6	14.4	15.6	17.0	18.2	19.6	20.8	23.4	–	–	–	–	–	–
1000	11	11.6	12.2	13.2	14.4	15.4	16.6	17.6	19.8	22	–	–	–	–	–
900	10	10.6	11.0	12.0	13.0	14.0	15.0	16.0	18.0	20	22	–	–	–	–
800	9.0	9.4	10.0	10.8	11.8	12.6	13.6	14.4	16.2	18	19.8	–	–	–	–
700	8.0	8.4	8.8	9.6	10.4	11.2	12.0	12.8	14.4	16	17.6	20	–	–	–
600	7.0	7.4	7.8	8.4	9.2	9.8	10.6	11.2	12.6	14	15.4	17.6	–	–	–
500	6.0	6.4	6.6	7.2	7.8	8.4	9.0	9.6	10.8	12	13.2	15.0	18	–	–
400	5.0	5.2	5.6	6.0	6.6	7.0	7.6	8.0	9.0	10	11.0	12.6	15	17.6	–
300	4.0	4.2	4.4	4.8	5.2	5.6	6.0	6.4	7.2	8.0	8.8	10.0	12	14.0	16
200	3.0	3.2	3.4	3.6	4.0	4.2	4.6	4.8	5.4	6.0	6.6	7.6	9.0	10.6	12
100	2.0	2.2	2.2	2.4	2.6	2.8	3.0	3.2	3.6	4.0	4.4	5.0	6.0	7.0	8.0
50	1.5	1.6	1.7	1.8	2.0	2.2	2.2	2.4	2.8	3.0	3.4	3.8	4.6	5.2	6.0
25	1.3	1.3	1.4	1.5	1.6	1.8	1.9	2.0	2.2	2.6	2.8	3.2	3.8	4.4	5.0
10	1.1	1.2	1.2	1.3	1.4	1.5	1.7	1.8	2.0	2.2	2.4	2.8	3.4	3.8	4.4
0	1.0	1.1	1.1	1.2	1.3	1.4	1.5	1.6	1.8	2.0	2.2	2.6	3.0	3.6	4.0

RATED STATIC TORQUE (LB. INS.) STRAIGHT LINE

ALLOY STEEL UNIVERSAL JOINTS

Catalog Number	J37	J50	J62	J75	J87	J100	J112	J125	J150	J175	J200	J250	J300	J400
Torque – Lb. Ins.	20	80	166	320	370	600	670	1040	1680	2500	4400	7000	11,000	26,400

STAINLESS STEEL UNIVERSAL JOINTS

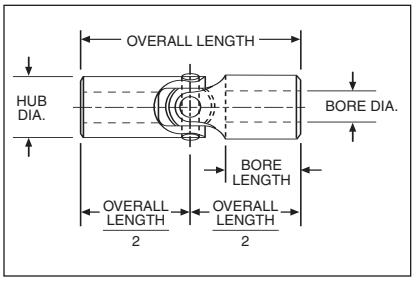
Catalog Number	JS37	JS50	JS62	JS75	JS87	JS100	JS112	JS125	JS150	JS175	JS200	JS250	JS300	JS400
Torque – Lb. Ins.	6	24	50	96	110	180	200	310	500	750	1320	1900	3100	7360

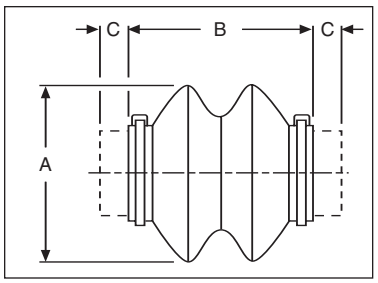
PIN AND BLOCK TYPE STEEL AND STAINLESS STEEL

J/JS SERIES BORED AND SOLID HUBS

STANDARD TOLERANCES

Dimensions		Tolerance	
		Steel	Stainless
Bore	All	± .001	±.001
Hub Dia.	All	+.000 –.003	±.020
Bore Length	All	±1/16	±1/64
Overall Length	1-3/4 - 4-1/4 5 -10-5/8	±1/64 ±1/32	±1/64 ±1/32





REFERENCE PAGES

Lubrication—149
Mounting—149

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

Steel		Stainless Steel		Universal Joints							Boot Kits†				
Catalog Number	Item Code	Catalog Number	Item Code	Bore**	Bore Length*	Hub Dia.	Overall Length	Keyway	Setscrew	Approx. Weight Lbs.	A	B	C	Catalog† Number	Item Code
J37A-3/16	72467	-	-	3/16	11/16	3/8	1-3/4	-	2-56NC	.04					
J37B	08426	JS37B	08472	3/16	11/16	3/8	1-3/4	-	-	.04	1-1/32	1-1/32	9/32	UB37	47602
J37	08400	JS37	08452	-	-	3/8	1-3/4	-	-	.05					
J50A-1/4	72468	-	-	1/4	3/4	1/2	2	-	4-40NC	.08					
J50B	08428	JS50B	08474	1/4	3/4	1/2	2	-	-	.08	1-1/4	1-5/16	11/32	UB50	47603
J50	08402	JS50	08454	-	-	1/2	2	-	-	.10					
J62A-5/16	72469	-	-	5/16	13/16	5/8	2-1/4	3/32x3/64	10-32NF	.14					
J62B	08430	JS62B	08476	5/16	13/16	5/8	2-1/4	-	-	.14	1-1/2	1-7/16	13/16	UB62	47604
J62	08404	JS62	08456	-	-	5/8	2-1/4	-	-	.18					
J75A-3/8	72470	-	-	3/8	31/32	3/4	2-11/16	3/32x3/64	10-32NF	.24					
J75B	08432	JS75B	08478	3/8	31/32	3/4	2-11/16	-	-	.24	1-3/4	1-9/16	9/16	UB75	47605
J75	08406	JS75	08458	-	-	3/4	2-11/16	-	-	.30					
J87A-7/16	72471	--		7/16	1-1/32	7/8	3	3/32x3/64	10-32NF	.31					
J87B	08434	JS87B	08480	7/16	1-1/32	7/8	3	-	-	.31	2	1-13/16	19/32	UB87	47606
J87	08408	JS87	08460	-	-	7/8	3	-	-	.45					
J100A-1/2	72472	-	-	1/2	1-3/16	1	3-3/8	1/8x1/16	1/4-20NC	.50					
J100B	08436	JS100B	08482	1/2	1-3/16	1	3-3/8	-	-	.50	2-1/4	2-1/8	5/8	UB100	47607
J100	08410	JS100	08462	-	-	1	3-3/8	-	-	.66					
J112A-9/16	72473	-	-	9/16	1-7/32	1-1/8	3-1/2	1/8x1/16	1/4-20NC	.69					
J112B	72474	JS112B	72483	9/16	1-7/32	1-1/8	3-1/2	-	-	.69	2-9/16	2-7/16	17/32	UB112	72491
J112	72475	JS112	72484	-	-	1-1/8	3-1/2	-	-	.88					
J125A-5/8	72476	--		5/8	1-1/4	1-1/4	3-3/4	3/16x3/32	5/16-18NC	.88					
J125B	08438	JS125B	08484	5/8	1-1/4	1-1/4	3-3/4	-	-	.88	2-7/8	2-3/4	1/2	UB125	47608
J125	08412	JS125	08464	-	-	1-1/4	3-3/4	-	-	1.15					
J150A-3/4	72477	-	-	3/4	1-11/32	1-1/2	4-1/4	3/16x3/32	5/16-18NC	1.44					
J150B	08440	JS150B	08486	3/4	1-11/32	1-1/2	4-1/4	-	-	1.44	3-1/4	3-1/4	1/2	UB150	47609
J150	08414	JS150	08466	-	-	1-1/2	4-1/4	-	-	1.81					
J175A-7/8	72478	-	-	7/8	1-9/16	1-3/4	5	3/16x3/32	5/16-18NC	2.31					
J175B	08442	JS175B	08488	7/8	1-9/16	1-3/4	5	-	-	2.31	3-5/8	3-3/4	5/8	UB175	47610
J175	08416	JS175	08468	-	-	1-3/4	5	-	-	2.86					
J200A-1	72479	-	-	1	1-5/8	2	5-7/16	1/4x1/8	3/8-16NC	3.31					
J200B	08444	JS200B	08490	1	1-5/8	2	5-7/16	-	-	3.31	4-1/2	4-3/16	5/8	UB200	47611
J200	08418	JS200	08470	-	-	2	5-7/16	-	-	4.06					
J250A-1-1/4	72480	-	-	1-1/4	2-3/32	2-1/2	7	1/4x1/8	3/8-16NC	6.81					
J250B	08446	JS250B	72485	1-1/4	2-3/32	2-1/2	7	-	-	6.81	5-1/2	4-7/8	1-1/16	UB250	47612
J250	08420	JS250	72486	-	-	2-1/2	7	-	-	8.25					
J300A-1/1/2	72481	-	-	1-1/2	2-27/32	3	9	3/8x3/16	1/2-13NC	12.5					
J300B	08448	JS300B	72487	1-1/2	2-27/32	3	9	-	-	12.5	6	5-5/8	1-11/16	UB300	47613
J300	08422	JS300	72488	-	-	3	9	-	-	15.25					
J400A-2	72482	-	-	2	3-1/8	4	10-5/8	1/2x1/4	1/2-13NC	25.8					
J400B	08450	JS400B	72489	2	3-1/8	4	10-5/8	-	-	25.8	6-7/8	6-5/8	2	UB400	47614
J400	08424	JS400	72490	-	-	4	10-5/8	-	-	31.3					

*Approximate Hub Projection
†Each Kit contains (2) Boots and (4) Ties together with complete instructions for installation and lubrication.
**Style A includes bore, keyway and setscrew. Style B includes bore only. Units without an A & B letter have a solid bore.

CAST/FORGED STEEL

UJNS/UJNL SERIES BOS-TRONG®

A BOS-trong joint is composed of two yokes and a center kit. BOS-trong joints may be purchased assembled, or as separate yokes and center kits. Individually boxed.

AVAILABLE IN TWO SIZES
EQUIPPED WITH NEEDLE BEARINGS
PRECISION MACHINED FOR LONG, SMOOTH OPERATION
CONTINUOUS OR INTERMITTENT SERVICE
HIGH CAPACITY WITH MINIMUM SWING DIAMETERS
AVAILABLE WITH ROUND, SQUARE OR HEXAGON HOLES
COMPLETE WITH KEYWAY AND SETSCREW
REPLACEABLE CENTER KITS
FITTING FOR LUBRICATION
UJNS CAST STEEL
UJNL FORGED STEEL

SELECTION

Universal Joints are used in many different types of applications and under a wide variety of operating conditions. No convenient method can be presented for determining ratings for all possible circumstances. Performance will be affected by vibration, shock loading, high temperature, dusty environment, etc.

The simplest solution to this problem is to provide approximate ratings of universal joints operating at various angles and speeds under normal service conditions.

The suggested ratings are for general use in applications where two joints are arranged at equal angles with the bearing pins of the intermediate yokes in line with each other.

Service torque ratings of the two sizes of BOS-trong Needle Bearing universals are listed in tables. Ratings for intermediate speeds and/or angles not shown may be found by interpolation.

LOAD DATA

APPROXIMATE TORQUE RATINGS (LB. INS.)

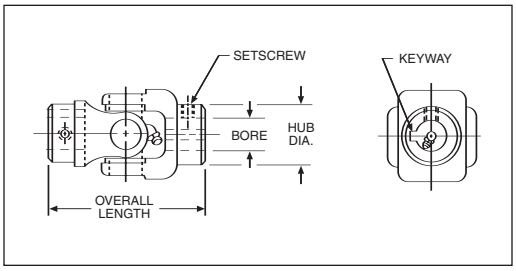
Speed RPM	UJNS Series Operating Angle*—Degrees (Deviation from Straight Line)						UJNL Series Operating Angle†—Degrees (Deviation from Straight Line)					
	Up to 3°	5°	8°	12°	20°	30°	Up to 3°	5°	8°	12°	20°	30°
1800	610	515	440	—	—	—	845	710	610	—	—	—
1200	700	590	505	435	—	—	965	815	695	600	—	—
900	770	650	555	480	365	—	1060	895	765	660	500	—
600	880	740	635	545	415	260	1210	1020	875	755	575	355
300	1110	935	800	690	525	325	1530	1290	1100	950	725	450
200	1270	1070	915	790	600	370	1750	1480	1260	1090	825	515
100	1600	1350	1150	995	755	470	2210	1860	1590	1370	1040	645
50	2020	1700	1450	1250	950	590	2780	2350	2000	1730	1310	815
25	2540	2140	1830	1580	1200	745	3500	2960	2530	2180	1650	1020
10	3450	2900	2480	2140	1630	1010	4760	4010	3430	2960	2250	1390

NON-OPERATING FLEX-ANGLE—90°

*Maximum Angles (Momentary)—45°
†Maximum Angle (Momentary)—35°

CAST/FORGED STEEL

UJNS/UJNL SERIES BOS-TRONG®



STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	± .001
Hub Dia.	All	+ .000 – .002

REFERENCE PAGES

Lubrication—149
Mounting—149

ORDERING INFORMATION

Joints can also be ordered in various combinations of round, square or hex holes. To order the combination desired, specify “UJNS” or “UJNL” and hole size and type as listed in table of Yokes, Page 140. Use “S” for square and “H” for hexagon.

All joints have round holes with standard keyways and 3/8—16 hex socket setscrews.

DIMENSION IN INCHES

Overall Length	Bore Hub-A	Bore Hub-B	Hub Dia. Hub-A	Hub Dia. Hub-B	App. Wt. (Lbs.)	Catalog Number	Item Code
UJNS SERIES						**SWING DIAMETER—2-1/2”**	
5	5/8	5/8	1-5/8	1-5/8	2	UJNS 10-10	17300
		3/4				UJNS 10-12	17302
		13/16				UJNS 10-13	17304
		7/8				UJNS 10-14	17306
		15/16				UJNS 10-15	17308
		1				UJNS 10-16	17310
		1-1/8		2-1/4		UJNS 10-18	17312
5	3/4	3/4	1-5/8	1-5/8	2	UJNS 12-12	17314
		13/16				UJNS 12-13	17316
		7/8				UJNS 12-14	17318
		15/16				UJNS 12-15	17320
		1				UJNS 12-16	17322
		1-1/8		2-1/4		UJNS 12-18	17324
5	13/16	13/16	1-5/8	1-5/8	2	UJNS 13-13	17326
		7/8				UJNS 13-14	17328
		15/16				UJNS 13-15	17330
		1				UJNS 13-16	17332
		1-1/8		2-1/4		UJNS 13-18	17334
5	7/8	7/8	1-5/8	1-5/8	2	UJNS 14-14	17336
		15/16				UJNS 14-15	17338
		1				UJNS 14-16	17340
		1-1/8		2-1/4		UJNS 14-18	17342
5	15/16	15/16	1-5/8	1-5/8	2	UJNS 15-15	17344
		1				UJNS 15-16	17346
		1-1/8		2-1/4		UJNS 15-18	17348
5	1	1	1-5/8	1-5/8	2	UJNS 16-16	17350
		1-1/8		2-1/4		UJNS 16-18	17352
5	1-1/8	1-1/8	2-1/4	2-1/4	3	UJNS 18-18	17498
UJNL SERIES						**SWING DIAMETER—2-3/4”**	
5-1/2	1	1	2	2	3-3/4	UJNL 16-16	17354
		1-1/8		2-1/4		UJNL 16-18	17356
		1-3/16				UJNL 16-19	17358
		1-1/4				UJNL 16-20	17360
		1-3/8				UJNL 16-22	17362
		1-7/16				UJNL 16-23	17364
		1-1/2				UJNL 16-24	17366
5-1/2	1-1/8	1-1/8	2-1/4	2-1/4	3-3/4	UJNL 18-18	17368
		1-3/16				UJNL 18-19	17370
		1-1/4				UJNL 18-20	17372
		1-3/8				UJNL 18-22	17374
		1-7/16				UJNL 18-23	17376
		1-1/2				UJNL 18-24	17378
5-1/2	1-3/16	1-3/16	2-1/4	2	3-1/4	UJNL 19-19	17380
		1-1/4		2-1/4		UJNL 19-20	17382
		1-3/8				UJNL 19-22	17384
		1-7/16				UJNL 19-23	17386
		1-1/2				UJNL 19-24	17388
5-1/2	1-1/4	1-1/4	2-1/4	2	3-1/4	UJNL 20-20	17390
		1-3/8		2-1/4		UJNL 20-22	17392
		1-7/16				UJNL 20-23	17394
		1-1/2				UJNL 20-24	17396
5-1/2	1-3/8	1-3/8	2-1/4	2-1/4	3-1/4	UJNL 22-22	17398
		1-7/16				UJNL 22-23	17400
		1-1/2				UJNL 22-24	17402
5-1/2	1-7/16	1-7/16	2-1/4	2-1/4	3-1/4	UJNL 23-23	17404
		1-1/2				UJNL 23-24	17406
5-1/2	1-1/2	1-1/2	2-1/4	2-1/4	3-1/4	UJNL 24-24	17408

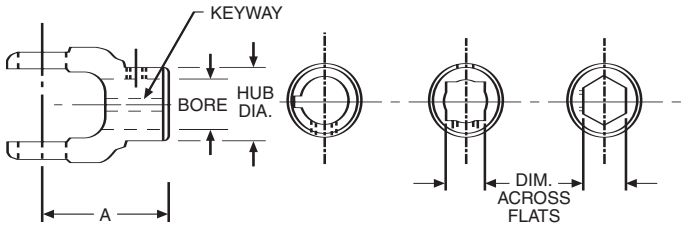
FORGED/CAST STEEL

STANDARD TOLERANCES

DIMENSION		TOLERANCE
Bore	Round	+.000 – +.002
	Square	3/4–13/16 +.000 – +.002
		7/8–1-1/2 +.001 +.003
	Hexagon	+.002 +.004

YOKES

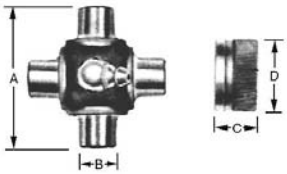
These yokes are for assembly with UJSC Center Kits.
All yokes are furnished with 3/8–16 hex socket setscrew.
UJS14H is 1/8 NPT straight.



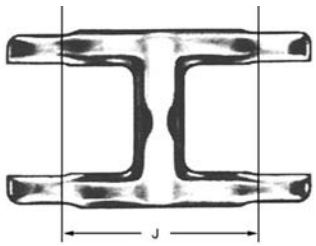
ALL DIMENSIONS IN INCHES

A	Round Bores							Square Bores			Hexagon Bores			
	Bore	Hub Dia.	Keyway	Setscrew Location	Approx. Weight (Lbs.)	Catalog Number	Item Code	Dim. Across Flats	Hub Dia.	Approx. Weight (Lbs.)	Catalog Number	Item Code	Catalog Number	Item Code
UJS Series														
2-1/2	.625	1.63	3/16x3/32	(4)	3/4	UJS10	17410	—	—	—	—	—	—	—
	.750			(4)		UJS12	17412	.750	1.63	3/4	UJS12S	17438	—	—
	.813			(5)		UJS13	17414	.813			UJS13S	17440	—	—
	.875		(1)	(4)		UJS14	17416	.875 (7)	2.25	1-1/4	UJS14S	17442	UJS14H (7)	17454
	.938		1/4x1/8	(4)		UJS15	17418	.938			UJS15S	17444	—	—
	1.000		(1)	(4)		UJS16	17420	1.000(7)			UJS16S	17446	—	—
	1.125	2.25	(2)	(4)	1-1/4	UJS18	17422	1.126			UJS18S	17448	UJS18H	17456
UJL Series														
2-3/4	1.000	2.00	1/4x1/8 (3)	(4)	1-1/2	UJL16	17424	1.000	2.00	1-1/2	UJL16S	17450	—	—
	1.125	2.25	1/4x1/8	(5)	1-1/4	UJL18	17426	1.126	2.25	1-1/2	UJL18S	17452	UJL18H	17458
	1.1875					UJL19	17428	(1) Two keyways 180° apart, 3/16x3/32 and 1/4x1/8 (2) Two keyways 180° apart, 1/4x1/8 and 5/16x5/32 (3) Located 90° from shown (4) Located as shown (5) Located 180° from shown (6) Additional setscrew over keyway (7) Has both .875 and 1.000 square bores @ 45°						
	1.250					UJL20	17430							
	1.375		5/16x5/32			UJL22	17432							
	1.4375		3/8x3/16			UJL23	17434							
	1.500			(4)(6)		UJL24	17436							

CENTER KITS



DOUBLE YOKES



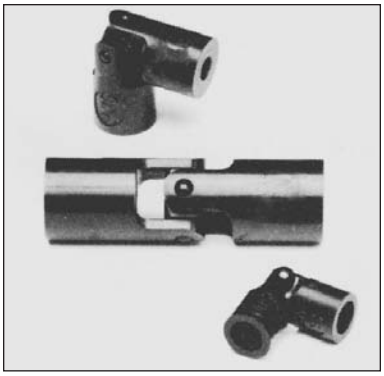
ALL DIMENSIONS IN INCHES

Center Kits*							Double Yokes				
A	B	C	D	Approx. Weight (Lbs.)	Catalog Number	Item Code	J	Maximum Operating Angle	Approx. Weight (Lbs.)	Catalog Number	Item Code
UJS Series							**UJS Series Forged**				
1-61/64	35/64	19/32	31/32	1/2	UJSC	17464	2-1/2	15°	1	UJSD	17460
UJL Series							**UJL Series Forged – 2 piece Welded Construction**				
2-5/16	.644	5/8	1-1/16	3/4	UJLC	17466	4-7/16	35°	2-1/4	UJLD	17462

*Center Kits include 1 cross, 4 bearings, 4 cork washers and 4 lock rings.

MOLDED TYPE

JP SERIES
SINGLE AND DOUBLE



MOLDED DELRIN BODY provides vibration dampening and electrical insulation.

MAX. ANGULAR DISPLACEMENT — Single 45° — Double 90°

MAX. AMBIENT TEMPERATURE — 180°F

COMPLETE WITH SETSCREWS

STANDARD TOLERANCES

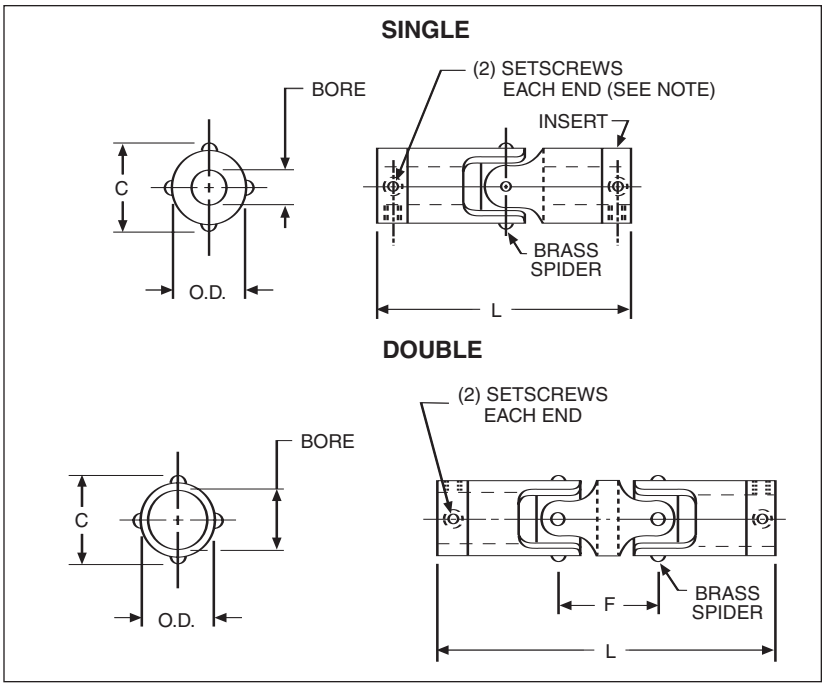
Dimensions		Tolerance
Bore	All	+ .001 – .000

REFERENCE PAGES

Mounting — 149

MATERIALS

Delrin Body
Nickel Plated Brass Spider and Insert



ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Bore Depth (Typical)	O.D.	C	L		Double Only		Setscrew	Single		Double	
				Single	Double	F	Max. Parallel Offset		Catalog Number	Item Code	Catalog Number	Item Code
1/8	.39	1/4	.27	1-3/64	1-23/64	5/16	.22	#4 – 40	JP25 – 1/8*	54194	JPD25 – 1/8	54202
1/8 3/16	.52	3/8	.41	1-31/64	2	17/32	.36	#4 – 40	JP37 – 1/8* JP37 – 3/16	54195 54196	JPD37 – 1/8 JPD37 – 3/16	54203 54204
3/16 1/4	.63	1/2	.54	1-13/16	2-7/16	5/8	.43	#6 – 32	JP50 – 3/16 JP50 – 1/4	54197 54198	JPD50 – 3/16 JPD50 – 1/4	54205 54206
1/4 5/16 3/8	.86	5/8	.68	2-41/64	3-33/64	7/8	.61	#8 – 32	JP62 – 1/4 JP62 – 5/16 JP62 – 3/8	54199 54200 54201	JPD62 – 1/4 JPD62 – 5/16 JPD62 – 3/8	54207 54208 54209

* One setscrew each end.

LOAD DATA

Basic Size	Maximum Torque† (Lb. Ins.)	
	Single	Double
25	5	2.5
37	16	7
50	26	12
62	60	47

†This is the ultimate or breaking torque for static, zero angle conditions. Actual operating conditions will dictate use of significantly lower values.

MOLDED TYPE

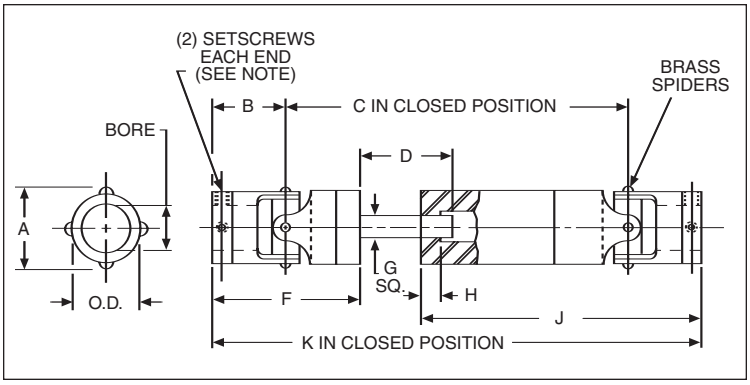
JPE SERIES
WITH SLIDE EXTENSION

MOLDED DELRIN BODY — provides vibration dampening and electrical insulation.

MAX. ANGULAR DISPLACEMENT — Single 45° — Double 90°

MAX. AMBIENT TEMPERATURE — 180°F

COMPLETE WITH SETSCREWS



STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+ .001 – .000

REFERENCE PAGES

Mounting — 149

MATERIALS

Delrin Body
Nickel Plated Brass Spider and Insert

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

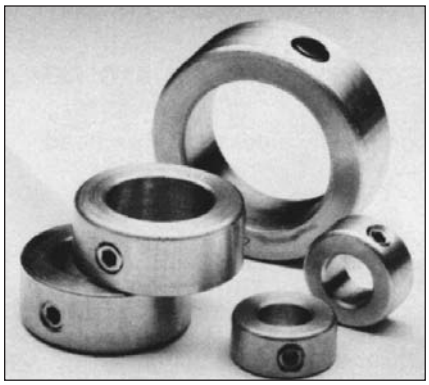
Bore	Bore Depth (Typical)	O.D.	A	B	C	D	E	F	G (Sq.)	H	J	K	Setscrew	Catalog Number	Item Code
1/8 3/16	.52	3/8	.41	.74	2-59/64	1-1/8	–	1-47/64	3/16	23/64	2-43/64	4-13/32	#4 – 40	JPE37 – 1/8 JPE37 – 3/16	54210 54211
3/16 1/4	.63	1/2	.54	.91	2-23/64	1-1/8	3/8	1-34/64	3/16	23/64	2-9/16	4-11/64	#6 – 32	JPE50 – 3/16 JPE50 – 1/4	54212 54213

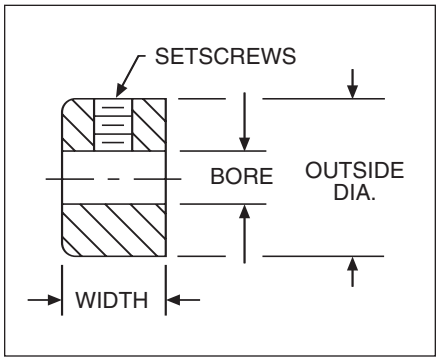
LOAD DATA

Basic Size	Maximum Recommended Torque (Lb. Ins.)	
	Closed	Open
JPE37	8	5
JPE50	14	10

†This is the ultimate or breaking torque for static, zero angle conditions. Actual operating conditions will dictate use of significantly lower values.

STEEL AND STAINLESS STEEL — SC/SSC SERIES





STANDARD TOLERANCES

Dimensions		Tolerance
Bore	1/8-1	+ .001 + .003
	1-1/16-3	+.001 +.004

MATERIALS

Stainless Steel—Type 303 Austenitic.
Steel—Low Carbon, Zinc plated finish.

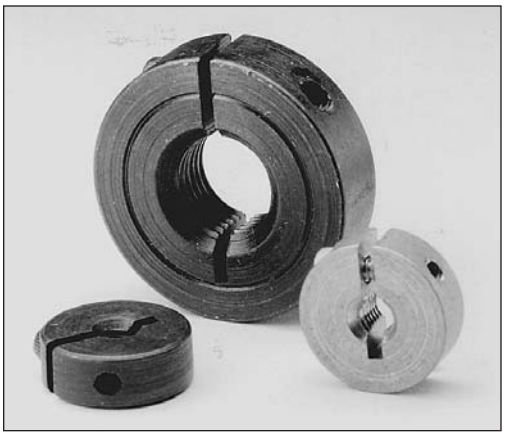
STEEL BORE SIZES FROM 1/8" TO 3"
STAINLESS STEEL BORE SIZES FROM 1/8" TO 2"
STAINLESS STEEL COLLARS ARE CORROSION-RESISTANT AND NON-MAGNETIC suitable for temperatures up to 800°F. Ideal for applications requiring hygienic cleanliness.
ALL COLLARS COMPLETE WITH STANDARD HOLLOW POINT SETSCREWS.

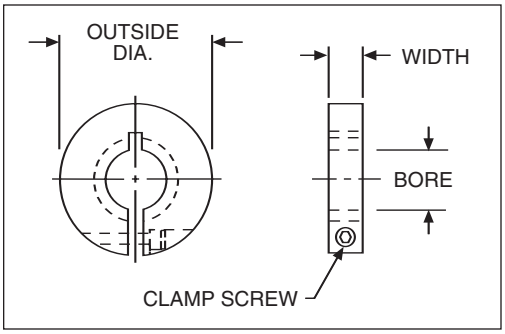
ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Outside Diameter	Width	Alloy Steel		Stainless Steel	
			Catalog Number	Item Code	Catalog Number	Item Code
1/8	3/8	1/4	SC12	67697	SSC12	67740
3/16	7/16	1/4	SC18	67698	SSC18	67741
1/4	1/2	5/16	SC25	67699	SSC25	67742
5/16	5/8	11/32	SC31	67700	SSC31	67743
3/8	3/4	3/8	SC37	67701	SSC37	67744
7/16	7/8	7/16	SC43	67702	—	—
1/2 9/16	1	7/16	SC50 SC56	67703 67704	SSC50 —	67745 —
5/8	1-1/8	1/2	SC62	67705	SSC62	67746
11/16 3/4	1-1/4	9/16	SC68 SC75	67706 67707	— SSC75	— 67747
13/16	1-1/4	9/16	SC81	67708	—	—
7/8	1-1/2	9/16	SC87	67709	SSC87	67748
15/16	1-5/8	9/16	SC93	67710	—	—
1	1-1/2	5/8	SC100	67711	SSC100	67749
1-1/16 1-1/8	1-3/4	5/8	SC106 SC112	67712 67713	— SSC112	— 67784
1-3/16 1-1/4	2	11/16	SC118 SC125	67714 67715	— SSC125	— 67785
1-5/16 1-3/8	2-1/8	11/16 3/4	SC131 SC137	67716 67717	— —	— —
1-7/16 1-1/2	2-1/4	3/4	SC143 SC150	67718 67719	— SSC150	— 67788
1-9/16 1-5/8 1-11/16	2-1/2	13/16	SC156 SC162 SC168	67720 67721 67722	— — —	— — —
1-3/4 1-13/16 1-7/8	2-3/4	7/8	SC175 SC181 SC187	67723 67724 67725	SSC175 — —	67789 — —
1-15/16 2 2-1/8	3	7/8	SC193 SC200 SC212	67726 67727 67728	— SSC200 —	— 67790 —
2-3/16 2-1/4 2-5/16 2-3/8	3-1/4	15/16	SC218 SC225 SC231 SC237	67729 67730 67731 67732	— — — —	— — — —
2-7/16 2-1/2	3-1/2	1	SC243 SC250	67733 67734	— —	— —
2-9/16	3-3/4	1	SC256	67735	—	—
2-11/16 2-3/4	4	1-1/8	SC268 SC275	67736 67737	— —	— —
2-15/16 3	4	1-1/8	SC293 SC300	67738 67739	— —	— —

THREADED TYPE STEEL AND STAINLESS STEEL

CSC/CSSC SERIES





DESIGN PROVIDES CONVENIENT SETTING, ADJUSTING AND REMOVAL prevents shaft damage
OSHA CONFORMANCE collars have completely recessed screw head.
BORE THREADS FROM 10–32 TO 200–12

ORDER BY CATALOG NUMBER OR ITEM CODE

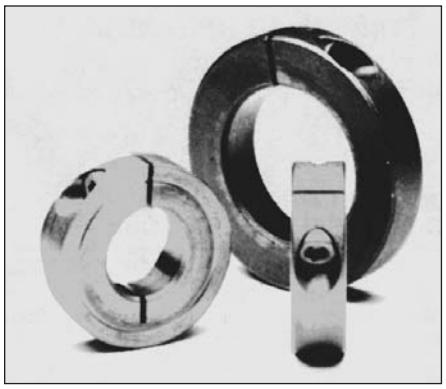
Bore Thread	Outside Dia.	Width	Clamp Screws	Steel		Stainless Steel	
				Catalog Number	Item Code	Catalog Number	Item Code
10-32	11/16	1/4	4-40	CSC10-32	49237	—	—
1/4-20	13/16	1/4	4-40	CSC25-20	49238	CSSC25-20	49265
1/4-28				CSC25-28	49239	—	—
5/16-18				CSC31-18	49240	—	—
5/16-24				CSC31-24	49241	—	—
3/8-16	1-1/16	5/16	6-32	CSC37-16	49242	CSSC37-16	49269
3/8-24				CSC37-24	49243	CSSC37-24	49270
1/2-13	1-1/4	3/8	8-32	CSC50-13	49244	CSSC50-13	49271
1/2-20				CSC50-20	49245	CSSC50-20	49272
5/8-11	1-1/2	13/32	10-32	CSC62-11	49246	CSSC62-11	49273
5/8-18				CSC62-18	49247	CSSC62-18	49274
3/4-10	1-3/4	1/2	1/4-28	CSC75-10	49248	CSSC75-10	49275
3/4-16				CSC75-16	49249	CSSC75-16	49276
7/8-9	1-7/8	1/2	1/4-28	CSC87-9	49250	—	—
7/8-14				CSC87-14	49251	—	—
1-8	2	1/2	1/4-28	CSC100-8	49252	CSSC100-8	49279
1-14				CSC100-14	49253	CSSC100-14	49280
1-1/8-7	2-1/8	1/2	1/4-28	CSC125-7	49256	—	—
1-1/8-12				CSC112-12	49255	—	—
1-1/4-7	2-1/4	1/2	1/4-28	CSC125-7	49256	—	—
1-1/4-12				CSC125-12	49257	CSSC125-12	49284
1-1/2-6	2-1/2	1/2	1/4-28	CSC150-6	49258	—	—
1-1/2-12				CSC150-12	49259	—	—
1-3/4-16	3	5/8	5/16-24	CSC175-16	49260	—	—
2-12	3-1/4	5/8	5/16-24	CSC200-12	49261	—	—

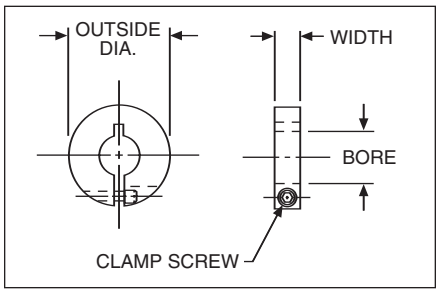
MATERIALS

Steel—Low Carbon,
Black Oxide Finish
Stainless—Type 303 Austenitic

1 PIECE TYPE STEEL, STAINLESS STEEL AND ALUMINUM

CSC/CSSC/CASC SERIES





DESIGN PROVIDES CONVENIENT SETTING, ADJUSTING AND REMOVAL
prevents shaft damage
OSHA CONFORMANCE collars have completely recessed screw head.
BORE THREADS FROM 1/8" TO 3"

STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+ .003 – .000

MATERIALS

Steel—Low Carbon
Black Oxide Finish Stainless—Type 303 Austenitic
Aluminum—2024

LOAD DATA

Capacity is based on a standard steel, one-piece collar mounted with recommended screw torque on a lightly oiled shaft. Capacity is load to move collar .010". Data shown is for guidance only. In applications involving control of axial loads, capacity should be determined experimentally on actual parts involved.

DIMENSION IN INCHES

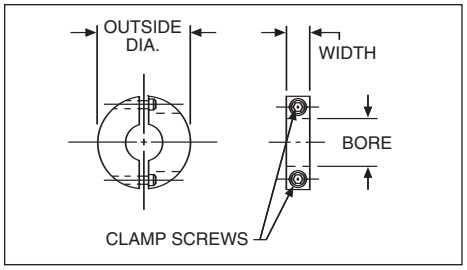
Bore	Axial Load Capacity (Lbs.)	Screw Size	Recommended Screw Torque (Lb. Ins.)	
			Steel	Stainless Steel
1/8-5/16	400	4-40	20	16
3/8-7/16	600	6-32	30	24
1/2-9/16	1400	8-32	55	35
5/8-11/16	1800	10-32	90	72
3/4-1-9/16	4000	1/4-28	220	170
1-5/8-2-3/8	6500	5/16-24	435	340
2-7/16-3	8500	3/8-24	710	550

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	O.D.	Width	Clamp Screws	Steel		Stainless Steel		Aluminum	
				Catalog Number	Item Code	Catalog Number	Item Code	Catalog Number	Item Code
1/8	13/16	1/4	4-40	CSC12	49000	CSSC12	49094	—	—
3/16				CSC18	49001	CSSC18	49095	CASC18	49048
1/4				CSC25	49002	CSSC25	49096	CASC25	49049
5/16				CSC31	49003	CSSC31	49097	CASC31	49050
3/8	1-1/16	5/16	6-32	CSC37	49004	CSSC37	49098	CASC37	49051
7/16				CSC43	49005	CSSC43	49099	—	—
1/2	1-1/4	3/8	8-32	CSC50	49006	CSSC50	49100	CASC50	49053
9/16				CSC56	49007	CSSC56	49101	CASC56	49054
5/8	1-1/2	13/32	10-32	CSC62	49008	CSSC62	49102	CASC62	49055
11/16				CSC68	49009	—	—	—	—
3/4	1-3/4	1/2	1/4-28	CSC75	49010	CSSC75	49104	CASC75	49057
13/16				CSC81	49011	—	—	—	—
7/8	1-7/8			CSC87	49012	CSSC87	49106	CASC87	49059
15/16				CSC93	49013	CSSC93	49107	—	—
1	2			CSC100	49014	CSSC100	49108	CASC100	49061
1-1/16				CSC106	49015	CSSC106	49109	—	—
1-1/8	2-1/8			CSC112	49016	CSSC112	49110	CASC125	49065
1-3/16				CSC118	49017	CSSC118	49111	—	—
1-3/8	2-3/8			CSC137	49020	—	—	—	—
1-5/16				CSC143	49021	CSSC143	49115	—	—
1-1/2	2-1/2			CSC150	49022	CSSC150	49116	CASC150	49069
1-9/16				CSC156	49023	—	—	—	—
1-5/8	3	5/8	5/16-24	CSC162	49024	—	—	—	—
1-11/16				CSC168	49025	—	—	—	—
1-3/4				CSC175	49026	—	—	CASC175	49073
1-7/8	3-1/4			CSC187	49028	—	—	—	—
1-15/16				CSC193	49029	CSSC193	49123	—	—
2				CSC200	49030	CSSC200	49124	CASC200	49077
2-3/16	3-1/2			CSC218	49033	—	—	—	—
2-1/4				CSC225	49034	—	—	—	—
2-3/8				CSC237	49036	—	—	—	—
2-7/16	4	3/4	3/8-24	CSC243	49037	—	—	—	—
2-1/2				CSC250	49038	—	—	—	—
2-5/8	4-1/4			CSC262	49040	—	—	—	—
2-11/16				CSC268	49041	—	—	—	—
2-3/4				CSC275	49042	—	—	—	—
2-7/8	4-1/2			CSC287	49044	—	—	—	—
2-15/16				CSC293	49045	—	—	—	—
3				CSC300	49046	—	—	—	—

2 PIECE TYPE
STEEL AND STAINLESS STEEL

2SC/2SSC SERIES



DESIGN PROVIDES CONVENIENT SETTING, ADJUSTING AND REMOVAL prevents shaft damage
OSHA CONFORMANCE collars have completely recessed screw head.
BORE THREADS FROM 1/4" TO 3"

STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+ .003 – .000

MATERIALS

Steel—Low Carbon, Black Oxide Finish
Stainless—Type 303 Austenitic

LOAD DATA

Capacity is based on a standard steel, one-piece collar mounted with recommended screw torque on a lightly oiled shaft. Capacity is load to move collar .010". Data shown is for guidance only. In applications involving control of axial loads, capacity should be determined experimentally on actual parts involved.

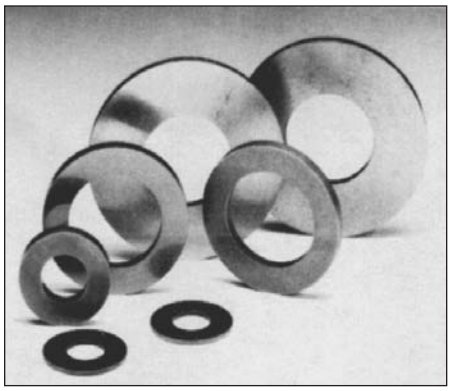
DIMENSION IN INCHES

Bore	Axial Load Capacity (Lbs.)	Screw Size	Recommended Screw Torque (Lb. Ins.)	
			Steel	Stainless Steel
1/8-5/16	400	4-40	20	16
3/8-7/16	600	6-32	30	24
1/2-9/16	1400	8-32	55	35
5/8-11/16	1800	10-32	90	72
3/4-1-9/16	4000	1/4-28	220	170
1-5/8-2-3/8	6500	5/16-24	435	340
2-7/16-3	8500	3/8-24	710	550

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	O.D.	Width	Clamp Screws	Steel		Stainless Steel	
				Catalog Number	Item Code	Catalog Number	Item Code
1/4 5/16	13/16	1/4	4-40	2SC25 2SC31	49143 49144	2SSC25 2SSC31	49190 49191
3/8 7/16	1-1/16	5/16	6-32	2SC37 2SC43	49145 49146	2SSC37 2SSC43	49192 49193
1/2 9/16	1-1/4	3/8	8-32	2SC50 2SC56	49147 49148	2SSC50 2SSC56	49194 49195
5/8 11/16	1-1/2	13/32	10-32	2SC62 2SC68	49149 49150	2SSC62 2SSC68	49196 49197
3/4 13/16	1-3/4	1/2	1/4-28	2SC75 2SC81	49151 49152	2SSC75 —	49198 —
7/8 15/16	1-7/8			2SC87 2SC93	49153 49154	2SSC87	49200
1 1-1/16	2			2SC100 2SC106	49155 49156	2SSC100 2SSC106	49202 49203
1-1/8 1-3/16	2-1/8			2SC112 2SC118	49157 49158	2SSC112 2SSC118	49204 49205
1-1/4 1-5/16	2-1/4			2SC125 2SC131	49159 49160	2SSC125 2SSC131	49206 49207
1-3/8 1-7/16	2-3/8			2SC137 2SC143	49161 49162	— 2SSC143	— 49209
1-1/2 1-9/16	2-1/2			2SC150 2SC156	49163 49164	2SSC150 —	49210 —
1-5/8 1-11/16 1-3/4 1-13/16	3	5/8	5/16-24	2SC162 2SC168 2SC175 —	49165 49166 49167 —	— — — —	— — — —
1-7/8 1-15/16 2 2-1/16	3-1/4			2SC187 2SC193 2SC200 —	49169 49170 49171 —	2SSC187 2SSC193 2SSC200 —	49216 49217 49218 —
2-1/8 2-3/16 2-1/4 2-3/8	3-1/2			2SC212 2SC218 2SC225 2SC237	49173 49174 49175 49177	— — — —	— — — —
2-7/16 2-1/2	4			2SC243 2SC250	49178 49179	— —	— —
2-5/8 2-11/16 2-3/4	4-1/4	3/4	3/8-24	2SC262 2SC268 2SC275	49181 49182 49183	— — —	— — —
2-7/8 2-15/16 3	4-1/2			2SC287 2SC293 2SC300	49185 49186 49187	— — —	— — —

STEEL AND STAINLESS STEEL



HARDENED AND GROUND STEEL BORE SIZES FROM 3/16" TO 2"
STAINLESS STEEL BORE SIZES FROM 3/16" TO 1/2"

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Outside Diameter	Thick-ness	Catalog Number
HARDENED STEEL			
3/16	9/32	1/16 3/32	18800 18802
	3/8	1/16 3/32	18804 18806
	7/16	1/16	06724*
1/4	1/2	1/16 3/32	18808 18810
	9/16	1/16	06726*
5/16	5/8	5/64 1/16 1/8	06728* 18812 18814
3/8	5/8	1/16 1/8	18816 18818
	11/16	3/32	06730*
7/16	7/8	1/16 5/32	18820 18822
1/2	3/4	1/16 1/8	18824 18826
	7/8	1/8	06734*
	1-1/8	1/16 5/32	18828 18830
	1-1/4	3/16	18832
9/16	1-3/8	3/32 3/16	18834 18836
5/8	25/32	1/16 1/8	18838 18840
	1-1/4	3/32 3/16	18842 18844
	1-3/8	3/16	18846
	1-1/2	3/32 3/16	18848 18850
	1-3/4	3/16	18852
3/4	1	3/32	18854
	1-5/16	3/32 3/16	18856 18858
	1-5/8	1/8 3/16	18860 18862
	1-3/4	3/16	18864
	2	3/16	18866

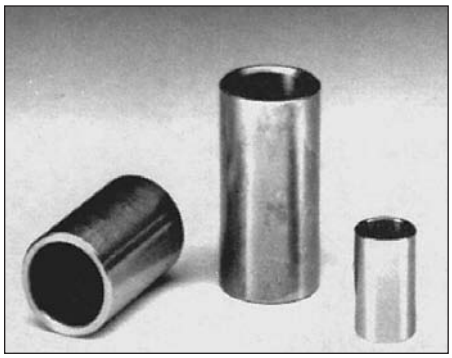
Bore	Outside Diameter	Thick-ness	Catalog Number
HARDENED STEEL			
7/8	1-3/16	3/32	18868
	2	1/8	18870
	2	3/16	18872
	2-1/4	3/16	18874
7/16	13/16	3/32	06732*
1	1-9/16	1/8 3/16	18876 18878
	2	1/8 3/16	18880 18882
	2-1/4	9/64 3/16	18884 18886
	2-1/2	1/4	18888
1-1/16	2-1/2	1/4	18890
1-1/8	2-1/2	1/4	18894
1-3/16	2	3/16	18896
1-1/4	2	9/64 3/16	18898 18922
	2-7/16	9/64 1/4	18900 18924
	2-3/4	9/64	18902
	3	1/4	18904
1-5/16	2-3/4	1/4	18906
1-3/8	3	5/32 1/4	18908 18910
1-1/2	3	5/32 1/4	18912 18914
	3-1/4	1/8	18916
2	4	5/32 5/16	18918 18920
STAINLESS STEEL†			
3/16 1/4 5/16 3/8 1/2	7/16 9/16 5/8 11/16 7/8	1/16 1/16 5/64 3/32 1/8	06760 06762 06764 06766 06770

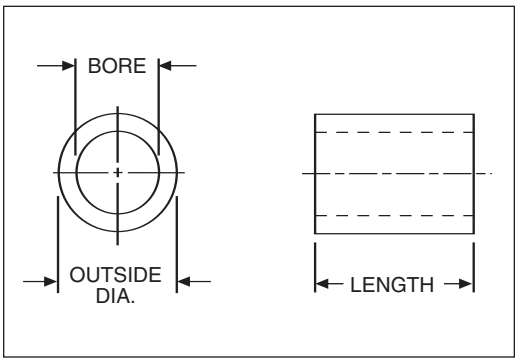
*These washers also listed with AO Bearings.
†These washers also listed with SAO Bearings.

STANDARD TOLERANCES

Dimensions		Tolerance
Bore	06700 Series	+ .0015 – .007
	18000 Series	+ .002 + .007
O.D.	06700 Series	+ .000 - .005
	18000 Series	± .030
Thickness	All	+.000 - .005

SOFT STEEL





BORE SIZES FROM 3/16" TO 1-1/4"
MULTI-PURPOSE BUSHINGS suitable for use was hole reducers, spacers, standoffs or slip bushings.
ADAPTABLE FOR OTHER USES including wear sleeves, liners or cutting arbor studs.

STANDARD TOLERANCES

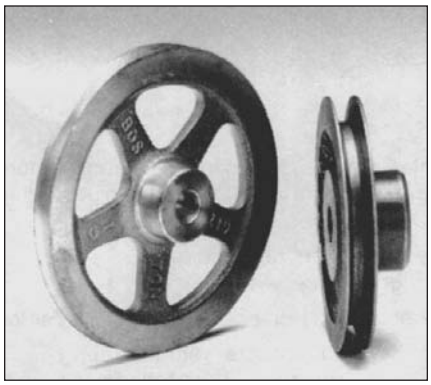
Dimensions		Tolerance
BORE	All	± .0005
O.D.	Up to 1-1/4	+ .0005 +.0015
	Over 1-1/4	+ .001 +.002
LENGTH	Up to 1"	+.000 -.007
	Over 1"	+.000 -.010

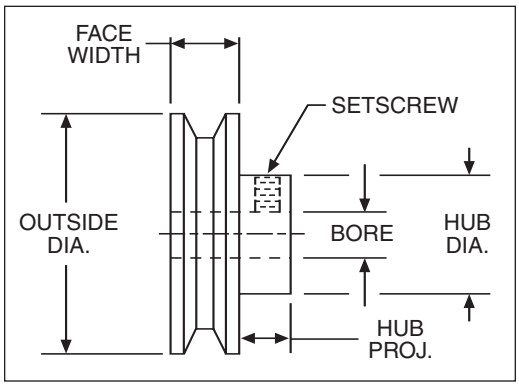
ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER

Bore	Outside Diameter	Thick-ness	Catalog Number
3/16	1/4 5/16 3/8	5/8	18510 18512 18516
1/4	5/16 3/8	5/8	18514 18518
	1/2	3/4 1	18522 18524
5/16	3/8	5/8	18520
	1/2	3/4 1	18526 18528
3/8	1/2	3/4 1	18530 18532
	5/8	3/4 1-1/4	18534 18536
7/16	5/8	3/4 1-1/4	18538 18540
1/2	5/8	3/4 1 1-1/4	18542 18544 18546
	3/4	3/4 1	18554 18556
5/8	3/4	3/4 1	18560 18562
	7/8	1-1/4	18566
3/4	7/8 1 1-3/8 1-1/2	1-1/4 1-1/2 2 1-1/2	18568 18574 18626 18606
7/8	1	1-1/2	18576
1	1-1/4 1-3/8 2	2	18596 18602 18622
1-1/8	1-1/4	2	18598
1-1/4	1-3/8 1-1/2 2	2 1-1/2 3	18604 18614 18624

ROUND BELT TYPE

G1200





BRASS IRON AND STEEL
BORE SIZES FROM 3/16" TO 3/4"
COMPLETE WITH STANDARD SETSCREWS

ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

Bore	Outside Diameter	Hub Dia.	Project	V Groove	Style	Catalog Number	Item Code
BRASS—3/16" ROUND BELT (or smaller)—1/4" FACE							
3/16	1/2 7/8	1/2 5/8	1/4	74° 46°	Plain	G1214 G1215	18700 18702
1/4	1 1-1/2	5/8	5/16	46°	Plain	G1216 G1217	18704 18706
5/16	2 3 4	5/8 3/4 3/4	5/16	46°	Webbed Spoked Spoked	G1218 G1219 G1220	18708 18710 18712
IRON†—3/8" ROUND BELTS (or smaller)—1/2" FACE							
1/2	1 1-1/2 2 3	15/16 1 1 1-1/4	1/2	53°	Plain	G1202 G1203 G1204	18718 18720 18722
5/8	4 5 6	1-5/8	3/4		Webbed	G1205 G1206 G1207	18724 18726 18728
3/4	8	1-3/4	1		Spoked	G1208 G1209	18730 18732

†Outside diameter, sides, grooves, hole and ends of hub finished.

STANDARD TOLERANCES

Dimensions		Tolerance
BORE	All	+.001 - .000

MINIATURE HTD TIMING BELT DRIVES

BASIC CONSTRUCTION

Timing belts are essentially flat belts with the addition of evenly spaced teeth along the surface that contacts toothed pulleys. Power is transmitted smoothly and without slippage. Pulley pitch diameters are larger than their outside diameters and the belt pitch lines lie within the flat portion. Tension members are molded in the flat portion to serve as load-carrying elements. Miniature HTD timing belts have deep curvilinear tooth forms, as contrasted to trapezoidal for conventional timing belts. Greater strength, lower tooth pressures and decreased stress concentration result in superior performance.

SELECTION

The following general guidelines apply to selection of miniature HTD timing belts and pulleys:
Design with ample reserve horsepower capacity and apply the proper service factors.
The belt must have six or more teeth in engagement with the smaller pulley to carry rated Horsepower.
Avoid small pulley diameters where practical to assure satisfactory belt life.
Belt speed should not exceed 6500 feet per minute.
At least one pulley in the drive should be flanged.
For vertical shafts or where center distance exceeds eight times the smaller pulley diameter, both pulleys should be flanged.

Horsepower Rating Tables provide ratings for operation no more than ten hours per day under uniform loading. Selection procedures is as follows:

1. Select Service Factor for chart below.
2. Determine Design Horsepower.

Design Hosrsepower = Application Horsepower x Service Factor

3. Select small pulley and belt size from the rating tables, choosing a combination whose rating does not exceed the Design Horsepower.
4. For speed increasing applications an additional amount must be added to the Service Factor.
5. For speeds higher than shown in Rating Tables, consult factory.

SERVICE FACTORS

Load Classification	Service Factor
Uniform to 10 hrs./day	1.0
Uniform over 10 hrs./day Moderate Shock to 10 hrs./day	1.5
Moderate Shock over 10 hrs/day Heavy Shock to 10 hrs./day	2.0

SPEED-UP DRIVES

Ratio Range	Additional Factor
1 through 1.24	0
1.25 through 1.74	0.1
1.75 through 2.49	0.2
2.50 through 3.49	0.3
3.50 and over	0.4

MINIATURE HTD TIMING BELT DRIVES (Continued)
HORSEPOWER RATINGS

3mm PITCH—6mm WIDE BELT

NUMBER OF GROOVES ON THE SMALL PULLEY

RPM of Small Pulley	10	11	12	14	15	16	18	20	22	24	25	28	30	32
PD	.376	.414	.451	.526	.564	.602	.677	.752	.827	.902	.940	1.053	1.128	1.203
100	.005	.005	.006	.007	.008	.009	.010	.011	.012	.013	.013	.016	.019	.020
300	.016	.017	.018	.021	.023	.025	.029	.033	.037	.040	.041	.048	.055	.059
500	.022	.024	.027	.030	.032	.035	.039	.043	.048	.053	.055	.062	.066	.070
700	.031	.035	.037	.042	.046	.049	.054	.061	.068	.075	.078	.087	.092	.098
1160	.040	.045	.050	.056	.061	.066	.072	.078	.089	.097	.101	.113	.120	.127
1500	.052	.058	.064	.072	.078	.085	.093	.101	.115	.125	.130	.145	.155	.165
1750	.061	.068	.075	.085	.091	.099	.108	.117	.134	.146	.152	.170	.182	.194
2500	.067	.074	.080	.091	.101	.107	.117	.134	.148	.161	.168	.192	.200	.213
3500	.094	.103	.113	.127	.141	.151	.165	.188	.207	.226	.236	.268	.278	.296

3mm PITCH—9mm WIDE BELT

NUMBER OF GROOVES ON THE SMALL PULLEY

RPM of Small Pulley	10	11	12	14	15	16	18	20	22	24	25	28	30	32
PD	.376	.414	.451	.526	.564	.602	.677	.752	.827	.902	.940	1.053	1.128	1.203
100	.007	.008	.009	.011	.013	.014	.016	.017	.019	.021	.022	.025	.030	.032
300	.025	.027	.029	.033	.036	.040	.046	.052	.059	.063	.066	.076	.087	.092
500	.035	.038	.043	.048	.051	.055	.062	.068	.076	.084	.088	.098	.104	.111
700	.049	.056	.059	.067	.073	.078	.085	.096	.107	.119	.124	.138	.146	.156
1160	.063	.071	.079	.089	.097	.104	.114	.123	.141	.154	.160	.179	.190	.203
1500	.082	.092	.101	.114	.123	.135	.147	.160	.182	.198	.206	.230	.246	.263
1750	.097	.108	.119	.135	.144	.157	.171	.185	.212	.231	.241	.269	.289	.308
2500	.106	.117	.127	.144	.160	.169	.185	.212	.235	.255	.266	.304	.317	.338
3500	.149	.163	.179	.201	.223	.239	.262	.298	.328	.358	.372	.425	.441	.470

5mm PITCH—9mm WIDE BELT

NUMBER OF GROOVES ON THE SMALL PULLEY

RPM of Small Pulley	11	12	14	15	16	18	20	22	24	25	28	30
PD	.689	.752	.877	.940	1.003	1.128	1.253	1.379	1.504	1.566	1.754	1.880
100	.021	.024	.027	.030	.033	.039	.042	.045	.051	.053	.063	.069
300	.063	.069	.081	.090	.096	.108	.126	.138	.153	.159	.186	.204
500	.090	.099	.117	.126	.132	.150	.165	.183	.198	.206	.231	.249
700	.129	.138	.162	.174	.186	.210	.231	.255	.279	.291	.324	.348
1160	.162	.180	.207	.225	.240	.270	.300	.327	.360	.375	.420	.447
1500	.210	.231	.270	.291	.309	.348	.387	.423	.465	.484	.543	.579
1750	.243	.270	.315	.339	.360	.405	.453	.495	.540	.562	.633	.675
2500	.267	.291	.342	.366	.393	.441	.492	.540	.588	.613	.687	.735
3500	.372	.405	.477	.510	.549	.615	.690	.756	.822	.856	.960	1.03

MINIATURE HTD TIMING BELT DRIVES (Continued)
HORSEPOWER RATINGS

5mm PITCH—15mm WIDE BELT

NUMBER OF GROOVES ON THE SMALL PULLEY

RPM of Small Pulley	11	12	14	15	16	18	20	22	24	28	30
PD	.689	.752	.877	.940	1.003	1.128	1.253	1.379	1.504	1.754	1.880
100	.038	.043	.049	.054	.060	.071	.076	.082	.093	.115	.126
300	.115	.126	.148	.164	.175	.197	.230	.252	.280	.340	.373
500	.164	.181	.214	.230	.241	.274	.302	.335	.362	.423	.456
700	.236	.252	.296	.318	.340	.384	.423	.467	.511	.593	.637
1160	.296	.329	.379	.412	.439	.494	.549	.599	.659	.769	.819
1500	.384	.423	.494	.533	.566	.637	.709	.775	.852	.995	1.06
1750	.445	.494	.577	.621	.649	.742	.830	.907	.989	1.16	1.23
2500	.489	.533	.626	.670	.720	.808	.901	.989	1.07	1.25	1.34
3500	.681	.742	.874	.934	1.00	1.12	1.26	1.38	1.50	1.75	1.88

Belt life will be reduced for ratings to the left of the heavy line.

CENTER DISTANCE

To calculate the approximate Belt Length:

$$BL = 2C + \frac{D_1 - D_2}{4C} + 1.57\,(D_1 + D_2)$$

An approximate formula for center distance of a timing belt drive is:

$$C = \frac{P}{4}\left[NB - \frac{N_1 + N_2}{2}\right] + \sqrt{\left(NB - \frac{N_1 + N_2}{2}\right)^2 - 2\left(\frac{N_1 + N_2}{2}\right)^2}$$

$$BL = 2C + \frac{(D_1 - D_2)}{4C} + 1.57\,(D_1 + D_2)$$

Where:

C = Center Distance—Inches

P = Belt Pitch—Inches

NB = Number of Teeth in Belt

N_1 = Number of Grooves in larger Pulley

N_2 = Number of Grooves in smaller Pulley

BL = Belt Length

D_1 = Pitch Diameter of larger Pulley

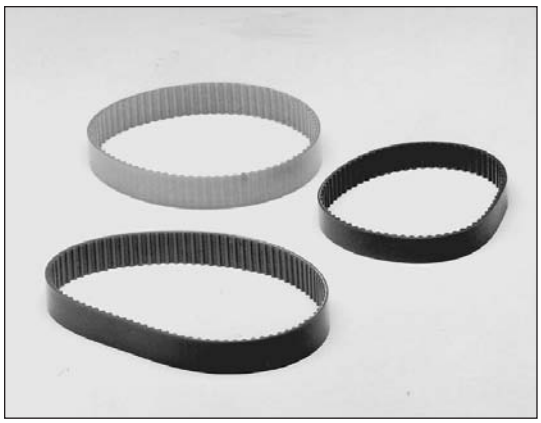
D_2 = Pitch Diameter of smaller Pulley

INSTALLATION SUGGESTIONS

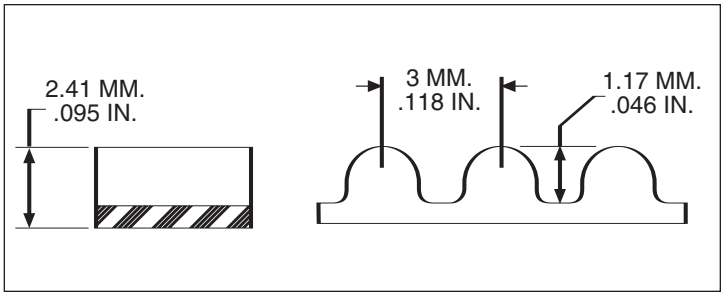
1. Use care in handling belts to avoid breakage of the reinforcing fibers.
2. Make sure shafts are parallel and pulleys in alignment.
3. Belt should fit snugly, neither too loose nor too tight. Avoid preload, which can cause premature failure.
4. Provision for some Center Distance adjustment will ease the installation and permit proper initial fitting of belts.

3MM PITCH

3M SERIES
6 AND 9MM WIDTHS



NEOPRENE–NYLON COVERED, FIBERGLASS REINFORCED
AMBIENT TEMPERATURE RANGE— –18°C TO +85°C
BREAKING STRENGTH–6 mm WIDTH – 74.4 KGS
9 mm WIDTH – 111.6 KGS



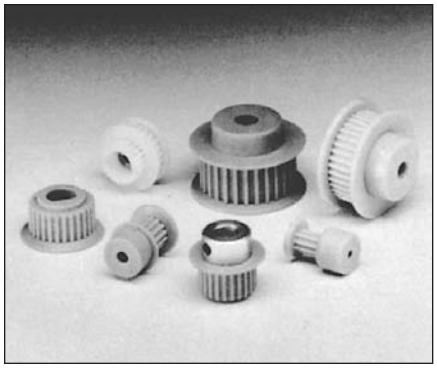
ORDER BY CATALOG NUMBER OR ITEM CODE

Number of Grooves	Pitch Length		6mm Belt Width		9mm Belt Width	
	mm	Inch	Catalog Number	Item Code	Catalog Number	Item Code
35	105	4.134	3M035060	54214	3M035090	54290
37	111	4.370	3M037060	54215	3M037090	54291
48	144	5.669	3M048060	54216	3M048090	54292
49	147	5.787	3M049060	54217	3M049090	54293
50	150	5.905	3M050060	54218	3M050090	54294
52	156	6.142	3M052060	54219	3M052090	54295
53	159	6.260	3M053060	54220	3M053090	54296
56	168	6.614	3M056060	54221	3M056090	54297
59	177	6.968	3M059060	54222	3M059090	54298
60	180	7.087	3M060060	54223	3M060090	54299
65	195	7.677	3M065060	54224	3M065090	54300
67	201	7.913	3M067060	54225	3M067090	54301
68	204	8.031	3M068060	54226	3M068090	54302
69	207	8.150	3M069060	54227	3M069090	54303
70	210	8.268	3M070060	54228	3M070090	54304
71	213	8.386	3M071060	54229	3M071090	54305
75	225	8.858	3M075060	54230	3M075090	54306
78	234	9.213	3M078060	54231	3M078090	54307
80	240	9.449	3M080060	54232	3M080090	54308
84	252	9.921	3M084060	54233	3M084090	54309
85	255	10.039	3M085060	54234	3M085090	54310
89	267	10.512	3M089060	54236	3M089090	54312
90	270	10.630	3M090060	54237	3M090090	54313
92	276	10.866	3M092060	54238	3M092090	54314
94	282	11.102	3M094060	54239	3M094090	54315
95	285	11.220	3M095060	54240	3M095090	54316
96	288	11.339	3M096060	54241	3M096090	54317
97	291	11.457	3M097060	54242	3M097090	54318
99	297	11.693	3M099060	54243	3M099090	54319
100	300	11.811	3M100060	54244	3M100090	54320
104	312	12.283	3M104060	54245	3M104090	54321
106	318	12.520	3M106060	54246	3M106090	54322
111	333	13.110	3M111060	54247	3M111090	54323
112	336	13.228	3M112060	54248	3M112090	54324
113	339	13.346	3M113060	54249	3M113090	54325
115	345	13.583	3M115060	54250	3M115090	54326
119	357	14.055	3M119060	54251	3M119090	54327

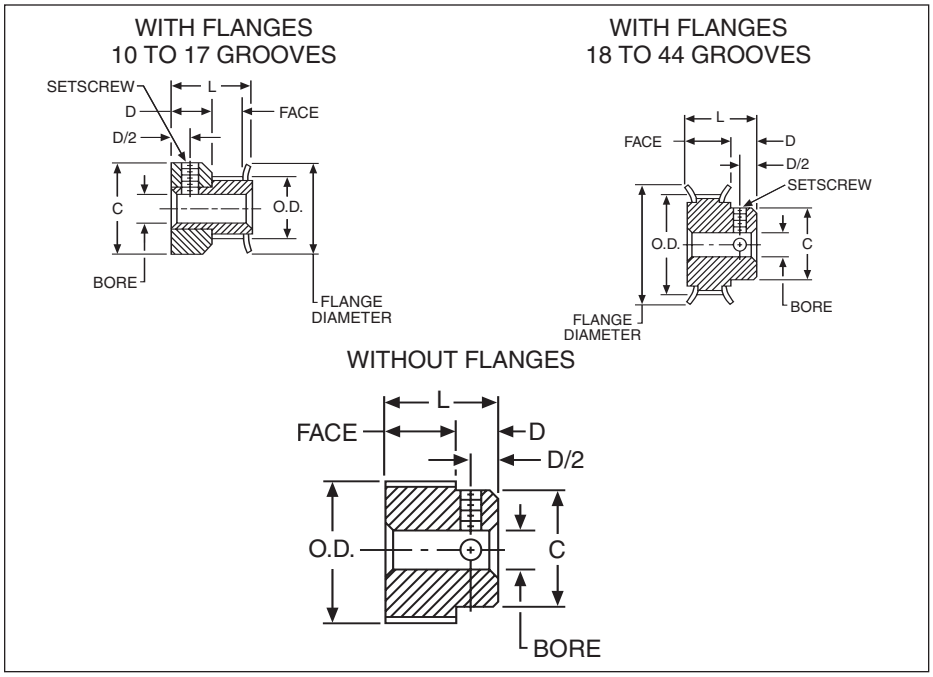
Number of Grooves	Pitch Length		6mm Belt Width		9mm Belt Width	
	mm	Inch	Catalog Number	Item Code	Catalog Number	Item Code
121	363	14.291	3M121060	54252	3M121090	54328
128	384	15.118	3M128060	54253	3M128090	54329
130	390	15.354	3M130060	54254	3M130090	54330
132	396	15,591	3M132060	54255	3M132090	54331
140	420	16.535	3M140060	54256	3M140090	54332
145	435	17.126	3M145060	54257	3M145090	54333
149	447	17.598	3M149060	54258	3M149090	54334
153	459	18.071	3M153060	54259	3M153090	54335
155	465	18.307	3M155060	54260	3M155090	54336
158	474	18.661	3M158060	54261	3M158090	54337
160	480	18.898	3M160060	54262	3M160090	54338
162	486	19.134	3M162060	54263	3M162090	54339
163	489	19.252	3M163060	54264	3M163090	54340
167	501	19.724	3M167060	54265	3M167090	54341
171	513	20.197	3M171060	54266	3M171090	54342
175	525	20.670	3M175060	54267	3M175090	54343
177	531	20.905	3M177060	54268	3M177090	54344
179	537	21.142	3M179060	54269	3M179090	54345
188	564	22.205	3M188060	54270	3M188090	54346
192	576	22.677	3M192060	54271	3M192090	54347
199	597	23.504	3M199060	54272	3M199090	54348
200	600	23.622	3M200060	54273	3M200090	54349
204	612	24.094	3M204060	54274	3M204090	54350
211	633	24.921	3M211060	54275	3M211090	54351
223	669	26.338	3M223060	54276	3M223090	54352
237	711	27.992	3M237060	54277	3M237090	54353
250	750	29.527	3M250060	54278	3M250090	54354
251	753	29.646	3M251060	54279	3M251090	54355
294	892	34.724	3M294060	54280	3M294090	54356
315	945	37.205	3M315060	54281	3M315090	54357
354	1062	41.811	3M354060	54282	3M354090	54358
375	1125	44.291	3M375060	54283	3M375090	54360
415	1245	49.016	3M415060	54284	3M415090	54361
421	1263	49.724	3M421060	54285	3M421090	54362
500	1500	59.055	3M500060	54286	3M500090	54363
510	1530	60.235	3M510060	54287	3M510090	54364
621	1863	73.346	3M621060	54288	3M621090	54365

3MM PITCH ALUMINUM

PA SERIES FOR 6MM WIDE BELTS



ALUMINUM ALLOY – CLEAR ANODIZED
COMPLETE WITH SETSCREWS



STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.001 to –.000
	10-26 Grooves	+.002 to –.000
O.D.	28-48 Grooves	+.003 to –.000
	60-72 Grooves	+.004 to –.000

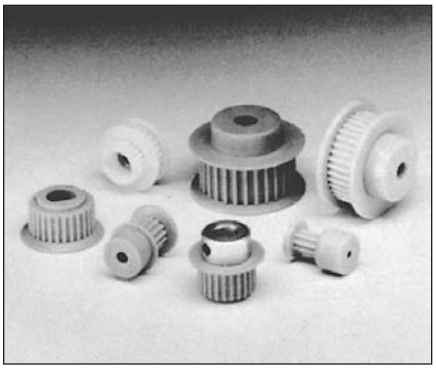
ORDER BY CATALOG NUMBER OR ITEM CODE

Number of Grooves	Pitch Dia.	O.D.	B	Face Width	C	D	L	Flange Dia.	Setscrew*	With Flanges		Without Flanges	
										Catalog Number	Item Code	Catalog Number	Item Code
10	.376	.346	.125	.282	.505	15/64	9/16	.505	#4–40	PA3010DF060	54448	–	–
11	.414	.384			.530			.530		PA3011DF060	54449	–	–
12	.451	.421	.1875		.580			.580	#6–40	PA3012DF060	54450	–	–
13	.489	.459			.610			.610		PA3013DF060	54451	–	–
14	.526	.496			.635			.635		PA3014DF060	54452	–	–
15	.564	.534			.685			.685		PA3015DF060	54453	–	–
16	.602	.572			.710			.710		PA3016DF060	54454	–	–
17	.639	.609			.740			.740		PA3017DF060	54455	–	–
18	.677	.647	.250	.386	.442	19/64	11/16	.790	#8–32	PA3018DF060	54456	PA3018NF060	54471
19	.714	.684			.468			.815		PA3019DF060	54457	PA3019NF060	54472
20	.752	.722			.500			.895		PA3020DF060	54458	PA3020NF060	54473
22	.827	.797			.562			.945		PA3022DF060	54459	PA3022NF060	54474
24	.902	.872			.625			1.025		PA3024DF060	54460	PA3024NF060	54475
25	.940	.910			.625			1.060		PA3025DF060	54461	PA3025NF060	54476
26	.977	.947			.625			1.105		PA3026DF060	54462	PA3026NF060	54477
28	1.053	1.023			.701			1.173		PA3028DF060	54463	PA3028NF060	54478
30	1.128	1.098			.776			1.250		PA3030DF060	54464	PA3030NF060	54479
32	1.203	1.173			.851			1.323		PA3032DF060	54465	PA3032NF060	54480
34	1.278	1.248		.407	.921		23.32	1.398		PA3034DF060	54466	PA3034NF060	54481
36	1.353	1.323			1.000			1.473		PA3036DF060	54467	PA3036NF060	54482
38	1.429	1.399			1.075			1.549		PA3038DF060	54468	PA3038NF060	54483
40	1.504	1.474			1.150			1.625		PA3040DF060	54469	PA3040NF060	54484
44	1.654	1.624			1.300			1.775		PA3044DF060	54470	PA3044NF060	54485
48	1.805	1.775	.3125		1.250	21/64	47/64	–		–	–	PA3048NF060	54486
50	1.880	1.850						–		–	–	PA3050NF060	54487
56	2.105	2.075						–		–	–	PA3056NF060	54488
60	2.256	2.226						–		–	–	PA3060NF060	54489
62	2.331	2.301						–		–	–	PA3062NF060	54490
72	2.707	2.677						–		–	–	PA3072NF060	54991

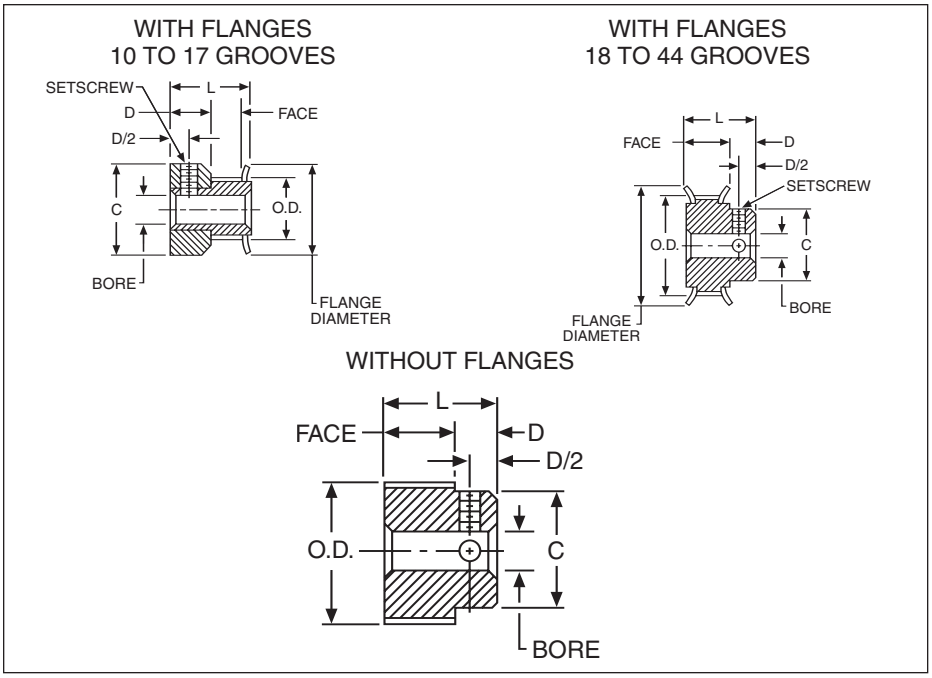
*Pulleys with 10 to 13 grooves have one setscrew. All others have two at 90°

3MM PITCH ALUMINUM

PA SERIES FOR 9MM WIDE BELTS



ALUMINUM ALLOY – CLEAR ANODIZED
COMPLETE WITH SETSCREWS



STANDARD TOLERANCES

Dimensions		Tolerance
Bore	All	+.001 to –.000
	10-26 Grooves	+.002 to –.000
O.D.	28-48 Grooves	+.003 to –.000
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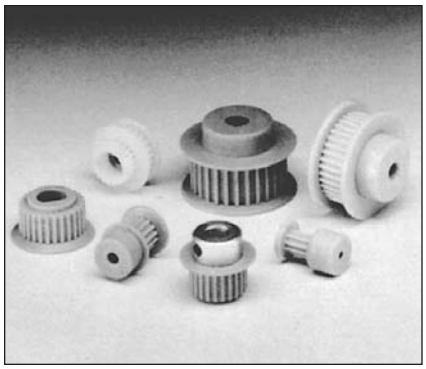
Number of Grooves	Pitch Dia.	O.D.	B	Face Width	C	D	L	Flange Dia.	Setscrew*	With Flanges		Without Flanges	
										Catalog Number	Item Code	Catalog Number	Item Code
10	.376	.346	.125	.401	.505	15/64	11/16	.505	#4–40	PA3010DF090	54492	–	–
11	.414	.384			.530			.530		PA3011DF090	54493	–	–
12	.451	.421	.1875		.580			.580	#6–40	PA3012DF090	54494	–	–
13	.489	.459			.610			.610		PA3013DF090	54495	–	–
14	.526	.496			.635			.635		PA3014DF090	54496	–	–
15	.564	.534			.685			.685		PA3015DF090	54497	–	–
16	.602	.572			.710			.710		PA3016DF090	54498	–	–
17	.639	.609			.740			.740		PA3017DF090	54499	–	–
18	.677	.647	.250	.506	.442	19/64	13/16	.790	#8–32	PA3018DF090	54500	PA3018NF090	54515
19	.714	.684			.468			.815		PA3019DF090	54501	PA3019NF090	54516
20	.752	.722			.500			.895		PA3020DF090	54502	PA3020NF090	54517
22	.827	.797			.562			.945		PA3022DF090	54503	PA3022NF090	54518
24	.902	.872			.625			1.025		PA3024DF090	54504	PA3024NF090	54519
25	.940	.910			.625			1.060		PA3025DF090	54505	PA3025NF090	54520
26	.977	.947			.625			1.105		PA3026DF090	54506	PA3026NF090	54521
28	1.053	1.023			.701			1.173		PA3028DF090	54507	PA3028NF090	54522
30	1.128	1.098			.776			1.250		PA3030DF090	54508	PA3030NF090	54523
32	1.203	1.173			.851			1.323		PA3032DF090	54509	PA3032NF090	54524
34	1.278	1.248			.921			1.398		PA3034DF090	54510	PA3034NF090	54525
36	1.353	1.323		.527	1.000		27/32	1.473		PA3036DF090	54511	PA3036NF090	54526
38	1.429	1.399			1.075			1.549		PA3038DF090	54512	PA3038NF090	54527
40	1.504	1.474			1.150			1.625		PA3040DF090	54513	PA3040NF090	54528
44	1.654	1.624			1.300			1.775		PA3044DF090	54514	PA3044NF090	54529
48	1.805	1.775	.3125	.500	1.250	3/8	7/8	–		–	–	PA3048NF090	54530
50	1.880	1.850						–		–	–	PA3050NF090	54531
56	2.105	2.075						–		–	–	PA3056NF090	54532
60	2.256	2.226						–		–	–	PA3060NF090	54533
62	2.331	2.301						–		–	–	PA3062NF090	54534
72	2.707	2.677						–		–	–	PA3072NF090	54535

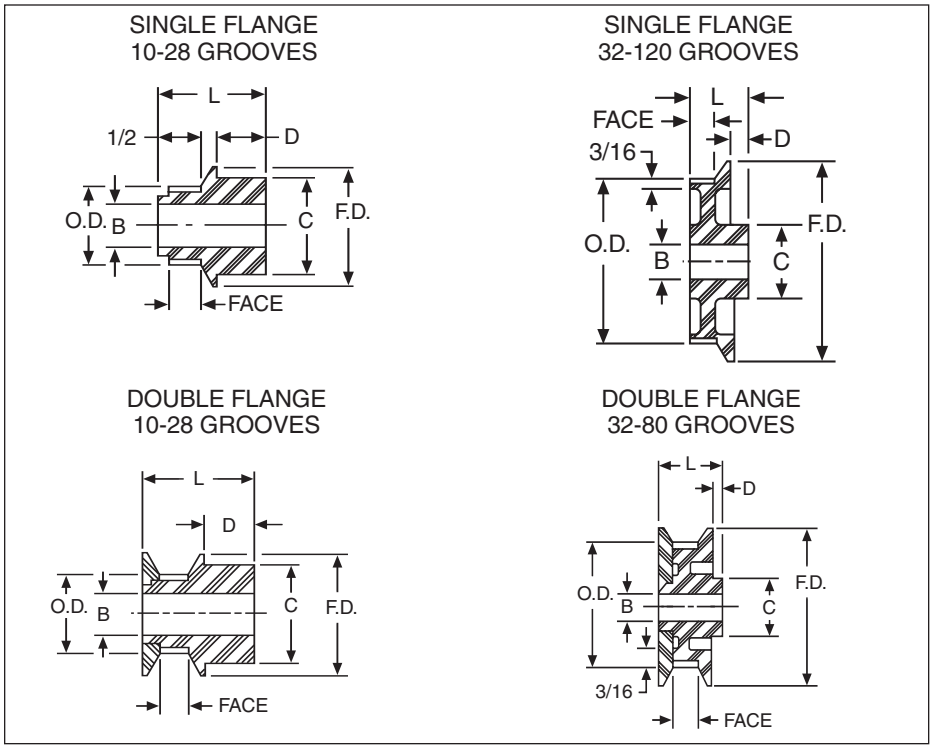
*Pulleys with 10 to 13 grooves have one setscrew. All others have two at 90°

3MM PITCH
LEXAN

PL SERIES
FOR 9MM WIDE BELTS



LEXAN – FIBERGLASS REINFORCED



STANDARD TOLERANCES

Dimension		Tolerances
Bore	All	+.001 to –.000

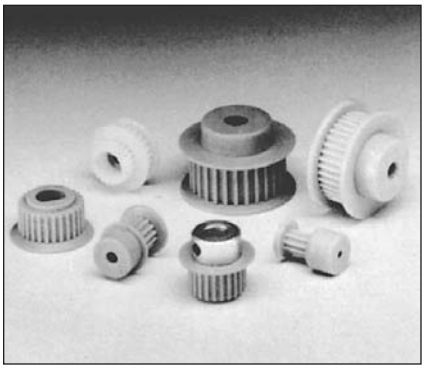
ORDER BY CATALOG NUMBER OR ITEM CODE

Number of Grooves	Pitch Dia.	O.D.	B	Face Width	C	D	L	Flange Dia.	Single Flange		Double Flange	
									Catalog Number	Item Code	Catalog Number	Item Code
10	.376	.346	3/16	7/16	5/8	1/4	3/4*	.63	PL3010SF090	54536	PL3010DF090	54560
11	.414	.384							PL3011SF090	54537	PL3011DF090	54561
12	.451	.421							PL3012SF090	54538	PL3012DF090	54562
13	.489	.459			11/16			.69	PL3013SF090	54539	PL3013DF090	54563
14	.526	.496							PL3014SF090	54540	PL3014DF090	54564
15	.564	.534					13/16	.73	PL3015SF090	54541	PL3015DF090	54565
16	.602	.572						.78	PL3016SF090	54542	PL3016DF090	54566
17	.639	.609						.87	PL3017SF090	54543	PL3017DF090	54567
18	.677	.647						.93	PL3018SF090	54544	PL3018DF090	54568
19	.714	.684						.93	PL3019SF090	54545	PL3019DF090	54569
20	.752	.722						.93	PL3020SF090	54546	PL3020DF090	54570
22	.827	.797						1.06	PL3022SF090	54547	PL3022DF090	54571
25	.940	.910	1/4		3/4			1.19	PL3025SF090	54548	PL3025DF090	54572
28	1.053	1.023						1.24	PL3028SF090	54549	PL3028DF090	54573
32	1.203	1.173			7/8			1.44	PL3032SF090	54550	PL3032DF090	54574
36	1.353	1.323						1.57	PL3036SF090	54551	PL3036DF090	54575
40	1.504	1.474						1.76	PL3040SF090	54552	PL3040DF090	54576
48	1.805	1.775						2.02	PL3048SF090	54553	PL3048DF090	54577
60	2.256	2.226	5/16			5/16	13/16**	2.46	PL3060SF090	54554	PL3060DF090	54578
72	2.707	2.677						2.92	PL3072SF090	54555	PL3072DF090	54579
80	3.008	2.978						3.29	PL3080SF090	54556	PL3080DF090	54580
84	3.158	3.128					13/16	3.38	PL3084SF090	54557	–	–
96	3.609	3.579			1			3.83	PL3096SF090	54558	–	–
120	4.511	4.481	3/8	1/2		3/8	7/8	–	PL3120NF090†	54559	–	–

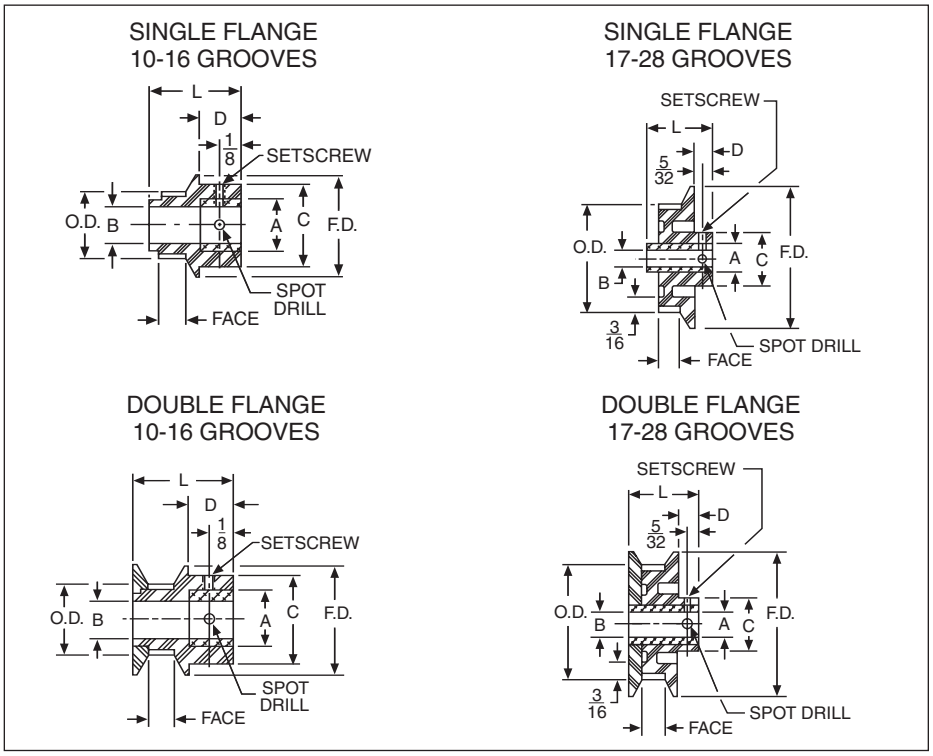
*13/16" for Double Flanges
**7/8" for Double Flanges
†No Flange

3MM PITCH
LEXAN

PLB SERIES
FOR 9MM WIDE BELTS



LEXAN – FIBERGLASS REINFORCED
KNURLED ALUMINUM INSERTS
COMPLETE WITH SETSCREWS



STANDARD TOLERANCES

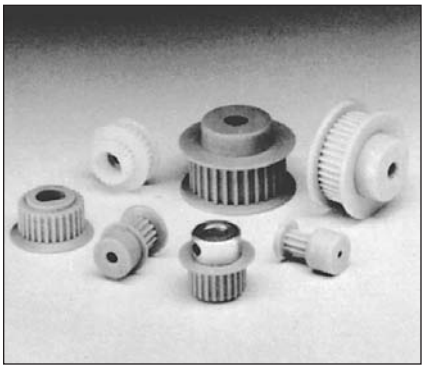
Dimension		Tolerance
Bore	All	+.001 to –.000

ORDER BY CATALOG NUMBER OR ITEM CODE

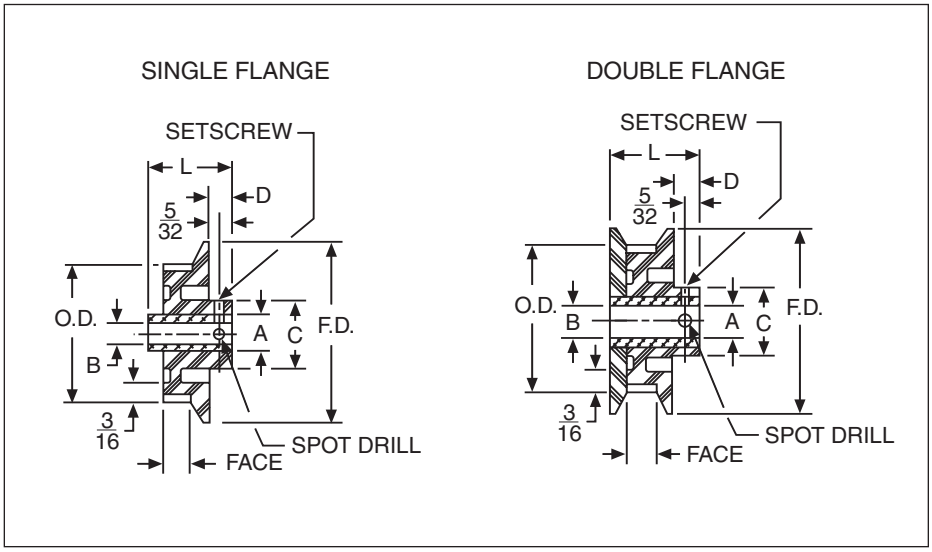
Number of Grooves	Pitch Dia.	O.D.	B	Face Width	C	D	Insert Dia.	L	Flange Dia.	Set-screw	Single Flange		Double Flanges	
											Catalog Number	Item Code	Catalog Number	Item Code
10	.376	.346			5/8			3/4	.63		PLB3010SF090	54581	PLB3010DF090	54633
11	.414	.384									PLB3011SF090	54582	PLB3011DF090	54634
12	.451	.421									PLB3012SF090	54583	PLB3012DF090	54635
13	.489	.459	3/16								PLB3013SF090	54584	PLB3013DF090	54636
14	.526	.496							.69		PLB3014SF090	54585	PLB3014DF090	54637
15	.564	.534							.73		PLB3015SF090	54586	PLB3015DF090	54638
16	.602	.572							.78		PLB3016SF090	54587	PLB3016DF090	54639
17	.639	.609	3/16 1/4				3/8		.87	#6–32	PLB3017SF09-3/16 PLB3017SF09-1/4	54588 54589	PLB3017DF09-3/16 PLB3017DF09-1/4	54640 54641
18	.677	.647	3/16 1/4		11/16	1/4			.93		PLB3018SF09-3/16 PLB3018SF09-1/4	54590 54591	PLB3018DF09-3/16 PLB3018DF09-1/4	54642 54643
19	.714	.684	3/16	7/16							PLB3019SF09-3/16 PLB3019SF-09-1/4	54592 54593	PLB3019DF09-3/16 PLB3019DF09-1/4	54644 54645
20	.752	.722	3/16 1/4					13/16			PLB3020SF09-3/16 PLB3020SF09-1/4	54594 54595	PLB3020DF09-3/16 PLB3020DF09-1/4	54646 54647
22	.827	.797	3/16						1.06		PLB3022SF09-3/16	54596	PLB3022DF09-3/16	54649
25	.940	.910	1/4 5/16 3/8		3/4		1/2		1.19	#8–32	PLB3025SF09-1/4 PLB3025SF09-5/16 PLB3025SF09-3/8	54598 54599 54600	PLB3025DF09-1/4 PLB3025DF09-5/16 PLB3025DF09-3/8	54650 54651 54652
28	1.053	1.023	1/4 5/16 3/8						1.24		PLB3028SF09-1/4 PLB3028SF09-5/16 PLB3028SF09-3/8	54601 54602 54603	PLB3028DF09-1/4 PLB3028DF09-5/16 PLB3028DF09-3/8	54653 54654 54655

3MM PITCH
LEXAN

PLB SERIES
FOR 9MM WIDE BELTS



LEXAN – FIBERGLASS REINFORCED
KNURLED ALUMINUM INSERTS
COMPLETE WITH SETSCREWS



STANDARD TOLERANCES

Dimension		Tolerance
Bore	All	+.001 to –.000

ORDER BY CATALOG NUMBER OR ITEM CODE

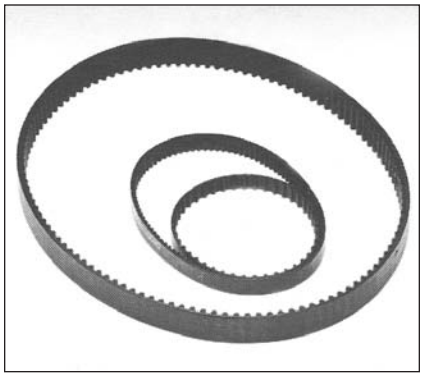
Number of Grooves	Pitch Dia.	O.D.	B	Face Width	C	D	Insert Dia.	L	Flange Dia.	Set-screw	Single Flange		Double Flanges	
											Catalog Number	Item Code	Catalog Number	Item Code
32	1.203	1.173	1/4 5/16 3/8	7/16	3/4	1/4	1/2	13/16	1.44	#8–32	PLB3032SF09-1/4 PLB3032SF09-5/16 PLB3032SF09-3/8	54604 54605 54606	PLB3032DF09-1/4 PLB3032DF09-5/16 PLB3032DF09-3/8	54656 54657 54658
36	1.353	1.323	1/4 5/16 3/8		7/8				1.57		PLB3036SF09-1/4 PLB3036SF09-5/16 PLB3036SF09-3/8	54607 54608 54609	PLB3036DF09-1/4 PLB3036DF09-5/16 PLB3036DF09-3/8	54659 54660 54661
40	1.504	1.474	1/4 5/16 3/8						1.76		PLB3040SF09-1/4 PLB3040SF09-5/16 PLB3040SF09-3/8	54610 54611 54612	PLB3040DF09-1/4 PLB3040DF09-5/16 PLB3040DF09-3/8	54662 54663 54664
48	1.805	1.775	1/4 5/16 3/8						2.02		PLB3048SF09-1/4 PLB3048SF09-5/16 PLB3048SF09-3/8	54613 54614 54615	PLB3048DF09-1/4 PLB3048DF09-5/16 PLB3048DF09-3/8	54665 54666 54667
60	2.256	2.226	5/16 3/8 1/2			5/16	5/8	13/16†	2.46	#10–32	PLB3060SF09-5/16 PLB3060SF09-3/8 PLB3060SF09-1/2	54616 54617 54618	PLB3060DF09-5/16 PLB3060DF09-3/8 PLB3060DF09-1/2	54668 54669 54670
72	2.707	2.677	5/16 3/8 1/2						2..92		PLB3072SF09-5/16 PLB3072SF09-3/16 PLB3072SF09-1/2	54619 54620 54621	PLB3072DF09-5/16 PLB3072DF09-3/8 PLB3072DF09-1/2	54671 54672 54673
80	3.008	2.978	5/16 3/8 1/2						3.29		PLB3080SF09-5/16 PLB3080SF09-3/8 PLB3080SF09-1/2	54622 54623 54624	PLB3080DF09-5/16 PLB3020DF09-3/8 PLB3080DF09-1/2	54674 54675 54676
84	3.158	3.128	5/16 3/8 1/2					13/16	3.38		PLB3084SF09-5/16 PLB3084SF09-3/8 PLB3084SF09-1/2	54625 54626 54627	– – –	– – –
96	3.609	3.579	5/16 3/8 1/2		1				3.83		PLB3096SF09-5/16 PLB3096SF09-3/8 PLB3096SF09-1/2	54628 54629 54630	– – –	– – –
120	4.511	4.481	3/8 1/2	1/2		3/8		7/8	–		PLB3120NF09-3/8* PLB3120NF09-1/2*	54631 54632	– –	– –

†7/8" for Double Flange
*No Flange

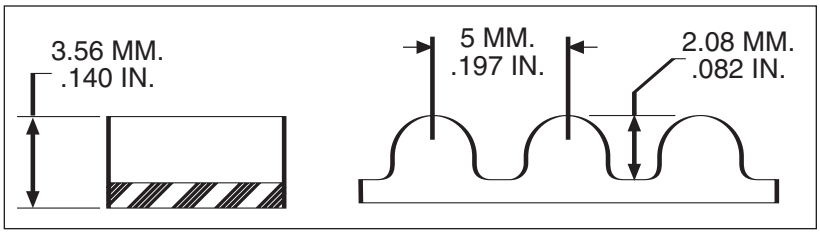
MINIATURE HTD® TIMING BELTS

5MM PITCH

5M SERIES
9 AND 15MM WIDTHS



NEOPRENE–NYLON COVERED, FIBERGLASS REINFORCED
AMBIENT TEMPERATURE RANGE— –18°C TO +85°C
BREAKING STRENGTH–6 mm WIDTH – 234 KGS
9 mm WIDTH – 390 KGS



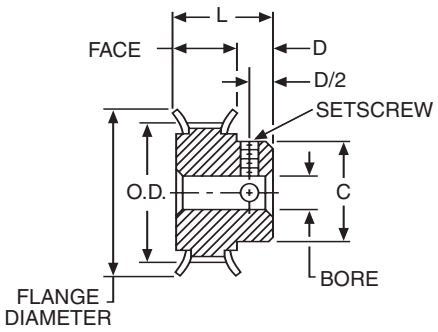
ORDER BY CATALOG NUMBER OR ITEM CODE

Number of Grooves	Pitch Length		9mm Belt Width		15mm Belt Width	
	mm	Inch	Catalog Number	Item Code	Catalog Number	Item Code
64	320	12.598	–	–	5M064150	54407
66	330	12.992	5M066090	54367	5M066150	54408
70	350	13.779	5M070090	54368	5M070150	54409
75	375	14.764	5M075090	54369	5M075150	54410
80	400	15.748	5M080090	54370	5M080150	54411
85	425	16.732	5M085090	54371	5M085150	54412
90	450	17.716	5M090090	54372	5M090150	54413
95	475	18.700	5M095090	54373	5M095150	54414
100	500	19.685	5M100090	54374	5M100150	54415
107	535	21.063	5M107090	54376	5M107150	54417
113	565	22.244	5M113090	54377	5M113150	54418
120	600	23.622	5M120090	54378	5M120150	54419
123	615	24.213	5M123090	54379	5M123150	54420
127	635	25.000	5M127090	54380	5M127150	54421
133	665	26.181	5M133090	54381	5M133150	54422
134	670	26.378	5M134090	54382	5M134150	54423
142	710	27.953	5M142090	54383	5M142150	54424
148	740	29.134	5M148090	54384	5M148150	54425
151	755	29.724	5M151090	54385	5M151150	54426
160	800	31.596	5M160090	54386	5M160150	54427
166	830	32.677	5M166090	54387	5M166150	54428
167	835	32.874	5M167090	54388	5M167150	54429
170	850	33.464	5M170090	54389	5M170150	54430
178	890	35.039	5M178090	54390	5M178150	54431
185	925	36.417	5M185090	54390	5M185150	54432
186	930	36.614	5M186090	54392	5M186150	54433
190	950	37.401	5M190090	54393	5M190150	54434
200	1000	39.370	5M200090	54394	5M200150	54435
210	1050	41.339	5M210090	54395	5M210150	54436
225	1125	44.291	5M225090	54396	5M225150	54437
254	1270	50.000	5M254090	54397	5M254150	54438
284	1420	55.905	5M284090	54398	5M284150	54439
319	1595	62.795	5M319090	54399	5M319150	54440
358	1790	70.472	5M358090	54400	5M358150	54441
360	1800	70.866	5M360090	54401	5M360150	54442
374	1870	73.622	5M374090	54402	5M374150	54443
379	1895	74.606	5M379090	54403	5M379150	54444
389	1945	76.575	5M389090	54404	5M389150	54445
400	2000	78.740	5M400090	54405	5M400150	54446
505	2525	99.409	5M505090	54406	5M505150	54447

®Registered trademark of UNIROYAL, INC.

5MM PITCH ALUMINUM

PA SERIES FOR 9MM WIDE BELTS



STANDARD TOLERANCES

Dimension		Tolerance
Bore	All	+.001 to –.000
O.D.	12-16 Grooves	+.002 to –.000
	17-32 Grooves	+.003 to –.000
	34-62 Grooves	+.004 to –.000
	72 Grooves	+.005 to –.000

ALUMINUM ALLOY – CLEAR ANODIZED
COMPLETE WITH SETSCREWS

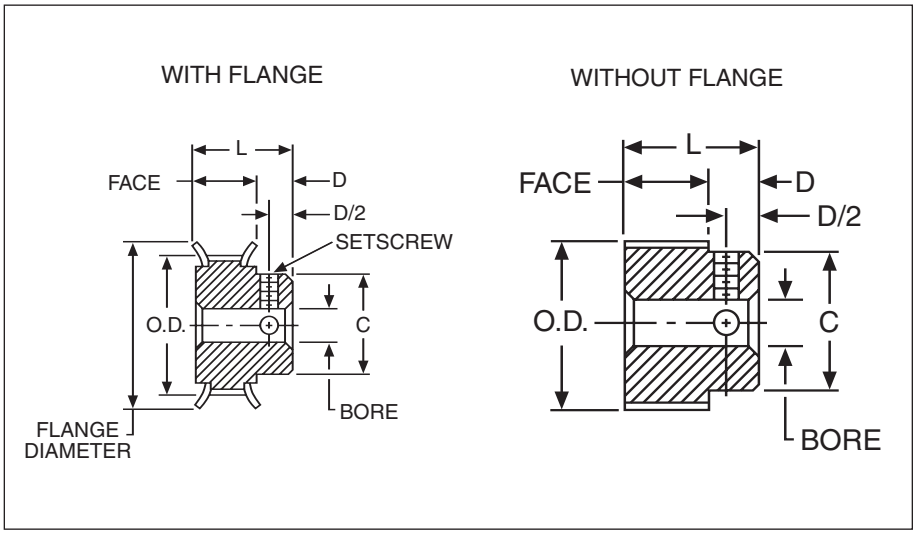
ORDER BY CATALOG NUMBER OR ITEM CODE

Number of Grooves	Pitch Dia.	O.D.	B	Face Width	C	D	L	Flange Dia.	Setscrew*	With Flanges		Without Flanges	
										Catalog Number	Item Code	Catalog Number	Item Code
12	.752	.707	.250	35/64	7/16	1/4	51/64	7/8	#8–32	PA5012DF090	54677	PA5012NF090	56494
13	.815	.770			1/2			15/16		PA5013DF090	54678	PA5013NF090	56495
14	.877	.832			1/2			1		PA5014DF090	54679	PA5014NF090	56496
15	.940	.895			9/16			1-1/16		PA5015DF090	54680	PA5015NF090	56497
16	1.003	.958			9/16			1-3/32		PA5016DF090	54681	PA5016NF090	56498
17	1.065	1.020			5/8			1-3/16		PA5017DF090	54682	PA5017NF090	56499
18	1.128	1.083			11/16			1-1/4		PA5018DF090	54683	PA5018NF090	54700
19	1.191	1.146			3/4			1-5/16		PA5019DF090	54684	PA5019NF090	54701
20	1.253	1.208			13/16			1-3/8		PA5020DF090	54685	PA5020NF090	54702
22	1.379	1.334			15/16			1-1/2		PA5022DF090	54686	PA5022NF090	54703
24	1.504	1.459			1	5/16	55/64	1-5/8		PA5024DF090	54687	PA5024NF090	54704
25	1.566	1.521			1			1-11/16		PA5025DF090	54688	PA5025NF090	54705
26	1.629	1.584			1-1/16			1-3/4		PA5026DF090	54689	PA5026NF090	54706
28	1.754	1.709			1-3/16			1-7/8		PA5028DF090	54690	PA5028NF090	54707
30	1.880	1.835			1-3/16			2		PA5030DF090	54691	PA5030NF090	54708
32	2.005	1.960			1-1/4			2-1/8		PA5032DF090	54692	PA5032NF090	54709
34	2.130	2.085			1-3/8			2-1/4		PA5034DF090	54693	PA5034NF090	54710
36	2.256	2.211	.3125		1-1/2	25/64	15/16	–		–	–	PA5036NF090	54711
38	2.381	2.336						–		–	–	PA5038NF090	54712
40	2.506	2.461						–		–	–	PA5040NF090	54713
44	2.757	2.712						–		–	–	PA5044NF090	54714
48	3.008	2.963	.375					–	#10–32	–	–	PA5048NF090	54715
50	3.133	3.088						–		–	–	PA5050NF090	54716
56	3.509	3.464						–		–	–	PA5056NF090	54717
60	3.760	3.715						–		–	–	PA5060NF090	54718
62	3.885	3,840						–		–	–	PA5062NF090	54719
72	4.511	4.466						–		–	–	PA5072NF090	54720

*Pulleys with 12 and13 grooves have one setscrew. All others have two at 90°

5MM PITCH ALUMINUM

PA SERIES FOR 15MM WIDE BELTS



STANDARD TOLERANCES

Dimension		Tolerance
Bore	All	+.001 to –.000
O.D.	12-16 Grooves	+.002 to –.000
	17-32 Grooves	+.003 to –.000
	34-62 Grooves	+.004 to –.000
	72 Grooves	+.005 to –.000

ALUMINUM ALLOY – CLEAR ANODIZED†
COMPLETE WITH SETSCREWS

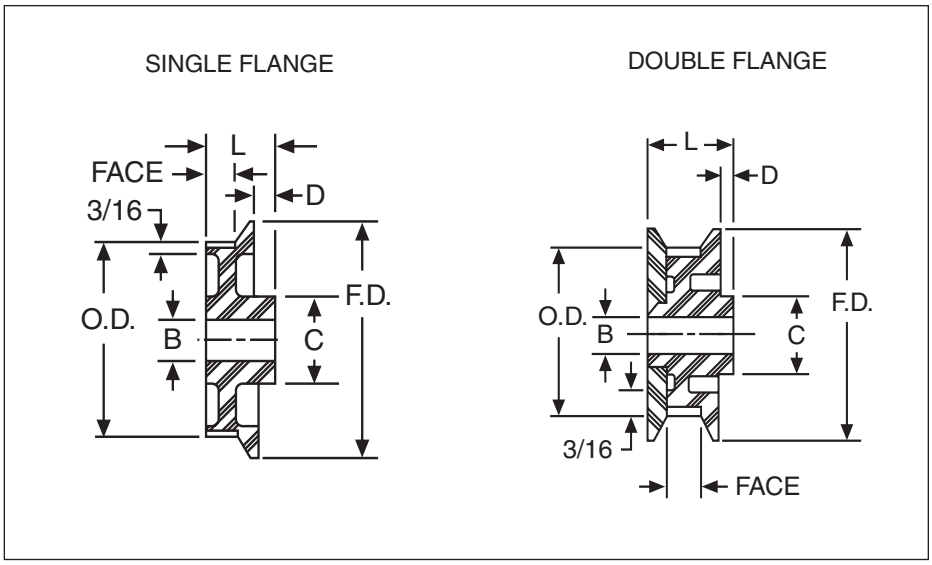
ORDER BY CATALOG NUMBER OR ITEM CODE

Number of Grooves	Pitch Dia.	O.D.	B	Face Width	C	D	L	Flange Dia.	Setscrew*	With Flanges		Without Flanges	
										Catalog Number	Item Code	Catalog Number	Item Code
12	.752	.707			7/16			7/8		PA5012DF150	54721	PA5012NF150	54738
13	.815	.770			1/2			15/16		PA5013DF150	54722	PA5013NF150	54739
14	.877	.832			1/2			1		PA5014DF150	54723	PA5014NF150	54740
15	.940	.895			9/16			1-1/16		PA5015DF150	54724	PA5015NF150	54741
16	1.003	.958			9/16	1/4	1-1/32	1-3/32		PA5016DF150	54725	PA5016NF150	54742
17	1.065	1.020			5/8			1-3/16		PA5017DF150	54726	PA5017NF150	54743
18	1.128	1.083			11/16			1-1/4		PA5018DF150	54727	PA5018NF150	54744
19	1.191	1.146			3/4			1-5/16		PA5019DF150	54728	PA5019NF150	54745
20	1.253	1.208	.250		13/16			1-3/8		PA5020DF150	54729	PA5020NF150	54746
22	1.379	1.334			15/16			1-1/2		PA5022DF150	54730	PA5022NF150	54747
24	1.504	1.459			1			1-5/8	#8–32	PA5024DF150	54731	PA5024NF150	54748
25	1.566	1.521			1			1-11/16		PA5025DF150	54732	PA5025NF150	54749
26	1.629	1.584			1-1/16			1-3/4		PA5026DF150	54733	PA5026NF150	54750
28	1.754	1.709		25/32	1-3/16	5/16	1-3/32	1-7/8		PA5028DF150	54734	PA5028NF150	54751
30	1.880	1.835			1-3/16			2		PA5030DF150	54735	PA5030NF150	54752
32	2.005	1.960			1-1/4			2-1/8		PA5032DF150	54736	PA5032NF150	54753
34	2.130	2.085			1-3/8			2-1/4		PA5034DF150	54737	PA5034NF150	54754
36	2.256	2.211						–		–	–	PA5036NF150	54755
38	2.381	2.336	.3125					–		–	–	PA5038NF150	54756
40	2.506	2.461						–		–	–	PA5040NF150	54757
44	2.757	2.712						–		–	–	PA5044NF150	54758
48	3.008	2.963			1-1/2	13/32	1-3/16	–		–	–	PA5048NF150	54759
50	3.133	3.088						–		–	–	PA5050NF150	54760
56	3.509	3.464	.375					–	#10–32	–	–	PA5056NF150	54761
60	3.760	3.715						–		–	–	PA5060NF150	54762
62	3.885	3,840						–		–	–	PA5062NF150	54763
72	4.511	4.466						–		–	–	PA5072NF150	54764

*Pulleys with 12 and13 grooves have one setscrew. All others have two at 90°
†44-72 grooves, material is A356-T6 (cast).

5MM PITCH
LEXAN

PL SERIES
FOR 9MM WIDE BELTS



STANDARD TOLERANCES

Dimension		Tolerances
Bore	All	+.001 to –.000

LEXAN – FIBERGLASS REINFORCED

ORDER BY CATALOG NUMBER OR ITEM CODE

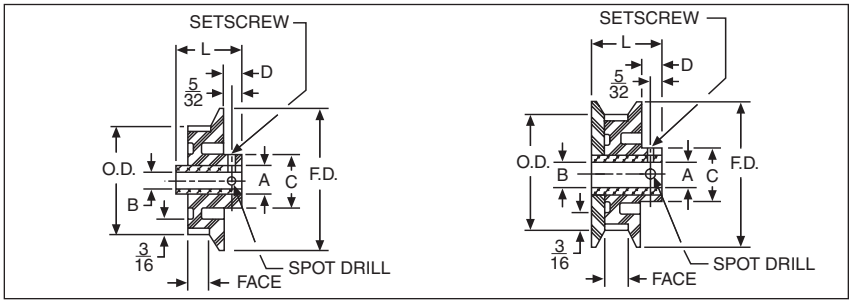
Number of Grooves	Pitch Dia.	O.D.	B	Face Width	C	D	L	Flange Dia.	Single Flange		Double Flange	
									Catalog Number	Item Code	Catalog Number	Item Code
11	.689	.644	3/16	7/16	11/16	3/4*	13/16	.87	PL5011SF090	54765	PL5011DF090	54782
12	.752	.707						.93	PL5012SF090	54766	PL5012DF090	54783
13	.815	.770						.99	PL5013SF090	54767	PL5013DF090	54784
14	.877	.832						1.06	PL5014SF090	54768	PL5014DF090	54785
15	.940	.895	1/4		3/4	1/4		1.19	PL5015SF090	54769	PL5015DF090	54786
16	1.003	.958						1.19	PL5016SF090	54770	PL5016DF090	54787
17	1.065	1.020						1.24	PL5017SF090	54771	PL5017DF090	54788
18	1.128	1.083						1.31	PL5018SF090	54772	PL5018DF090	54789
19	1.191	1.146						1.38	PL5019SF090	54773	PL5019DF090	54790
20	1.253	1.208						1.44	PL5020SF090	54774	PL5020DF090	54791
22	1.379	1.334			7/8			1.57	PL5022SF090	54775	PL5022DF090	54792
25	1.566	1.521						1.76	PL5025SF090	54776	PL5025DF090	54793
28	1.754	1.709						1.95	PL5028SF090	54777	PL5028DF090	54794
29	1.817	1.772						2.02	PL5029SF090	54778	PL5029DF090	54795
30	1.880	1.835						2.08	PL5030SF090	54779	PL5030DF090	54796
40	2.506	2.461	5/16			5/16	13/16*	2.71	PL5040SF090	54780	PL5040DF090	54797
50	3.133	3.088						3.29	PL5050SF090	54781	PL5050DF090	54798

*7/8" for Double Flange.

5MM PITCH
LEXAN

PLB SERIES
FOR 9MM WIDE BELTS

LEXAN – FIBERGLASS REINFORCED
KNURLED ALUMINUM INSERTS
COMPLETE WITH SETSCREWS



STANDARD TOLERANCES

Dimension		Tolerance
Bore	All	+.001 to –.000

ORDER BY CATALOG NUMBER OR ITEM CODE

Number of Grooves	Pitch Dia.	O.D.	B	Face Width	C	D	Insert Dia.	L	Flange Dia.	Set-screw*	Single Flange		Double Flanges	
											Catalog Number	Item Code	Catalog Number	Item Code
11	.689	.644	3/16 1/4	7/16	11/16	1/4	3/8	13/16	.87	#6–32	PLB5011SF09-3/16 PLB5011SF09-1/4	54799 54800	PLB5011DF09-3/16 PLB5011DF09-1/4	54846 54847
12	.752	.707	3/16 1/4						.93		PLB5012SF09-3/16 PLB5012SF09-1/4	54801 54802	PLB5012DF09-3/16 PLB5012DF09-1/4	54848 54849
13	.815	.770	3/16 1/4						.99		PLB5013SF09-3/16 PLB5013SF09-1/4	54803 54804	PLB5013DF09-3/16 PLB5013DF09-1/4	54850 54851
14	.877	.832	3/16 1/4						1.06		PLB5014SF09-3/16 PLB5014SF09-1/4	54805 54806	PLB5014DF09-3/16 PLB5014DF09-1/4	54852 54853
15	.940	.895	1/4 5/16 3/8		3/4		1/2		1.19		PLB5015SF09-1/4 PLB5015SF09-5/16 PLB5015SF09-3/8	54807 54808 54809	PLB5015DF09-1/4 PLB5015DF09-5/16 PLB5015DF09-3/8	54854 54855 54856
16	1.003	.958	1/4 5/16 3/8						1.19		PLB5016SF09-1/4 PLB5016SF09-5/16 PLB5016SF09-3/8	54810 54811 54812	PLB5016DF09-1/4 PLB5016DF09-5/16 PLB5016DF09-3/8	54857 54858 54859
17	1.065	1.020	1/4 5/16 3/8						1.24		PLB5017SF09-1/4 PLB5017SF09-5/16 PLB5017SF09-3/8	54813 54814 54815	PLB5017DF09-1/4 PLB5017DF09-5/16 PLB5017DF09-3/8	54860 54861 54862
18	1.128	1.083	1/4 5/16 3/8						1.31		PLB5018SF09-1/4 PLB5018SF09-5/16 PLB5018SF09-3/8	54816 54817 54818	PLB5018DF09-1/4 PLB5018DF09-5/16 PLB5018DF09-3/8	54863 54864 54865
19	1.191	1.146	1/4 5/16 3/8						1.38		PLB5019SF09-1/4 PLB5019SF09-5/16 PLB5019SF09-3/8	54819 54820 54821	PLB5019DF09-1/4 PLB5019DF09-5/16 PLB5019DF09-3/8	54866 54867 54868
20	1.253	1.208	1/4 5/16 3/8						1.44	#8-32	PLB5020SF09-1/4 PLB5020SF09-5/16 PLB5020SF09-3/8	54822 54823 54824	PLB5020DF09-1/4 PLB5020DF09-5/16 PLB5020DF09-3/8	54869 54870 54871
22	1.379	1.334	1/4 5/16 3/8		7/8				1.57		PLB5022SF09-1/4 PLB5022SF09-5/16 PLB5022SF09-3/8	54825 54826 54827	PLB5022DF09-1/4 PLB5022DF09-5/16 PLB5022DF09-3/8	54872 54873 54874
25	1.566	1.521	1/4 5/16 3/8						1.76		PLB5025SF09-1/4 PLB5025SF09-5/16 PLB5025SF09-3/8	54828 54829 54830	PLB5025DF09-1/4 PLB5025DF09-5/16 PLB5025DF09-3/8	54875 54876 54877
28	1.754	1.709	1/4 5/16 3/8						1.95		PLB5028SF09-1/4 PLB5028SF09-5/16 PLB5028SF09-3/8	54831 54832 54833	PLB5028DF09-1/4 PLB5028DF09-5/16 PLB5028DF09-3/8	54878 54879 54880
29	1.817	1.772	1/4 5/16 3/8						2.02		PLB5029SF09-1/4 PLB5029SF09-5/17 PLB5029SF09-3/8	54834 54835 54836	PLB5029DF09-1/4 PLB5029DF09-5/16 PLB5029DF09-3/8	54881 54882 54883
30	1.880	1.835	1/4 5/16 3/8						2.08		PLB5030SF09-1/4 PLB5030SF09-5/16 PLB5030SF09-3/8	54837 54838 54839	PLB5030DF09-1/4 PLB5030DF09-5/16 PLB5030DF09-5/16	54884 54885 54886
40	2.506	2.461	5/16 3/8 1/2			5/16	5/8	13/16*	2.71	#10–32	PLB5040SF09-5/16 PLB5040SF09-3/8 PLB5040SF09-1/2	54840 54841 54842	PLB5040DF09-5/16 PLB5040DF09-3/8 PLB5040DF09-1/2	54887 54888 54889
50	3.133	3.088	5/16 3/8 1/2						3.29		PLB5050SF09-5/16 PLB5050SF09-3/8 PLB5050SF09-1/2	54843 54844 54845	PLB5050DF09-5/16 PLB5050DF09-3/8 PLB5050DF09-1/2	54890 54891 54892

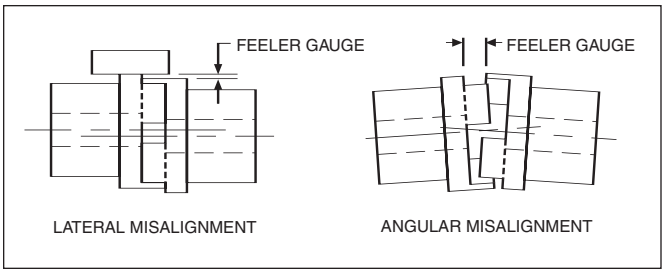
†7/8" for Double Flange
*No Flange

COUPLINGS

ALIGNMENT

Alignment of Boston couplings should be performed by the following steps to meet lateral and angular misalignment specifications below.

1. Align shafts and supports to give minimum lateral and angular misalignment.
2. Assemble coupling halves to shaft.
3. Slide couplings together and check lateral misalignment using straight edge and feeler gauge over coupling outside diameter. (On BF Series couplings, spider must be removed.) This should be within specifications below.
4. Lock couplings on shaft and check distance using feeler gauges between drive lug on one half and space between on other coupling half. Rotate coupling and check gap at a minimum of 3 other coupling positions. The difference between any two readings should be within specifications below.



MISALIGNMENT TOLERANCES

Coupling Series	Lateral	Angular
FC–Bronze Insert FC–Urethane Insert FC–Rubber Insert	.001 .002 .002	See Chart below
BF	.002	1-1/2°
BG (Shear Type)	1/32	2°
FA	.002	2°
FCP (Plastic)	.003	3°

FC Series ANGULAR MISALIGNMENT

Chart reflects maximum angular misalignment of 1-1/2° for rubber, 1° for urethane and 1/2° for bronze.

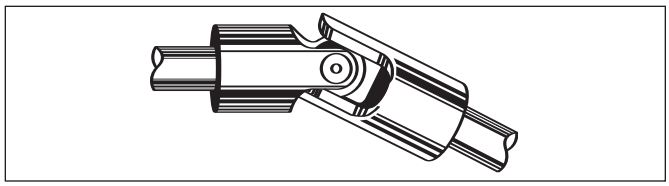
MAXIMUM READING DIFFERENTIAL

Size	Rubber	Insert Urethane	Bronze
FC12	.033	.022	.011
FC15	.039	.026	.013
FC20	.053	.035	.018
FC25	.066	.044	.022
FC30	.078	.052	.026
FC38	.097	.065	.032
FC45	.117	.078	.039

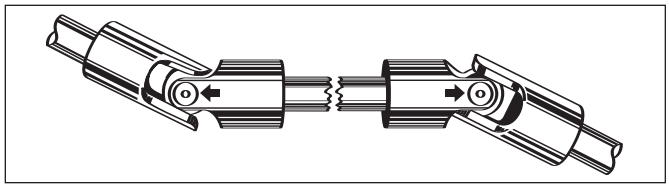
MOUNTING

A single universal joint (rotating at uniform speed) operating at an angle will introduce periodic variations of angular velocity to the driven shaft. These cyclic speed fluctuations (two per revolution) cause vibration, higher shaft stresses and bearing loads which will be more severe with larger angles of operation.

UNIVERSAL JOINTS



The detrimental effects of these rotational deviations can be reduced, and uniform speed restored by using two joints (and an intermediate shaft) to connect shafts at an angle or misaligned in a parallel direction.



For connecting shafts in the same plane the joints should be arranged to operate at equal angles and with the bearing pins of the yokes on the intermediate shaft in line with each other.

LUBRICATION

PIN and BLOCK TYPE

These universal joints are not lubricated when shipped.

Many applications are considered severe when in harsh environments and when a combination of speed, dirt contamination and inaccessible locations make it impractical to maintain proper lubrication.
It is in these instances when the Boot Kits become a desirable alternative. For satisfactory performance, all booted joints should be used with a LITH-EP-000 grease for an ambient temperature range of 40° to 225°F.

VOLUME OF LUBRICATION FOR BOOTED JOINTS

Size	Volume (Ozs.)	Size	Volume (Ozs.)	Size	Volume (Ozs.)
37	.4	100	2.0	250	25.0
50	.5	125	3.5	300	30.0
62	.75	150	4.5	400	50.1
75	1.0	175	7.0		
87	1.5	200	15.0		

NOTE: Joints should be initially lubricated with a 90 weight oil before being packed with grease.

FORGED AND CAST TYPE

Universal joints are not lubricated when shipped.

Lubricate these joints with a Lith EP-2 grease or equivalent. The center cross of these joints holds a generous supply of lubricant which is fed to the bearings by centrifugal action. Light-duty, low-angle operation may require only occasional lubrication. For high-angle, high-speed operation or in extreme dirt or moist conditions, daily regreasing may be required.

HOW TO FIGURE HORSEPOWER AND TORQUE

To Obtain	Having	Formula
Velocity (V) Feet Per Minute	Pitch Diameter (D) of Gear or sprocket – Inches & Rev. Per Min. (RPM)	V = 2618 x D x RPM
Rev. per Min. (RPM)	Velocity (V) Ft. Per Min. & Pitch Diameter (D) of Gear or Sprocket – Inches	$RMP = \frac{V}{.268 \times D}$
Pitch Diameter (D) of Gear or Sprocket – Inches	Velocity (V) Ft. Per Min & Rev. Per Min. (RPM)	$D = \frac{V}{.2618 \times RPM}$
Torque (T) In. Lbs.	Force (W) Lbs. & Radius (R) Inches	T = W x R
Horsepower (HP)	Force (W) Lbs. & Velocity (V) Ft. Per Min.	$HP = \frac{W \times V}{33000}$
Horsepower (HP)	Torque (T) In Lbs. & Rev. per Min. (RPM)	$HP = \frac{T \times TPM}{63025}$
Torque (T) In. Lbs.	Horsepower (HP) & Rev. Per Min. (RPM)	$T = \frac{63025 \times HP}{RPM}$
Force (W) Lbs.	Horsepower (HP) & Velocity (V) Ft. Per Min.	$W = \frac{33000 \times HP}{V}$
Rev. Per Min. (RPM)	Horsepower (HP) & Torque (TP) In. Lbs.	$RPM = \frac{63025 \times H^{P}}{T}$

POWER is the rate of doing work.

WORK is the exerting of a FORCE through a DISTANCE. ONE FOOT POUND is a unit of WORK. It is the WORK done in exerting a FORCE OF ONE POUND through a DISTANCE of ONE FOOT.

THE AMOUNT OF WORK done (Foot Pounds) is the FORCE (Pounds) exerted multiplied by the DISTANCE(Feet) through which the FORCE acts.

THE AMOUNT OF POWER used (Foot Pounds per Minute(is the WORK (Foot Pounds) done divided by the TIME (Minutes) required.

$$\text{POWER (Foot Pounds per Minute)} = \frac{\text{WORK (Ft. Lbs.)}}{\text{TIME (Minutes)}}$$

POWER is usually expressed in terms of HORSEPOWER.

HORSEPOWER is POWER (Foot Pounds per Minute) divided by 33,000.

$$\text{HORSEPOWER (HP)} = \frac{\text{POWER (Ft. Lbs. per Minute)}}{33{,}000}$$

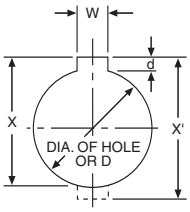
$$= \frac{\text{WORK (Ft. Pounds)}}{33{,}000 \times \text{TIME (Min.)}}$$

$$= \frac{\text{FORCE (Lbs.)} \times \text{DISTANCE (Feet)}}{33{,}000 \times \text{TIME (Min.)}}$$

$$\text{HORSEPOWER (HP)} = \frac{\text{FORCE (Lbs.)} \times \text{DISTANCE (Feet)}}{33{,}000 \times \text{TIME (Min.)}}$$

STANDARD KEYWAYS & SETSCREW

Diam. of Hole	Standard Keyway W	Standard Keyway D	Recommended Setscrew
5/16 to 7/16"	3/32"	3/64"	10–32
1/2 to 9/16	1/8	1/16	1/4–20
5/8 to 7/8	3/16	3/32	5/16–18
15/16 to 1-1/4	1/4	1/8	3/8–16
1-5/16 to 1-3/8	5/16	5/32	7/16–14
1-7/16 to 1-3/4	3/8	3/16	1/2–13
1-13/16 to2-1/4	1/2	1/4	9/16–12
2-5/16 to 20-3/4	5/8	5/16	5/8–11
2-13/16 to 3-1/4	3/4	3/8	3/4–10
3-5/16 to 3-3/4	7/8	7/16	7/8–9
3-13/16 to 4-1/2	1	1/2	1–8
4-9/16 to 5-1/2	1-1/4	7/16	1-1/8–7
5-9/16 to 6-1/2	1-1/2	1/2	1-1/4–6



FORMULA:

$$X = \sqrt{(D/2)^2 - (W/2)^2} + d + D/2$$

$$X' = 2X - D$$

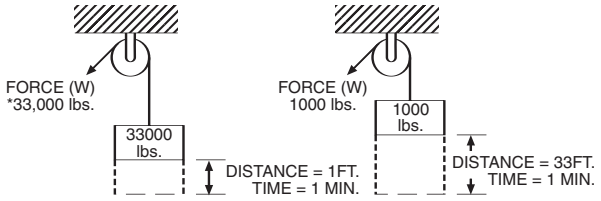
EXAMPLE:

Hole 1"; Keyway 1/4" wide by 1/8" deep.

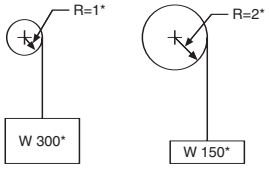
$$X = \sqrt{(1/2)^2 - (1/8)^2} + 1/8 + 1/2 = 1.109"$$

X' = 2.218 – 1.000 = **1.218"**

ILLUSTRATION OF HORSEPOWER



TORQUE (T) is the product of a FORCE (W) in pounds, times a RADIUS (R) in inches from the center of shaft (Lever Arm) and is expressed in Inch Pounds.



T=WR=300 x 1=300 In. Lbs. T=WR=150 x 2=300 In. Lbs.

If the shaft is revolved, the FORCE (W) is moved through a distance, and WORK is done.

$$\text{WORK (Ft. Pounds)} = W \times \frac{2\pi R}{12} \times \text{No. of Rev. of Shaft.}$$

When this WORK is done in a specified TIME, POWER is used.

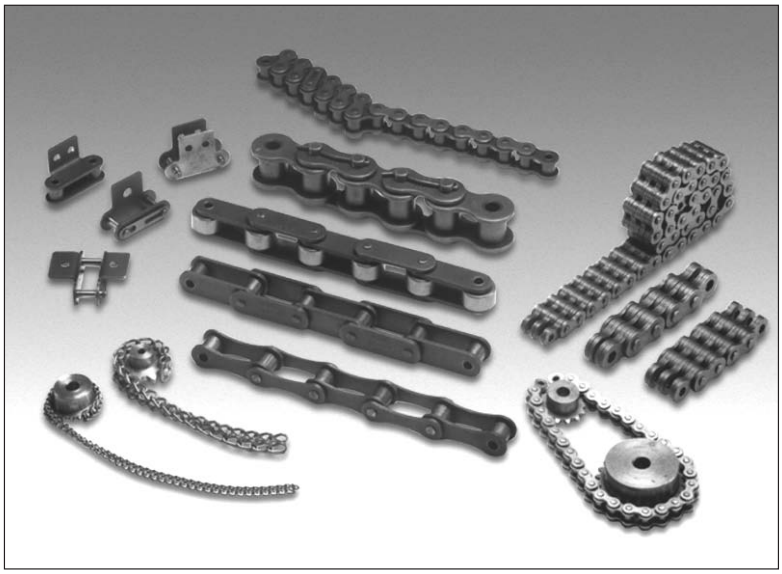
$$\text{POWER (Ft. Pounds per Min.)} = W \times \frac{2\pi R}{12} \times RPM$$

Since (1) HORSEPOWER = 33,000 Foot Pounds per minute

$$\text{HORSEPOWER (HP)} = W \times \frac{2\Pi R}{12} \times \frac{RPM}{33{,}000} = \frac{W \times R \times RPM}{63{,}025}$$

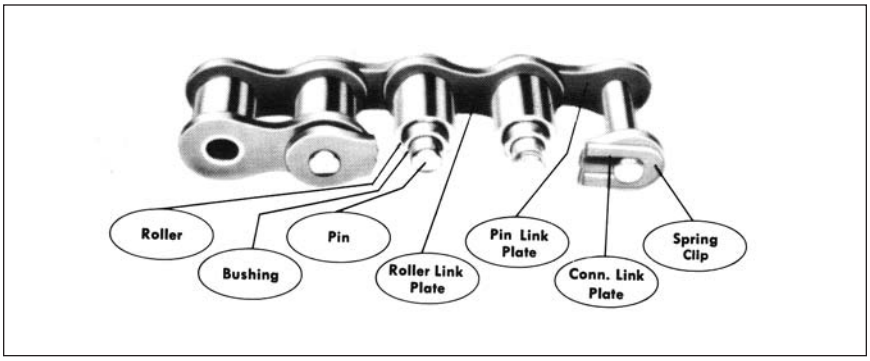
but TORQUE (Inch Pounds) = FORCE (W) x RADIUS (R)

$$\text{Therefore HORSEPOWER (HP)} = \frac{\text{TORQUE (T)} \times (RPM}{63{,}025}$$



SECTION CONTENTS

DESCRIPTION OF ROLLER CHAIN PARTS



CHAIN DIMENSIONS

Principal dimensions of roller chain which identify the chain definitely are pitch, roller width, roller diameter and pin diameter.

PITCH is the linear distance from center to center of adjacent pins or rivets.

WIDTH is the distance between inside plates or length of roller.

DIAMETER is the actual outside diameter of roller (or pin).

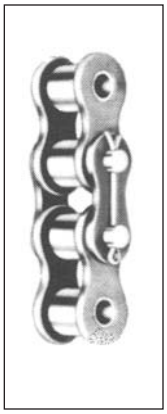
CHAIN TYPES

Boston Roller chains can be furnished in two types — RIVETED and DETACHABLE.

RIVETED TYPE

Riveted type chains are recommended for high speed drives, as a greater rigidity of the pins and side plates is secured from this construction.

Rivited type is considered standard on the smaller sizes up to and including 3/4 " pitch and will be supplied unless Detachable type is specified. Detachable type chain is not recommended up to and including 5/8" pitch, but is available in cotter pin construction in 3/4" pitch.



DETACHABLE (Cottered) TYPE

Detachable type chains are recommended for slower speed drives, especially in the larger pitches where ease of assembly and disassembly becomes an important factor.

Detachable type with cotter pins is considered standard on all sizes 1" pitch and above and will be supplied unless riveted type is specified. Both types are available.

CHAIN LINKS

CONNECTING LINK (Spring Clip)

Standard for Nos. 25, 35, 40, 41, 50 and 60 single and multiple-width chains.

CONNECTING LINK (Cotter Pin)

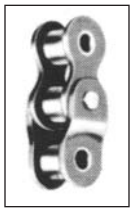
Standard for Nos. 80, 100, 120, 140, and 160, 200 and 240 single and multiple-width chains.

ROLLER LINK

Furnished as complete assemblies, roller links are standard for all chain sizes. The same roller links are used for single and multiple-width chains.

ONE PITCH OFFSET LINK (For standard service)

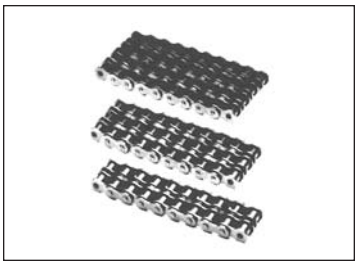
For use whenever chain length contains an odd number of pitches. These links are standard for all chain sizes in single or multiple-widths. (Not available for 25 pitch.)

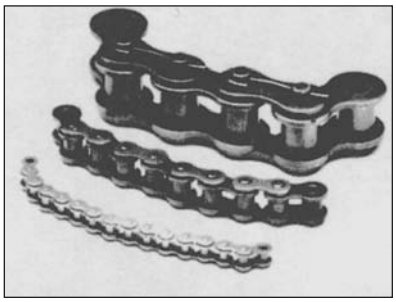


TWO PITCH OFFSET LINK (For severe service)

Consists of a roller link and an offset link riveted together. Two pitch offset assemblies should be specified for severe service.

ORDERING INFORMATION





STEEL – SINGLE STRAND

Chain Pitch & Number	Standard Package Quantities	Catalog Number	Item Code
1/4"-25*	10' PKG. 100' REEL 250' REEL 500' REEL	25 - 10' 25 100' 25 - 250 25 - 500'	68948 69010 68950 68951
3/8" - 35*	10' PKG. 100' REEL 250' REEL 500' REEL	35 - 10' 35 - 100' 35 - 250' 35 - 500'	68953 68954 68955 68956
1/2" - 40	10' PKG 100' REEL 250' REEL	40 - 10' 40 - 100' 40 - 250'	68959 68960 68961
1/2" - 41	10' PKG 100' REEL 250' REEL 500' REEL	41 - 10' 41 - 100' 41 - 250' 41 - 500'	68964 68965 68966 68967
1/2" - 43	10' PKG	43 - 10'	68947
5/8" - 50	10' PKG 100' REEL 250' REEL	50 - 10' 50 - 100' 50 - 250'	68984 68985 68986
3/4" - 60	10' PKG 100' REEL 10' PKG	60 RIV - 10' 60 RIV - 100' 60 DET -10	68989 68990 68991
1" - 80	10' PKG 50' REEL 10 PKG	80 RIV - 10' 80 RIV - 50' 80 DET - 10'	68808 29948 68812
1-1/4" - 100	10' PKG	100 RIV - 10' 100 DET - 10'	68936 68937
1-1/2" - 120	10' PKG	120 RIV - 10' 120 DET - 10'	68940 68941
1-3/4" - 140	10'2-1/2" PKG	140 RIV - 10'2-1/2" 140 DET - 10'2-1/2"	30440 30438
2" - 160	10' PKG	160 RIV - 10' 160 DET - 10'	30462 30460
2-1/4" - 180	10' PKG	180 RIV - 10' 180 DET - 10'	50219 30478
2-1/2" - 200	10' PKG	200 RIV - 10' 200 DET - 10'	31066 30488
3" - 240	5' PKG	240 RIV - 5' 240 DET - 5'	50210 58927
STEEL - DOUBLE STRAND			
1/4" - 25-2* 3/8" - 35-2"	10' PKG 10' PKG	25-2-10' 35-2-10'	45886 69011
1/2" - 40-2	10' PKG	40-2-10'	69014
5/8" - 50-2	10' PKG	50-2-10'	69017
3/4" - 60-2	10' PKG	60-2 RIV - 10' 60-2- DET - 10'	69020 68935
1" - 80-2	10' PKG	80-2 RIV - 10' 80-2 DET - 10'	68813 68816
1-1/4" - 100-2	10' PKG	100-2 RIV - 10' 100-2 DET - 10'	68938 68939
1-1/2" - 120-2	10' PKG	120-2 RIV - 10' 120-2 DET - 10'	68942 68943
1-3/4" - 140-2	10'2-1/2" PKG	140-2RIV-10'2-1/2" 140-2DET-10'2-1/2"	06085 30448
2" - 160-2	10' PKG	160-2 RIV - 10' 160-2 DET - 10'	50209 30470
2-1/4" - 180-2	10' PKG	180-2 DET-10'	31014
2-1/2" - 200-2	5' PKG	200-2 RIV-5' 200-2 DET-5'	50220 30496
3" - 240-2	5' PKG	240-2 DET-5'	58301

STEEL – TRIPLE STRAND

Chain Pitch & Number	Standard Package Quantities	Catalog Number	Item Code
1/4" - 25-3*	10' PKG	25-3-10'	45890
3/8" - 35-3*	10' PKG	35-3-10'	69057
1/2" - 40-3	10' PKG	40-3-10'	69060
5/8" - 50-3	10' PKG	50-3-10'	69063
3/4" - 60-3	10' PKG	60-3- RIV - 10' 60-3 DET - 10'	69066 68934
1" - 80-3	10' PKG	80-3 RIV - 10' 80-3 DET - 10'	68818 68822
1-1/4" - 100-3	10' PKG	100-3 RIV - 10' 100-3 DET - 10'	69081 69082
1-1/2" - 120-3	10' PKG	120-3 RIV - 10' 120-3 DET - 10'	69083 69087
1-3/4" - 140-3	10'2-1/2" PKG	140-3DET-10'2-1/2"	31142
2" - 160-3	5' PKG	160-3 DET-5'	31148
2-1/4" - 180-3	5' PKG	180-3 DET-5'	31160
2-1/2" - 200-3	5' PKG	200-3 DET-5'	30966
3" - 240-3	5' PKG	240-3 DET-5'	58304
STEEL - QUAD STRAND			
3/8" - 35-4*	10' PKG	35-4-10'	68839
1/2" - 40-4	10' PKG	40-4-10'	68842
5/8" - 50-4	10' PKG	50-4-10'	68843
3/4" - 60-4	10' PKG	60-4 RIV - 10' 60-4 DET - 10'	68932 68933
1" - 80-4	10' PKG	100-4 RIV - 10' 100-4 DET - 10'	50216 31136
1-1/2" - 120-4	10' PKG	120-4 DET - 10'	31184
1-3/4" 140-4	5' PKG	140-4 DET - 5'	31190
2" - 160-4	5' PKG	160-4 DET - 5'	31154
2-1/2" - 200-4	5' PKG	200-4 DET - 5'	31172
STAINLESS STEEL			
1/4" - 25*	10' PKG 100' REEL	25SS - 10' 25SS - 100'	58285 69056
3/8" - 35*	10' PKG	35SS - 10'	30078
1/2" - 40	10' PKG	40SS - 10'	30134
5/8" - 50	10' PKG	50SS - 10'	30272
3/4" - 60	10' PKG	60SS - 10'	30328
1" - 80	10' PKG	80SS RIV - 10' 80SS DET - 10'	13493 30366
NICKEL PLATED			
1/4" - 25*	10' PKG 100' REEL	25NP - 10' 25NP - 100'	68709 68710
3/8" - 35*	10' PKG 100' PKG	35NP - 10' 35NP - 100'	68713 68714
1/2" - 40	10' PKG 100' REEL	40NP - 10' 40NP - 100	68718 68719
5/8" - 50	10' PKG 100' REEL 250' REEL	50NP - 10' 50NP - 100' 50NP - 250'	68723 68724 68725
3/4" - 60	10' PKG 100' REEL	60NP - 10' 60NP - 100'	68723 68729
1" - 80	10' PKG	80NP - 10'	68732

* Non Roller
‡ Heavy Series chain has thicker link plates to resist shock from pulsating loads.

HEAVY SERIES‡

Chain Pitch & Number	Standard Package Quantities	Catalog Number	Item Code
3/4" - 60H	10' PKG	60H RIV - 10' 60H DET - 10'	68994 68981
1" - 80H	10' PKG	80H RIV - 10' 80H DET - 10'	69077 60979
1-1/4" - 100H	10' PKG	100H RIV - 10' 100H DET - 10'	30958 30956
1-1/2" - 120H	10' PKG	120H RIV - 10' 120H DET - 10	06401 30960
1-3/4" - 140H	10'2-1/2" PKG	140HRIV-10'2'1/2" 140HDET-10'2-1/2"	50218 30962
2" - 160H	10' PKG	160H RIV - 10' 160H DET - 10'	30234 30964
2-1/2" - 200H	10' PKG	200H DET - 10'	58293

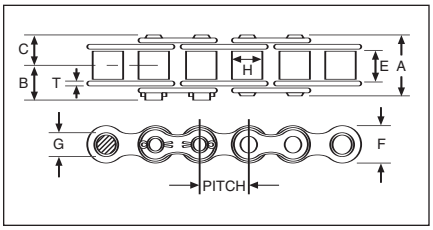
STANDARD CUT-TO-LENGTH CHAIN

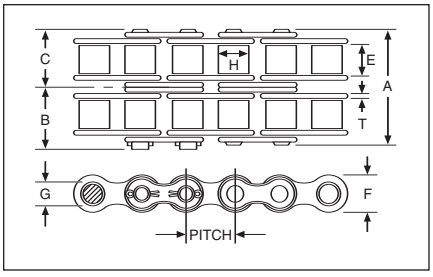
—48 HOUR SERVICE—
UP TO 50 STRANDS
Contact factory for larger quantities
No extra charge for this service!

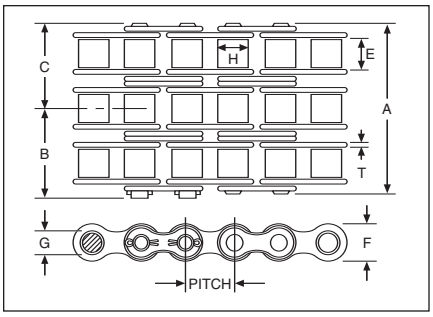
Item Code	Chain Pitch	Quantity
30000	#25	cut to length
30042	#35	cut to length
30098	$40	cut to length
30236	#50	cut to length
30292	#60	cut to length
30224	#80	cut to length
68973	#41	cut to length

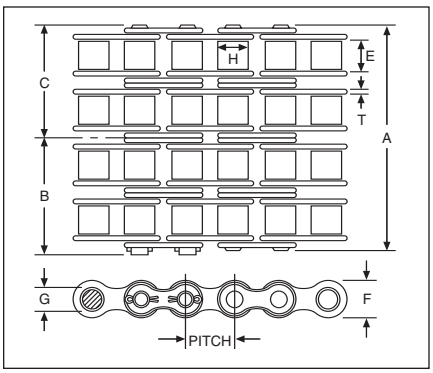
DOUBLE, TRIPLE AND QUADRUPLE WIDTHS DIMENSIONS

ANSI STANDARD









ALL DIMENSIONS IN INCHES

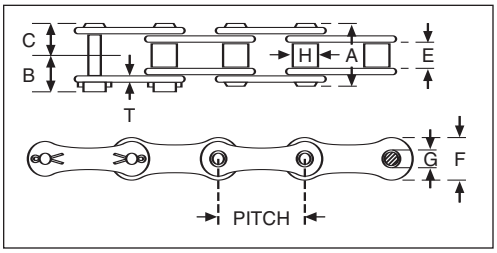
Chain Number	Pitch	E	H Roller Diam.	A	B	C	T	F	Pin Diam. G	Average Ultimate Strength Lbs.	Avg. Weight Per Ft. Lbs.
SINGLE WIDTH											
25*	1/4	.125	.130	.31	.19	.15	.030	.23	.0905	930	.104
35*	3/8	.187	.200	.47	.34	.23	.050	.36	.141	2,300	.21
40	1/2	.312	.312	.65	.42	.32	.060	.46	.156	3,700	.41
S41	1/2	.250	.306	.51	.37	.26	.050	.39	.141	2,580	.28
50	5/8	.375	.400	.79	.56	.40	.080	.59	.200	6,400	.69
60	3/4	.500	.468	.98	.64	.49	.094	.70	.234	8,700	.96
80	1	.625	.625	1.28	.74	.64	.125	.93	.312	15,500	1.60
100	101/4	.750	.750	1.54	.91	.77	.156	1.16	.375	24,000	2.56
120	1-1/2	1.000	.875	1.94	1.14	.97	.187	1.38	.437	34,000	3.60
140	1-3/4	1.000	1.000	2.08	1.22	1.04	.218	1.63	.500	46,000	4.90
160	2	1.250	1.125	2.48	1.46	1.24	.250	1.88	.562	58,000	6.40
180	2-1/4	1.406	1.406	2.81	1.74	1.40	.281	2.13	.687	80,000	8.70
200	2-1/2	1.500	1.562	3.02	1.86	1.51	.312	2.32	.781	95,000	10.30
240	3	1.875	1.875	3.76	2.27	1.88	.375	2.80	.937	130,000	16.90
DOUBLE WIDTH											
25-2*	1/4	.125	.130	.56	.31	.28	.030	.23	.0905	1,860	.20
35-2*	3/8	.187	.200	.86	.50	.43	.050	.36	.141	4,600	.41
40-2	1/2	.312	.312	1.20	.67	.60	.060	.46	.156	7,400	.81
50-2	5/8	.375	.400	1.49	.82	.75	.080	.59	.200	12,800	1.35
60-2	3/4	.500	.468	1.87	1..02	.93	.094	.70	.234	17,400	1.90
80-2	1	.625	.625	2.42	1.32	1.21	.125	.93	.312	31,000	3.15
100-2	1-1/4	.750	.750	2.94	1.62	1.47	.156	1.16	.375	48,000	5.00
120-2	1-1/2	1.000	.875	3.72	2.04	1.86	.187	1.38	.437	68,000	7.10
140-2	1-3/4	1.000	1.000	4.00	2.19	2.00	.218	1.63	.500	92,000	9.50
160-2	2	1.250	1.125	4.80	2.63	2.40	.250	1.88	.562	116,000	17.60
180-2	2-1/4	1.406	1.406	5.40	2.94	2.70	.281	2.13	.687	160,000	17.60
200-2	2-1/2	1.500	1.562	5.86	3.28	2.93	.312	2.32	.781	190,000	21.00
240-2	3	1.875	1.875	7.22	4.00	3.61	.375	2.80	.937	260,000	33.10
TRIPLE WIDTH											
25-3*	1/4	.125	.130	.81	.44	.41	.030	.23	.0905	2,790	.30
35-3*	3/8	.187	.200	1.26	.70	.63	.050	.36	.141	6,900	.60
40-3	1/2	.312	.312	1.78	.96	.89	.060	.46	.156	11,100	1.20
50-3	5/8	.375	.400	2.20	1.17	1.10	.080	.59	.200	19,200	2.05
60-3	3/4	.500	.468	2.75	1.46	1.37	.094	.70	.234	26,100	2.75
80-3	1	.625	.625	3.58	1.90	1.79	.125	.93	.312	46,500	4.80
100-3	1-1/4	.750	.750	4.35	2.33	2.18	.156	1.16	.375	72,000	7.30
120-3	1-1/2	1.000	.875	5.52	2.94	2.76	.187	1.38	.437	102,000	10.70
140-3	1-3/4	1.000	1.000	5.94	3.16	2.97	.218	1.63	.500	138,000	15.00
160-3	2	1.250	1.125	7.10	3.78	3.55	.250	1.88	.562	174,000	19.40
180-3	2-1/4	1.406	1.406	8.00	4.22	4.00	.281	2.13	.687	240,000	26.50
200-3	2-1/2	1.500	1.562	8.68	4.70	4.34	.312	2.32	.781	285,000	31.00
240-3	3	1.875	1.875	10.70	5.74	5.35	.375	2.80	.937	390,000	49.20
QUADRUPLE WIDTH											
25-4*	1/4	.125	.130	1.06	.56	.53	.030	.23	.0905	3,720	.45
35-4*	3/8	.187	.200	1.65	.90	.83	.050	.36	.141	9,200	.82
40-4	1/2	.312	.312	2.33	1.24	1.17	.060	.46	.156	14,800	1.60
50-4	5/8	.375	.400	2.91	1.53	1.45	.080	.59	.200	25,600	2.75
60-4	3/4	.500	.468	3.64	1.90	1.82	.094	.70	.234	34,800	3.70
80-4	1	.625	.625	4.73	2.47	2.37	.125	.93	.312	62,000	6.40
100-4	1-1/4	.750	.750	5.76	3.03	2.88	.156	1.16	.375	96,000	9.80
120-4	1-1/2	1.000	.875	7.30	3.83	3.65	.187	1.38	.437	136,000	14.20
140-4	1-4/4	1.000	1.000	7.86	4.12	3.93	.218	1.63	.500	184,000	20.00
160-4	2	1.250	1.125	9.40	4.93	4.70	.250	1.88	.562	232,000	25.00
180-4	2-1/4	1.406	1.406	10.58	5.52	5.29	.281	2.13	.687	320,000	35.00
200-4	2-1/2	1.500	1.562	11.50	6.10	5.75	.312	2.32	.781	380,000	41.50
240-4	3	1.875	1.875	14.14	7.47	7.07	.375	2.80	.937	520,000	65.00

*Non-Roller

DOUBLE PITCH DIMENSIONS

TRANSMISSION SERIES
CONVEYOR SERIES
HEAVY SERIES

TRANSMISSION SERIES

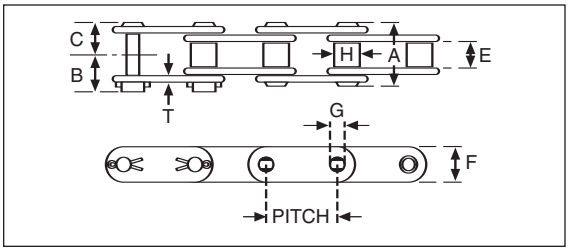


ALL DIMENSIONS IN INCHES

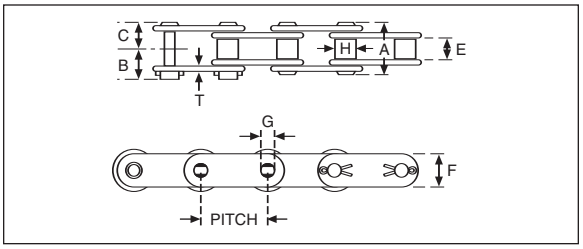
Chain Number	Pitch	E Width	H Dia.	A	B	C	T Thick-ness	F	G Pin Dia.	Avg. Ultimate Strgth. (Lbs.)	Avg. Wgt. Per Foot Lbs.
2040	1	.312	.312	.65	.42	.32	.060	.46	.156	3,700	.30
2050	1-1/4	.375	.400	.79	.56	.40	.080	.59	.200	6,100	.45
2060	1-1/2	.500	.468	.98	.64	.49	.094	.69	.234	8,500	.68
2080	2	.625	.625	1.28	.74	.64	.125	.88	.312	14,500	1.11
2100	2-1/2	.750	.750	1.54	.91	.77	.156	1.16	.375	24,000	1.94

CONVEYOR SERIES

STANDARD ROLLERS



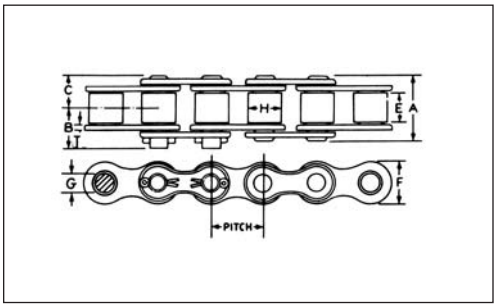
OVERSIZE ROLLERS



ALL DIMENSIONS IN INCHES

Chain Number	Pitch	E	H		A	B	C	T	F	G	Avg. Ultimate Strgth. (Lbs.)	Avg. weight per foot (Lbs.)		
			Std. Roller	Over-Size Roller								Std. Roller	Over-size Roller	Thermo-plastic Roller
C2040	1	.312	.312	.625	.65	.42	.32	.060	.46	.156	3,700	.32	.55	.33
C2050	1-1/4	.375	.400	.750	.79	.56	.40	.080	.59	.200	6,100	.53	.84	.54
C2060H	1-1/2	.500	.468	.875	1.11	.65	.55	.125	.69	.234	8,500	.92	1.40	.94
C2080H	2	.625	.625	1.125	1.41	.80	.70	.156	.88	.312	14,500	1.52	2.21	1.52
C2100H	2-1/2	.750	.750	1.562	1.67	.98	.83	.187	1.15	.375	24,000	2.30	3.75	—
C2120H	3	1.000	.875	1.750	2.07	1.21	1.03	.218	1.37	.437	34,000	3.70	5.71	—
C2160H	4	1.250	1.125	2.250	2.60	1.52	1.30	.281	1.87	.562	58,000	5.85	8.93	—

HEAVY SERIES



ALL DIMENSIONS IN INCHES

Chain Number	Pitch	E	H	A	B	C	T	F	G	Avg. Ultimate Strgth. (Lbs.)	Avg. Wgt. Per Foot Lbs.
60H	3/4	.500	.468	1.11	.65	.55	.125	.680	.234	8,500	1.14
80H	1	.625	.625	1.41	.80	.70	.156	.930	.312	14,500	1.93
100H	1-1/4	.750	.750	1.67	.98	.83	.187	1.156	.375	24,000	3.06
120H	1-1/2	1.000	.875	2.07	1.21	1.03	.218	1.375	.437	34,000	4.45
140H	1-3/4	1.000	1.000	2.20	1.28	1.10	.250	1.625	.500	46,000	5.68
160H	2	1.250	1.125	2.60	1.52	1.30	.281	1.875	.562	58,000	7.33
180H	2-1/4	1.406	1.406	2.95	1.75	1.48	.312	2.130	.687	80,000	9.10
200H	2-1/2	1.500	1.562	3.63	2.02	1.66	.375	2.312	.781	95,000	13.50

CONVEYOR CHAIN SELECTION

SINGLE OR DOUBLE PITCH, FLAT-TOP AND HOLLOW PIN CHAIN

In order to select a chain for a conveyor application, the Velocity and maximum Chain Pull must be established.
The total pull may be obtained if the Torque and Sprocket PD are known, or if the Horsepower and Velocity can be determined.

$$\text{Chain Pull, } W = \frac{2T}{D}$$

$$W = \frac{33000\ P}{V}$$

$$W = \frac{126050\ P}{nD}$$

W = Chain Pull, Lbs.
T = Torque, In. Lbs.
D = Sprocket PD, Inches
P = Horsepower
V = Chain Velocity, FPM
n = Sprocket Speed, RPM

If a pair of chains are used, the pull on each chain will be half of the total chain pull.
Having determine the Chain Pull, refer to Chain Load Rating Charts on Page 157 and select a chain with a capacity equal to or greater than the Chain Pull Required.
To Calculate Chain Length (L):

For Single Pitch Chain

$$L = 2C + N$$

For Double Pitch & Flat-Top Chain

$$L = 2C + \frac{N}{2}$$

where:

L = Chain Length, Pitches
C = Center Distance, Pitches
N = Number of Teeth in One Sprocket*

The computed value of L must be rounded out to a larger whole number of pitches (links) for each complete chain. Any whole number of links is satisfactory for Hinge-Top Chain but an even number should be selected for Single or Double Pitch or Flat-Top Chains.
To obtain the center distance or chain length in inches, the value in pitches should be multiplied by the chain pitch.
Example 1. Selecting a Double Pitch Conveying Chain.
The power required to move material at 50 FPM is 1 Horsepower on a Conveyor with a Center Distance of 10 ft.

Step I: Determine Chain Pull:

$$W = \frac{33{,}000\ P}{V} = \frac{33000 \times 1}{50} = 660 \text{ Lbs.}$$

Step II: Refer to Conveyor Chain Load Rating Chart, page 165. Select a double pitch chain with a Working Load equal to or greater than 660 lbs. at 50 FPM. Selection — C2050 (1.25" Pitch) with 5/8 pitch sprockets 50B25 (or larger).

Step III: Determine Chain Length in Pitches. Convert Center Distance (10 feet) to pitches.

$$C = \frac{10 \times 12}{1.25} = 96 \text{ Pitches}$$

$$\text{Chain Length (L)} = 2C + \frac{N}{2}$$

$$\text{Chain Length (L)} = 2 \times 96 + \frac{25}{2} = 204.5$$

Adjust to next larger even whole number.
Chain Length (L) = 206 Pitches

*Assuming same size Driver and Driven Sprockets.

SINGLE PITCH & DOUBLE PITCH CHAIN

For horizontal conveyor applications where the HP or Torque data is not available, the approximate Chain Pull can be calculated from the Weight to be moved (product and chain) and the Coefficient of Friction (between sliding surfaces of chain and supporting ways).

For Normal operation:

Chain Pull

$W = (M = 2m)\ Cf$
W = Chain Pull Lbs.
M = Product Weight, Lbs. per Ft.
m = Chain Weight, Lbs. per Ft.
C = Conveyor Length (between Centers), Ft.
f = Coefficient of Friction (see Table).

For trial purposes,
let m = 1.0 for other conveyor chains.

Note: The estimated weight of pins and/or attachments (per foot of chain) should be included in chain weight.

Whenever the product becomes stalled on a moving conveyor, the chain pull is increased. The Added Pull depends on the Stalled Weight (of product) and the Coefficient of Friction (between surfaces of product and chain).

For stalled product:

Added Chain Pull,

$w = Mlf$
w = Added Chain Pull, Lbs.
M = Product Weight, Lbs. per Ft.
l = Length of Stalled Product, Ft.
f = Coefficient of Friction (see Table).

For Stalled condition:

Total Chain Pull = W = w, Lbs.

If a pair is used, the pull on each chain will be half of the total chain pull.

Conveyor Chain Working Load

At speeds of normal conveyor operation (less than 500 feet per minute), chains are selected on the basis of safe working load, rather than horsepower capacity. Working load or chain pull of conveyor series chains is calculated by multiplying the total combined weight of the chain, plus the conveyed material in any run, by the appropriate coefficient of friction. In general, the maximum working load for a conveyor chain will be higher than that determined for similar chains from a horsepower rating table. The higher load is permitted because there are usually fewer load cycles on a conveyor chain, compared to a power transmission drive. In order to minimize wear, permissible working loads of conveyor chains are reduced as speeds increase. See the working load table below.

COEFFICIENT OF FRICTION—DOUBLE PITCH ROLLER CHAINS

Chain Number	Chain with Large Size Rollers and Rolling Friction				Chain with Standard Size Rollers and Sliding Friction			
	*Static		Rolling		*Static		Sliding	
	Dry	Lubricated	Dry	Lubricated	Dry	Lubricated	Dry	Lubricated
C-2040, C-2042 C-2050, C-2052 C-2060H, C-2062H C-2080H, C-2082H	0.17 0.16 0.16 0.15	0.12 0.11 0.11 0.10	0.14 0.13 0.13 0.12	0.10 0.09 0.09 0.08	.33	.24	.27	.21
C-2100H, C-2102H C-2120H, C-2122H C-2160H, C-2162H	0.14 0.14 0.13	0.09 0.09 0.08	0.11 0.11 0.10	0.07 0.07 0.07				

*For chain speed of 3 feet per minute or less

RECOMMENDED MAXIMUM WORKING LOADS

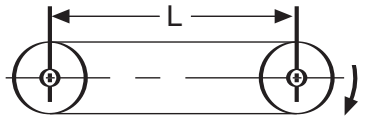
Chain Number	Pitch in Inches	Chain Speed, feet per minute								
		5	25	50	75	100	200	300	400	500
		Maximum Working Load, Lbs.								
C-2040, C-2042	1	530	525	510	490	465	335	230	160	115
C-2050, C-2052	1 1/4	870	865	840	805	765	555	380	265	190
C-2060H,C-2062H	1 1/2	1215	1205	1170	1125	1065	775	530	370	265
C-2080H,C-2082H	2	2070	2055	2000	1915	1815	1320	905	630	455
C-2100H,C-2102H	2 1/2	3425	3400	3310	3175	3000	2180	1500	1040	750
C-2120H,C-2122H	3	4855	4815	4690	4495	4250	3090	2125	1480	1065
C-2160H,C-2162H	4	8585	8210	8000	7670	7250	5275	3625	2520	1815

Calculate the working load for horizontal, inclined, vertical and carousel conveyors, substituting the following values in the appropriate formulas:

- P = Chain pull or working load
- S = Speed in feet per minute
- L = Length of conveyor in feet between sprocket centers
- T = Total chain length in feet
- V = Vertical rise in feet
- F_1 = Coefficient of friction, sliding
- F_2 = Coefficient of friction, rolling
- W = Weight of chain and attachments per foot in pounds
- M = Weight of conveyed product per foot in pounds
- N = Number of chain strands

HORIZONTAL CONVEYOR

$$P = \frac{LF\,(2W + M)}{N}$$

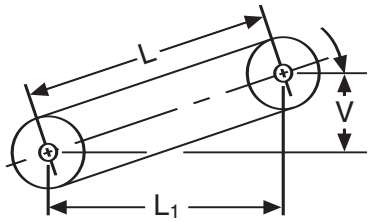


INCLINED CONVEYOR

A factor must be added to or subtracted from the chain load to compensate for raising or lowering the conveyed load on an inclined installation. This factor may be calculated by multiplying the weight of conveyed load by the vertical change in feet, and dividing y the horizontal run of the conveyor in feet.

$$P = \frac{LF\,(2W + M)\cos\phi \div LM\sin\phi}{N}$$

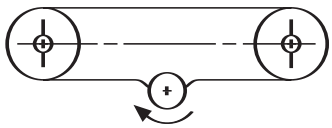
$$\phi = \text{ARC tan}\,\frac{V}{L_1}$$



VERTICAL CONVEYOR

$$P = \frac{L\,(M + W)}{N}$$

CAROUSEL CONVEYOR (PLAN VIEW) FOR CRESCENT TOP CHAINS



$$P = \frac{TF\,(W + M) + (TMF)}{N}$$

Note: (TMF) is the length of stalled product.

Roller Chain Formulas

Horsepower

Horsepower equals 33,000 foot-pounds per minute, or 550 foot-pounds per second. In terms of chain working load or pull (P) and speed:

$$HP = \frac{P \times S}{33{,}000}$$

$$HP = \frac{P \times \text{Number of Teeth} \times \text{Pitch} \times RPM}{396{,}000}$$

$$HP = \frac{\text{Torque (lb.-in.)} \times RPM}{63{,}025}$$

$$HP = \frac{\text{Torque (lb.-in.)} \times RPM}{5{,}252}$$

Ratio

$$\text{Ratio} = \frac{\text{Teeth in Large Sprocket}}{\text{Teeth in Small Sprocket}} \quad \text{or} \quad \frac{\text{Fast RPM}}{\text{Slow RPM}}$$

Chain Working Load

When horsepower input is known, calculate for chain working load or pull (P):

$$P = \frac{HP \times 33{,}000}{FPM}$$

$$P = \frac{HP \times 396{,}000}{\text{Number of Teeth} \times \text{Pitch} \times RPM}$$

$$P = \frac{\text{Torque}}{\text{Sprocket Pitch Radius}}$$

Chain Speed

$$\text{Speed (FPM)} = \frac{\text{Pitch} \times \text{Number of Teeth} \times RPM}{12}$$

Sprocket Speed

$$RPM = \frac{12 \times RPM}{\text{Number of Teeth} \times \text{Pitch}}$$

$$\text{RPM of Driven Sprocket} = \frac{\text{Driver Teeth} \times \text{Driver RPM}}{\text{Driven Teeth}}$$

$$\text{RPM of Driver Sprocket} = \frac{\text{Driven Teeth} \times \text{Driven RPM}}{\text{Driver Teeth}}$$

Centrifugal Pull or Tension

Pull or tension caused by chain weight and velocity:

$$\text{Centrifugal Pull} = \frac{\text{Chain Weight per Foot} \times (FPM)^2}{115{,}900}$$

Total Chain Tension

Total Chain Tension = Working Load + Centrifugal Pull

Chain Bearing Pressure

$$\text{Bearing Pressure (pounds per square inch)} = \frac{\text{Working Load}}{\text{Bushing Length} \times \text{Pin Dia.}}$$

Torque

Torque =Sprocket Pitch Radius x Working Load

$$\text{Torque (lb.-in.)} = \frac{HP \times 63{,}025}{RPM}$$

$$\text{Torque (lb.-ft.)} = \frac{HP \times 5{,}252}{RPM}$$

Factory of Safety

$$FS = \frac{\text{Chain Ultimate Strength}}{\text{Chain Working Load}}$$

NOTES

CONVEYOR CHAIN SELECTION (CONTINUED)

Example 2. A horizontal conveyor 25 Ft. long is to move a product weighing 200 Lbs. per Ft. at 20 FPM. Two FT2060 Flat-Top chains will be used, if possible, with the thermoplastic plates supported on metal ways without lubrication.

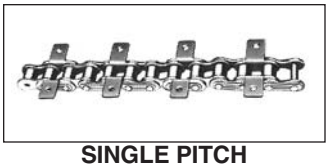
Chain Pull,
W = (M + 2m) Cf
M = 200 Lbs. per Ft.
m = 1.41 x 2 = 2.82 (two chains)
C = 25 Ft.
f = .25 + .15 = .40 (for starting with load)
W = (200 + 5.64) 25 x .40 = 2056 Lbs.

The maximum working load of FT2060 chain at 20 FPM is 1170 Lbs. (see table) and this will be adequate if the product cannot become stalled.

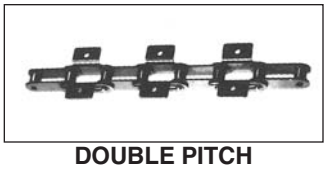
Note: Whenever two strands of chain are used, the total chain weight will be double the single strand weight, (per foot).

COEFFICIENT OF FRICTION FOR CONVEYOR CHAIN

Plate Material Stainless Steel	Stainless Steel	Carbon Steel	Delrin	Nylon	High Density Poly-ethylene	Impreg-nated Wood
Dry	.41	.41	.30	.35	.15	.11
Water	.35	.35	.25	.30	.12	.11
Soap & Water	.20	.20	.25	.20	.08	.11
Carbon Steel						
Dry	.41	.39	.30	.35	.15	.11
Water	.35	.35	.25	30	.12	.11
Soap	.20	.20	.15	.20	.08	.11
Acetal Plastic						
Dry	.30	.30				.20
Water	.25	.25				.20
Soap & Water	.15	.15				.10
Nylon						
Dry	.35	.35				.25
Water	.30	.30				.25
Soap & Water	.20	.20				.12



SINGLE PITCH ROLLER CHAIN WITH ATTACHMENTS



DOUBLE PITCH ROLLER CHAIN WITH ATTACHMENTS

To select the proper chain, the working load or chain pull and the chain speed in feet per minute must be known. Using this information find the proper chain in the chart.† These load ratings are based on proper installation, lubrication and steady load conditions.
The minimum permissible number of sprocket teeth is 15 for single pitch, and 24 for double pitch chain. For smoother operation, sprockets with greater numbers of teeth than the minimum are recommended.

CHAIN LOAD RATING CHART

	Chain Numbers							
Single Pitch	35*	40	50	60	80	100	120	160
Double Pitch		C2040	C2050	C2060	C2080	C2100	C2120	C2160
Velocity of Chain (FPM)	Maximum Working Load or Chain Pull (Lbs.)							
25	250	443	690	995	1770	2760	3990	7100
50	243	432	675	970	1730	2690	3880	6900
75	233	414	645	930	1660	2580	3720	6630
100	220	391	610	880	1570	2440	3520	6250
125	206	366	570	820	1460	2280	3290	5850
150	190	338	528	760	1350	2110	3040	5400
175	175	311	485	700	1240	1940	2800	4970
200	160	284	444	640	1140	1770	2560	4550
225	146	259	405	584	1040	1620	2340	4150
250	133	236	368	530	940	1470	2120	3770
275	120	214	333	480	855	1330	1920	3310
300	110	195	305	440	780	1220	1760	3120
	Standard Pitch Boston Sprockets To Operate With Above Chain							
Pitch	3/8"	1/2"	5/8"	3/4"	1"	1-1/4"	1-1/2"	2"

*No. 35 Chain is a Rollerless Chain.

†For Hollow Pin chains, the working load (chain pull) should be multiplied by 1.3 to obtain the proper value for use in selecting the chain pitch required.

FLAT TOP CONVEYOR CHAIN

MAXIMUM WORKING LOAD OR CHAIN PULL (LBS.)

Chain Type	Chain Velocity — Feet Per Minute					
	0-10	20	30	40	50	70
FT2060	1070	1045	1035	1030	1025	1015

MAXIMUM WORKING LOAD OR CHAIN PULL (LBS.)

Chain Type	Chain Velocity — Feet Per Minute					
	100	150	200	250	300	400
FT2060	1005	960	915	855	670	435

LUBRICATION - To assure maximum chain life, carbon and stainless steel chains should be lubricated wherever possible. Soap lubrication is recommended. Several detergent and non-alkali fluid types are on the market. Water lubrication should be used when no other lubricant can be tolerated. Drip-type systems and wheel-type and sponge-type applicators are on the market.
Delrin chain tends to be self-lubricating, although wear life can be extended with the use of a lubricant, such as soap and water.

ROLLER CHAIN ATTACHMENTS

ORDERING PROCEDURE

Attachments may be ordered as separate links or assembled in chains.

WHEN ORDERING SEPARATE ATTACHMENT LINKS, THE FOLLOWING DATA MUST BE GIVEN:

1. Chain Number and Attachment Number.
2. Connecting Link or Roller Link.

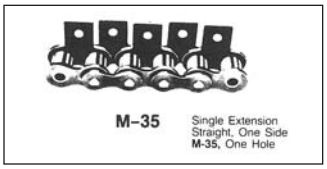
WHEN ORDER ATTACHMENTS ASSEMBLED* IN CHAIN, THE FOLLOWING INFORMATION MUST BE SUPPLIED:

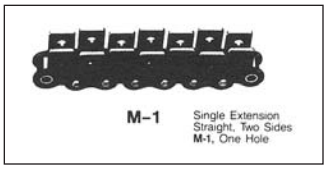
1. Chain Number and Attachment Number.
2. Spacing between Attachment Centers (Pitches or Inches). This must be a multiple of the chain pitch.
3. If spacing is an even number of pitches, attachments will be assembled as pin links unless roller link style is specified.
4. If spacing is an odd number of pitches, assembly will normally be supplied with alternate pin and roller link attachments. For attachments to be on pin (or roller) links only, an offset link must be assembled in each interval.

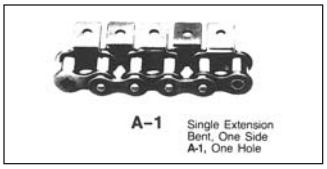
*Riveted assembly will be supplied unless detachable links are specified.

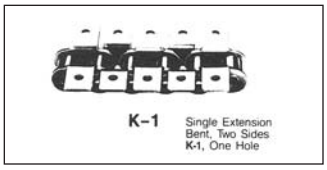
ANSI Standard Roller Chains

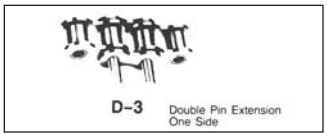
Standard Roller Chain Attachments

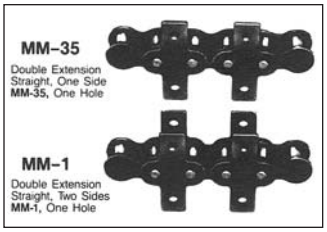


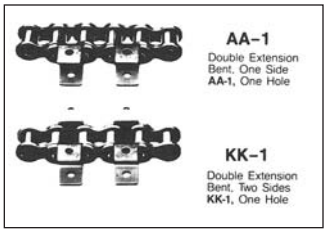


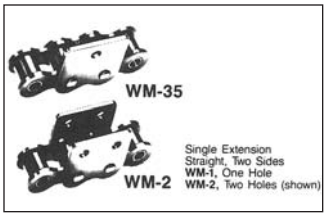


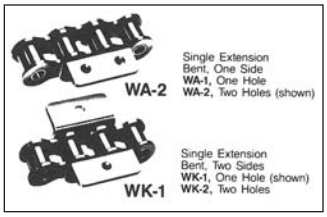




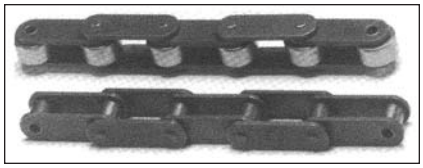




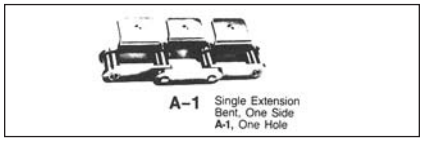


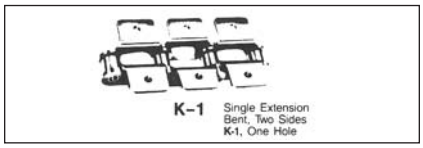


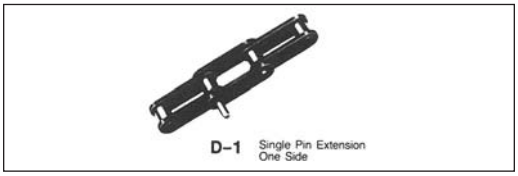
Double Pitch Roller Chains

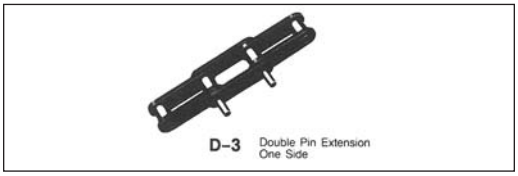


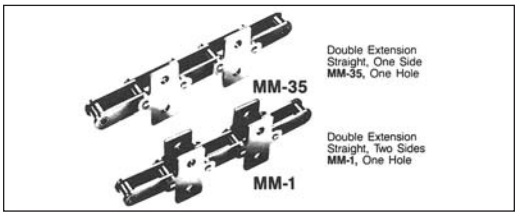
Double Pitch Chain Attachments

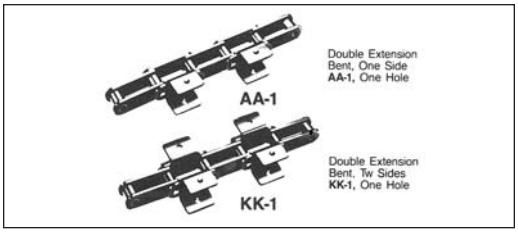










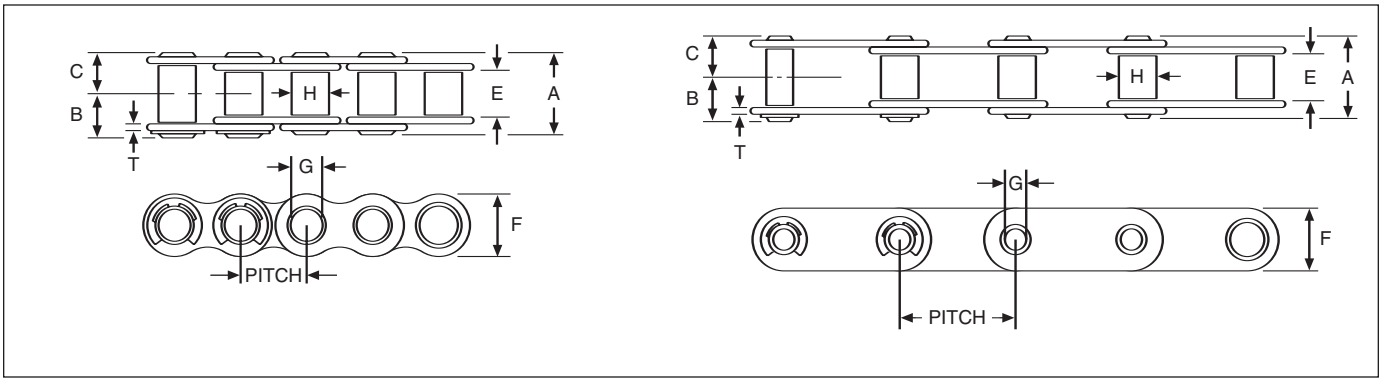


SINGLE AND DOUBLE PITCH — HOLLOW PIN

Boston Gear Hollow Pin Chain is identical to ANSI Roller Chain in pitch, roller width and roller diameter. It is quality designed for long wear life in conveyor applications. The “hollow pin” feature provides unlimited conveyor design versatility. Stud, bushed design. Bushing diameter is same as comparable roller chain.

ORDER BY CATALOG NUMBER OR ITEM CODE

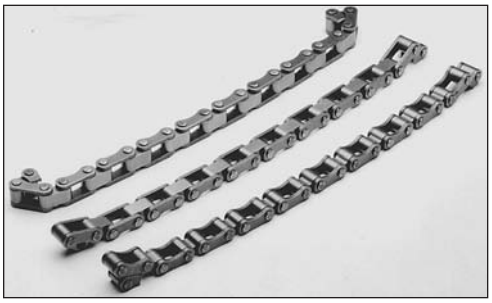
Chain Pitch and Number	Standard Package Quantities	Catalog Number	Item Code
SINGLE PITCH			
1/2” – 40HP 5/8” – 50HP 3/4” – 60 HP 1” – 80 HP	20’ Pkg.	40HP – 20’ 50 HP – 20’ 60 HP – 20” 80 HP – 20’	31088 31092 31096 31100
DOUBLE PITCH — STANDARD ROLLERS			
1” – C2040HP 1-1/4” – C2050HP 1-1/2” – C2060 HP 2” – C2080 HP	20’ Pkg.	C2040HP – 20’ C2050 HP – 20’ C2060 HP – 20” C2080 HP – 20’	31104 31108 31112 31116
DOUBLE PITCH — OVERSIZE ROLLERS			
1” – C2042HP 1-1/4” – C2052HP 1-1/2” – C2062 HP 2” – C2082 HP	20’ Pkg.	C2042HP – 20’ C2052 HP – 20’ C2062 HP – 20” C2082 HP – 20’	31104 31108 31112 31116



DIMENSIONS IN INCHES

Chain Pitch		E	H	A	B	C	T	F	G	Average Ultimate Strength (Lbs.)	Average Weight Per Foot (Lbs.)	
Single	Double										Single	Double
1/2	1	.312	.312	.65	.37	.32	.060	.46	.158	2500	.38	.31
5/8	1-1/4	.375	.400	.79	.46	.40	.080	.59	.203	3700	.63	.51
3/4	1-1/2	.500	.469	.97	.57	.49	.094	.69	.237	6100	.88	.75
1	2	.625	.625	1.22	.70	.61	.125	.88	.318	8500	1.56	1.33

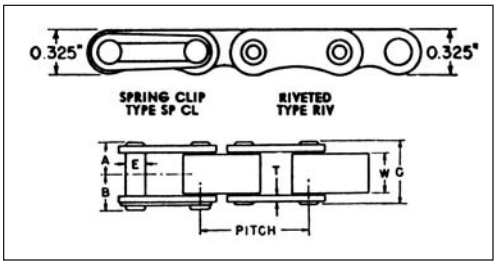
BLOCK CHAIN*



ORDER BY CATALOG NUMBER OR ITEM CODE

Chain Number	Standard Package Quantities	Catalog Number	Item Code
B503	25' Pkg.	B503-25'	30602
B504		B504-25'	30608
B505		B505-25'	30614
B506		B506-25'	30620

STAINLESS STEEL Block Chain available on Special Order. Contact Factory.



ALL DIMENSIONS IN INCHES

Chain No.	Pitch	W	From Pin Head to C/L A	From Pin Head to C/L B	Over-All Width C Riv.	Over-All Width C Sp Cl	Link Plate Thickness T	Pin Dia. E	Average Weight Per Foot, (Lbs.)
B503	1	1/4	7/32	17/64	7/16	31/64	0.060	0.170	0.3
B504	1	5/16	9/32	5/16	9/16	19/32	0.080	0.187	0.4
B505	1	3/8	5/16	11/32	5/8	21/32	0.080	0.187	0.4
B506	1	1/2	3/8	13/32	3/4	25/32	0.080	0.187	0.5

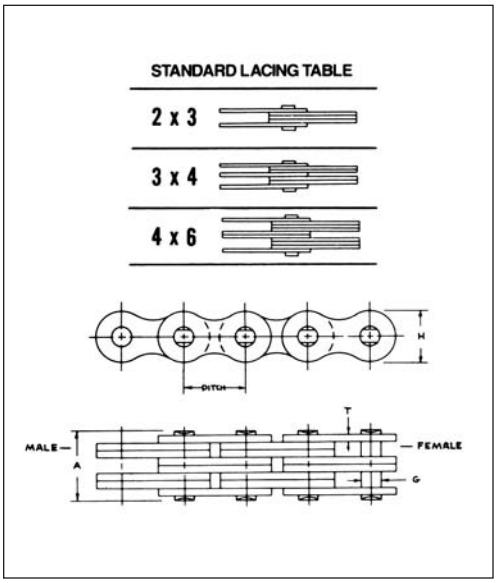
*Refer to Page 200 for Block Chain Sprockets

LEAF (CABLE) CHAIN

Boston Leaf Chains are designed for tension linkage applications such as counterweight chains for machine tools, elevator and oven doors, fork lift truck masts, spinning frames, i.e. applications to lift or pull where it is not necessary to engage a sprocket.

Leaf chains normally run over sheaves and are attached to clevises at each end. Because of the wide variation in clevis designs, leaf chains are furnished less the end pins.

Not recommended for new applications.

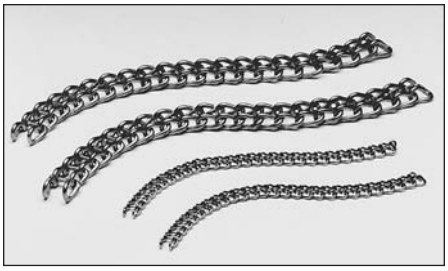


ORDER BY CHAIN NUMBER AND LENGTH IN FEET

Chain Pitch	Lacing	A	G	H	T	Average Ultimate Strength (Lbs.)	Weight Per Foot (Lbs.)	Chain Number
1/2	2 x 3	.50	.200	.455	.080	6,000	.48	BL-423
1/2	3 x 4	.67	.200	.455	.080	9,000	.64	BL-434
1/2	4 x 6	.92	.200	.455	.080	12,000	.93	BL-446
5/8	2 x 3	.58	.234	.585	.094	9,000	.74	BL-523
5/8	3 x 4	.78	.234	.585	.094	13,200	1.03	BL-534
5/8	3 x 4	1.07	.234	.585	.094	18,000	1.46	BL-546
3/4	2 x 3	.76	.312	.708	.125	13,200	1.15	BL-623
3/4	3 x 4	1.02	.312	.708	.125	20,400	1.60	BL-634
3/4	4 x 6	1.41	.312	.708	.125	26,400	2.30	BL-646
1	2 x 3	.94	.375	.950	.156	22,800	1.91	BL-823
1	3 x 4	1.26	.375	.950	.156	34,800	2.66	BL-834
1	4 x 6	1.41	.375	.950	.156	45,600	3.78	BL-846
1-1/4	2 x 3	1.12	.437	1.160	.187	31,200	2.95	BL-1023
1-1/4	3 x 4	1.60	.437	1.160	.187	49,200	4.07	BL-1034
1-1/4	4 x 6	2.08	.437	1.160	.187	62,400	5.79	BL-1046
1-1/2	2 x 3	1.27	.500	1.380	.220	40,800	4.15	BL-1223
1-1/2	3 x 4	1.73	.500	1.380	.220	66,000	5.82	BL-1234
1-1/2	4 x 6	2.42	.500	1.380	.220	81,600	8.27	BL-1246
1-3/4	2 x 3	1.46	.562	1.620	.250	51,600	5.57	BL-1423
1-3/4	3 x 4	1.98	.562	1.620	.250	85,200	7.73	BL-1434
1-3/4	4 x 6	2.76	.562	1.620	.250	103,200	11.01	BL-1446
2	2 x 3	1.68	.687	1.830	.281	78,000	7.51	BL-1623
2	3 x 4	2.22	.687	1.830	.281	118,800	10.45	BL-1634
2	4 x 6	4.17	.687	1.830	.281	156,000	14.85	BL-1646

When ordering chain with odd number of pitches specify whether male or female end link required.

STEEL—STAINLESS STEEL—BRASS



An effective, low-cost means of transmitting motion where load (torque) is not a critical factor.

In addition to stock-listed sizes and materials, ladder chain can be furnished pre-assembled into endless lengths to customer specifications or pre-cut to desired lengths.

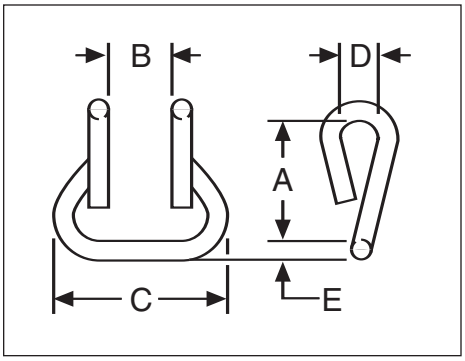
Ladder chain may be made into endless loops by opening the two eyes of one end link with needle-nosed pliers to permit entry of the other end link and then closing the open eyes.

Ladder chain can be furnished on a made-to-order basis made endless, with special plating. Consult the factory for prices.

ORDER BY CATALOG NUMBER OR ITEM CODE*

Chain Number	Standard package Quantities	Catalog Number	Item Code
1AA Miniature	*	1AA Stainless Steel	54941
1	50’ Pkg.	1 Brass—50’ 1 HITEN—50’ 1 STEEL—50’ 1 SS—50’	31200 31208 31216 46487
1A	50’ Pkg.	1 Brass—50’ 1 HITEN—50’ 1 STEEL—50’ 1 SS—50’	31202 31210 31218 46848
2	50’ Pkg.	1 Brass—50’ 1 HITEN—50’ 1 STEEL—50’ 1 SS—50’	31204 31212 31220 46849
2-1/2	50’ Pkg.	1 Brass—50’ 1 HITEN—50’ 1 STEEL—50’ 1 SS—50’	31206 31214 31222 46850

*To order Miniature Ladder Chain, specify Item Code and Number of Feet required. For Sprockets to run with this Chain, see Miniature Roller Chain Sprockets, Page 176.



ALL DIMENSIONS IN INCHES

Chain Number	Links per Foot (Approx.)	A		B Min.	C Max.	D Max.	E ±.0005	Weight Per 100 Ft. (Lbs.)	
		Min.	Max.					Steel	Brass
1AA	82	.1465	.1485	.079	.229	—	.031	—	—
1A	65	.1840	.1852	.115	.315	.072	.041	2.85	3.06
1	42	.2846	.2869	.125	.350	.091	.047	3.38	3.04
2	34	.3514	.3546	.180	.480	.115	.054	4.20	4.50
2-1/2	34	.3507	.3553	.195	.565	.155	.080	10.30	11.10

Load Data

Chain Number	Approx. Yield Point (In Pounds)				Approx. HP at 500 RPM			
	Steel			Brass	Steel			Brass
	Untreated	High Tensile	Stain-less		Untreated	High Tensile	Stain-less	
1A	20	40	20	15	1/6	1/3	1/6	1/8
1	40	70	25	25	1/4	1/2	3/16	1/6
2	50	90	35	30	1/3	3/4	1/4	1/4
2-1/2	75	140	65	45	1/2	1	7/16	1/3

Ratings for 1AA Chain will be furnished on request.

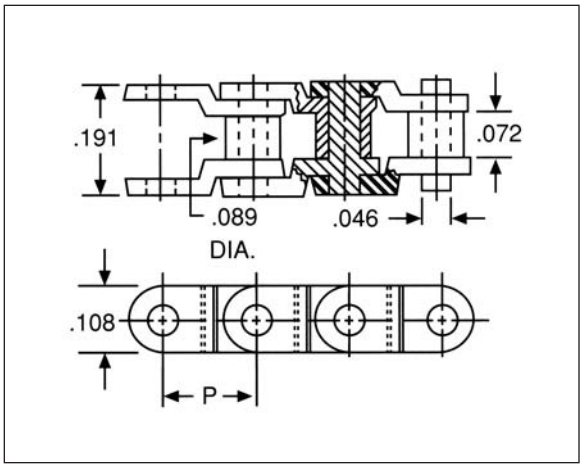
STAINLESS STEEL — SINGLE STRAND RIVETED

MATERIAL: Stainless Steel Type 18-8
FINISH: Clear Passivated
AVERAGE TENSILE LOAD: 180 lbs.
WEIGHT: .035 lbs. per foot

ORDER BY CATALOG NUMBER OR ITEM CODE

Item Number	Catalog Number	No. of Links	Length
54919	15SS50	50	7.375
54920	15SS60	60	8.850
54921	15SS70	70	10.325
54922	15SS80	80	11.800
54923	15SS90	90	13.275
54924	15SS100	100	14.750
54925	15SS110	110	16.225
54926	15SS120	120	17.700
54927	15SS130	130	19.175
54928	15SS140	140	20.650
54929	15SS150	150	22.125
54930	15SS160	160	23.600
54931	15SS170	170	25.075
54932	15SS180	180	26.550
54933	15SS190	190	28.035
54934	15SS200	200	29.500
54935	15SS210	210	30.975
54936	15SS220	220	32.450
54937	15SS230	230	33.925
54938	15SS240	240	35.400

NOTE: Sizes not listed are available on request.
All lengths include and are supplied with connecting link 15SS C/L

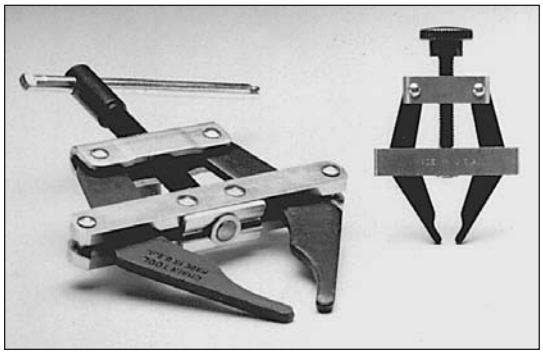


PRICED PER FOOT

Item Number	Catalog Number	Material	P Pitch	Links per Foot	Weight per Foot
54939	6M-7-MS	Nylatron GS	.1475	81.3	.093 oz.

CONNECTING LINK		BUSHING LINK	
Catalog Number	Item Code	Catalog Number	Item Code
54942	15SS C/L	54943	15SS B/L

CHAIN PULLERS



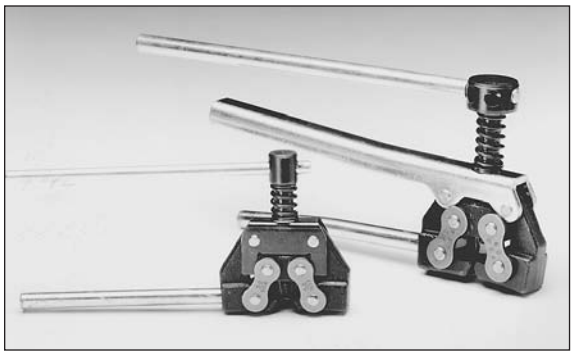
The Boston Chain Puller was designed to make roller chain installation quick and easy.

To use: (1) hook the two jaws into each end of the chain; (2) turn the screw until the two ends almost meet; (3) insert the connecting link and fasten.

ORDER BY CATALOG NUMBER OR ITEM CODE

Chain Sizes	Jaw Spread	Catalog Number	Item Code
Nos. 35-60 80-240	2” 5	TH35-60 TH80-240	10784 10788

CHAIN BREAKING TOOLS



These Boston Chain Breaking Tools will disconnect any riveted roller chain manufactured to ANSI specifications, up to and including No. 100 (1-1/4” pitch).

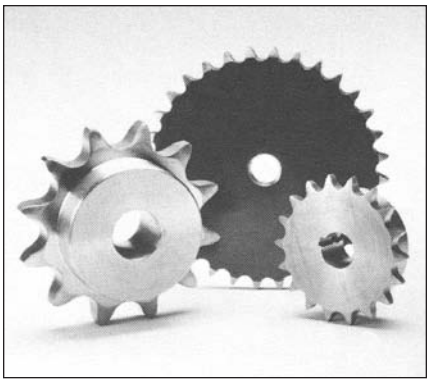
Tool steel replaceable punch point, tempered for long life.

ORDER BY CATALOG NUMBER OR ITEM CODE

Chain Sizes	Catalog Number	Item Code	Replaceable Points	
			Catalog Number	Item Code
Nos. 25-60 60-100	CBT-60 CBT-100	06800 63526	XCBT 60-5 XCBT 100-5	06808 63587

SECTION CONTENTS

ROLLER CHAIN SPROCKETS



Boston roller chain sprockets are quality designed and built to ANSI specifications for superior fatigue resistance and long operational life in a host of industrial and process applications. Sprockets are available in a wide range of materials and pitches, with or without hubs.

TYPES AND STYLES

TYPE A – NO HUB

Boston standard Type A sprockets are stocked for all single strand Roller Chains up to 1" Pitch (#80 Chain).

TYPE B—SINGLE HUB

Boston Steel—Type B Stock Bore sprockets are stocked for all single strand Roller Chains up to 1" Pitch (#80 Chain) and for double strand Roller Chains in 3/8, 1/2, 5/8 and 3/4" Pitches.

Boston Stainless Steel—Type B Stock Bore sprockets are stocked for single strand Roller Chain in 1/4, 3/8, and 1/2" pitches.

Boston Steel—Type B Bored-to-Size sprockets are stocked for single strand Roller Chain in 1/4, 3/8, 1/2, 5/8, 3/4, and 1" pitches.

Boston Type B sprockets are solid (one piece) construction in small sizes, and two-piece design in larger numbers of teeth, see Chart.

Pitch Size	Solid up to	Two-Piece starting at
25	25B30	25B32
35	35B25	35B26
41	41B20	41B21
40	40B20	40B21
50	50B16	50B17
60	60B16	60B17
80	80B14	80B15

ROLLER CHAIN DRIVE SELECTION

The following considerations are very important in the selection and application of roller chain drives:

HORSEPOWER RATINGS—This catalog lists Horsepower Ratings for ANSI Series, single pitch, single strand chains No. 25 through No.160 (and lightweight machinery series No. 41).

Ratings are listed for various numbers of teeth and speeds of smaller sprocket. Ratings for intermediate numbers of teeth or RPM may be determined by interpolation. The ratings reflect a service factor of 1, a chain length of approximately 100 pitches, the use of recommended lubrication methods and a drive arrangement where two aligned sprockets are mounted on parallel horizontal shafts. For maximum service life, sprockets with small numbers of teeth, operating at moderate to high speeds or near the rated horsepower should have hardened teeth. Approximately 15,000 hours of service life at full load operation may be expected under these conditions.

NO. OF TEETH—It is good practice to select a pinion sprocket with no less than 17 Teeth, to assure 120° of chain wrap and minimize overhung load. However, certain conditions, i.e., space limitations, light loads, intermittent duty, etc. will permit the use of smaller pinions.

RATIO—Sprocket ratios should not exceed about 6 to 1 for normal chain life.

HARDENED TEETH—Boston Gear steel sprockets can be hardened. Consult the factory for recommended procedure.

CENTER DISTANCE—The correct center distance is very important. In designing chain drives, it is important that the Center Distance should be long enough to provide at least 120° of chain wrap on the smaller sprocket.

RELATIVE SHAFT LOCATIONS—It is desirable that the line between the two shaft centers be as nearly horizontal as possible. If this line is more than 60° from the horizontal, special precautions should be taken.

ROLLER CHAIN DRIVE SELECTION (Continued)

A roller chain consists essentially of numerous small bearings operating under high pressures and requires adequate lubrication. There are four basic types of lubrication suggested for chain drives, depending upon the chain speed and the power transmitted. The Horsepower Rating Tables indicate the type of lubrication recommended.

TYPE I—MANUAL LUBRICATION

Manual lubrication is accomplished by applying oil with a brush or spout can to the inside of the chain at the edges of the side plates. Volume and frequency should be determined by periodic inspection.

TYPE II—DRIP LUBRICATION

Oil is directed between link plate edges to a drip lubricator. Only enough oil to keep the chain moist is necessary and a light metal splash guard will keep the floor and surroundings clean.

TYPE III—BATH OR DISC LUBRICATION

With bath lubrication, the lower strand of the chain runs through a sump of oil. The oil level should reach the pitch line of the chain at its lowest point while operating. With disc lubrication, the chain operates above the oil level. The disc picks up oil from the sump and deposits it on the chain, usually by means of a trough. The disc diameter should be such as to produce rim speeds from 600 minimum to 8000 maximum FPM. This type of lubrication requires that the drive be enclosed in an oil tight chain case.

TYPE IV—OIL STREAM LUBRICATION

The lubricant is usually supplied by a circulating pump capable of supplying the chain drive with a continuous stream of oil. The oil should be applied inside the chain loop evenly across the chain width, and directed at the lower strand. This type of lubrication requires that the drive be enclosed in an oil tight chain case.

Recommended lubricant viscosities for various ambient temperatures are listed in the following table:

Temp. Degrees F.	Lubricant	Temp. Degrees F.	Lubricant
20-40	SAE20	100-120	SAE-40
40-100	SAE30	120-140	SAE50

SURROUNDING CONDITIONS—Abrasive, corrosive, or high temperature conditions can shorten chain life. If adverse conditions exist, special precautions should be taken. It may be advisable to use a drive with higher capacity than normal, stainless steel chain, etc.

Roller chain drives may be selected with the following procedure:

a. From Table #1 of the Application Classification Chart on Pages 214-215 determine the Service Factor.
b. Multiply the Application HP by the Service Factor to obtain a Design HP.*
c. The Selection Table below may be used to select an appropriate chain size using a sprocket of 17 teeth or larger.
d. From the appropriate horsepower rating table (pages 170-172 determine the minimum size sprocket needed to provide, at the required speed, a rating equal to (or greater than) the Design horsepower.
e. The Tables on pages 173-175 may then be used to select number of sprocket teeth, shaft center distance and chain length of a drive suitable for the application.

*For Stainless Steel Chains, operating under wet or dry conditions, the Design Horsepower must be multiplied by a Factor (see Table below) for selection purposes.

NOTE: Standard Steel Chains are not recommended for wet or dry applications.

Application Conditions	Factor
Wet (Moisture)	2.0
Dry (Unlubricated)	5.0

Horsepower ratings of Multiple Strand chain may be obtained by multiplying the Single Strand rating by the proper Factor from the following table:

MULTIPLE STRAND RATING FACTORS

Number of Strands	Double	Triple	Quadruple
Rating Factor	1.7	2.5	3.3

***These Horsepower Ratings are based on certain operating conditions, see Page 168.**

SELECTION TABLE

RPM Smaller Sprocket	DESIGN HORSEPOWER												
	1/2	1	1-1/2	2	3	4	5	7-1/2	10	15	20	25	30
	CHAIN NUMBER												
1800	25	25	35	35	35	40	40	40	50	80	60–2	80–2	—
1500	25	25	35	35	35	40	40	40	60	60	80	60–2	80–2
1200	25	35	35	35	40	40	40	50	60	60	60	80	100
1000	25	35	35	35	40	40	40	50	60	60	80	80	80
800	25	35	35	40	40	40	50	50	60	60	80	80	80
700	25	35	35	40	40	50	50	50	60	80	80	80	80
600	35	35	35	40	40	50	50	60	60	80	80	80	100
500	35	35	40	40	50	50	50	60	80	80	80	100	100
400	35	35	40	40	50	50	60	60	80	80	100	100	100
350	35	40	40	40	50	50	60	80	80	80	100	100	100
300	35	40	40	50	50	60	60	80	80	100	100	100	120
250	35	40	40	50	50	60	60	80	80	100	100	120	120
200	35	40	50	50	60	60	80	80	80	100	120	120	120
175	40	40	50	50	60	80	80	80	100	100	120	120	140
150	40	50	50	60	60	80	80	80	100	120	120	120	140
125	40	50	50	60	80	80	80	100	100	120	120	140	140
100	40	50	60	60	80	80	80	100	100	120	140	140	160
80	40	50	60	80	80	80	100	100	120	140	140	160	160
70	50	60	60	80	80	80	100	120	120	140	160	160	
60	50	60	80	80	80	100	100	120	120	140	160		
50	50	60	80	80	80	100	100	120	140	160	160		
40	50	60	80	80	100	100	120	120	140	160			
30	60	80	80	100	100	120	120	140	160				
25	60	80	80	100	120	120	140	140	160				
20	60	80	100	100	120	120	140	160					
15	80	100	100	120	120	140	160						
10	80	100	120	120	140	140							

HORSEPOWER RATINGS FOR ANSI ROLLER CHAINS

(See Horsepower Ratings, Page 169)

Small Sprocket		HP RATINGS—STANDARD SINGLE * STRAND ROLLER CHAIN—NO. 25-1/4" PITCH																			
RPM →		10	20	30	50	75	100	125	150	200	250	300	400	600	900	1200	1800	2500	3000	3500	4000
Teeth	P.D.																				
12	.97"	.007	.014	.020	.032	.046	.059	.072	.085	.11	.24	.16	.21	.29	0.43	0.55	0.80	1.07	1.26	1.45	1.62
15	1.20	.009	.018	.025	.040	.058	.075	.092	.108	.14	.17	.20	.26	.38	0.54	0.70	1.01	1.36	1.61	1.85	2.08
17	1.36	.011	.020	.029	.046	.066	.086	.105	.124	.16	.20	.23	.30	.43	0.62	0.18	1.16	1.56	1.84	2.11	2.38
19	1.52	.012	.023	.033	.052	.075	.097	.119	.140	.18	.22	.26	.34	.49	0.70	0.91	1.31	1.76	2.07	2.38	2.69
20	1.60	.013	.024	.035	.055	.079	.103	.125	.148	.19	.23	.28	.36	.52	0.74	0.96	1.38	1.86	2.19	2.52	2.84
Lubrication #		Type I														Type II					

Small Sprocket		HP RATINGS—STANDARD SINGLE * STRAND ROLLER CHAIN—NO. 35-3/8" PITCH																	
RPM →		10	20	30	50	75	100	125	150	200	250	300	400	600	900	1200	1500	1800	2500	3000
Teeth	P.D.																			
11	1.33"	.023	.043	.062	.098	.14	.18	.22	.26	.34	.42	.49	.63	.91	1.32	1.72	2.08	2.47	3.32	2.93
13	1.57	.027	.051	.074	.117	.17	.22	.27	.31	.41	.50	.59	.76	1.09	1.59	2.05	2.49	2.96	3.98	3.76
15	1.80	.032	.060	.086	.136	.20	.26	.31	.37	.47	.58	.68	.89	1.28	1.85	2.40	2.91	3.45	4.64	4.66
17	2.04	.037	.068	.099	.156	.22	.29	.36	.42	.54	.66	.78	1.02	1.46	2.12	2.75	3.33	3.95	5.31	5.63
19	2.28	.042	.077	.111	.176	.25	.33	.40	.47	.61	.75	.88	1.15	1.65	2.39	3.10	3.76	4.46	5.99	6.65
21	2.52	.046	.086	.124	.196	.28	.37	.45	.53	.68	.83	.98	1.27	1.84	2.66	3.45	4.19	4.97	6.68	7.73
23	2.75	.051	.095	.137	.217	.31	.41	.49	.58	.75	.92	1.09	1.41	2.03	2.94	3.81	4.62	5.48	7.37	8.68
25	2.99	.055	.104	.150	.237	.34	.44	.54	.64	.82	1.01	1.19	1.54	2.22	3.21	4.16	5.06	6.00	8.06	9.50
Lubrication #		Type I											Type II					Type III		

Small Sprocket		HP RATINGS—STANDARD SINGLE * STRAND ROLLER CHAIN—NO. 41-1/2" PITCH																	
RPM →		10	20	30	50	75	100	125	150	200	250	300	400	600	900	1200	1800	2400	3000
Teeth	P.D.																		
11	1.77"	.030	.056	.080	.13	.18	.24	.29	.34	.44	.54	.64	.82	1.19	1.71	1.71	.093	.060	.043
13	2.09	.036	.067	.096	.15	.22	.28	.35	.41	.53	.65	.76	.99	1.42	2.05	2.20	1.20	0.78	0.56
15	2.40	.042	.078	.112	.18	.26	.33	.40	.48	.62	.75	.89	1.15	1.66	2.39	2.73	1.49	0.96	0.69
17	2.72	.048	.089	.128	.20	.29	.38	.46	.55	.71	.86	1.02	1.32	1.90	2.74	3.29	1.79	1.16	0.83
19	3.04	.054	.100	.145	.23	.33	.43	.52	.62	.80	.97	1.15	1.49	2.14	3.09	3.89	2.12	1.38	0.98
21	3.35	.060	.112	.161	.26	.37	.48	.58	.69	.89	1.09	1.28	1.66	2.39	3.44	4.46	2.46	1.60	1.14
23	3.67	.066	.124	.178	.28	.41	.53	.64	.76	.98	1.20	1.41	1.83	2.64	3.79	4.92	2.82	1.83	1.31
25	3.99	.072	.135	.195	.31	.44	.58	.70	.83	1.07	1.31	1.55	2.00	2.88	4.15	5.38	3.20	2.08	1.49
Lubrication #		Type I								Type II					Type III		Type IV		

Small Sprocket		HP RATINGS—STANDARD SINGLE * STRAND ROLLER CHAIN—NO. 43-1/2" PITCH																	
RPM →		10	20	30	40	50	75	100	125	150	175	200	250	300	350	400	500	600	900
Teeth	P.D.																		
11	1.77"	.030	.056	.080	.11	.13	.18	.24	.29	.34	.39	.44	.54	.64	.73	.82	1.01	1.19	1.40
13	2.09	.036	.067	.096	.13	.15	.22	.28	.35	.41	.47	.53	.65	.76	.87	.99	1.21	1.42	1.70
15	2.41	.042	.078	.112	.15	.18	.26	.33	.40	.48	.55	.62	.75	.89	1.02	1.15	1.41	1.66	2.00
16	2.56	.045	.084	.120	.16	.19	.28	.36	.43	.52	.59	.67	.81	.96	1.10	1.23	1.51	1.78	2.28
18	2.88	.051	.095	.137	.18	.22	.31	.41	.49	.59	.67	.76	.92	1.09	1.25	1.41	1.72	2.02	2.80
20	3.20	.057	.106	.153	.20	.25	.35	.46	.55	.66	.75	.85	1.03	1.22	1.40	1.58	1.93	2.27	3.25
22	3.51	.063	.118	.170	.23	.27	.39	.51	.61	.73	.83	.94	1.15	1.35	1.55	1.75	2.14	2.52	3.62
24	3.83	.069	.130	.187	.25	.30	.43	.56	.67	.80	.91	1.03	1.26	1.48	1.70	1.92	2.35	2.76	3.97
Lubrication #		Type I												Type II					Type III

*See Page 169 for Multiple Strand Rating Factor.
#See Page 169 for Lubrication Details.
RATINGS FOR INTERMEDIATE NUMBERS OF TEETH OR RPM MAY BE OBTAINED BY INTERPOLATION.

HORSEPOWER RATINGS FOR ANSI ROLLER CHAINS

(See Horsepower Ratings, Page 169

Small Sprocket		HP RATINGS—STANDARD SINGLE * STRAND ROLLER CHAIN—NO. 40-1/2" PITCH																			
RPM →		10	20	30	50	75	100	125	150	200	250	300	400	500	600	900	1200	1500	1800	2400	3000
Teeth	P.D.																				
11	1.77	.054	.10	.15	.23	.33	.43	.53	.62	.80	.98	1.16	1.50	1.84	2.16	3.11	4.03	4.93	4.66	3.03	2.17
13	2.09	.065	.12	.17	.28.	.40	.52	.63	.74	.96	1.18	1.39	1.80	2.20	2.59	3.73	4.83	5.91	5.99	3.89	2.79
15	2.40	.076	.14	.20	.32	.46	.60	.74	.87	1.12	1.37	1.62	2.10	2.56	3.02	4.35	5.64	6.89	7.43	4.82	3.45
17	2.72	.087	.16	.23	.37	.53	.69	.84	.99	1.29	1.57	1.85	2.40	2.94	3.45	4.98	6.45	7.89	8.96	5.82	4.17
19	3.04	.098	.18	.26	.42	.60	.78	.95	1.12	1.45	1.77	2.09	2.71	3.31	3.90	5.62	7.27	8.89	10.5	6.88	4.92
21	3.35	.109	.20	.29	.46	.67	.87	1.06	1.25	1.62	1.98	2.33	3.02	3.69	4.34	6.26	8.11	9.91	11.7	7.99	5.72
23	3.67	.120	.22	.32	.51	.74	.96	1.17	1.38	1.78	2.18	2.57	3.33	4.07	4.79	6.90	8.94	10.9	12.9	9.16	6.55
25	3.99	.132	.25	.35	.56	.81	1.05	1.28	1.51	1.95	2.38	2.81	3.64	4.45	5.24	7.55	9.78	12.0	14.1	10.4	7.43
Lubrication #		Type I								Type II						Type III		Type IV			

Small Sprocket		HP RATINGS—STANDARD SINGLE * STRAND ROLLER CHAIN—NO. 50-5/8" PITCH																			
RPM →		10	20	30	50	75	100	125	150	200	250	300	400	600	900	1200	1500	1800	2100	2400	2700
Teeth	P.D.																				
11	2.22	.11	.20	.28	.45	.65	.84	1.03	1.21	1.56	1.91	2.25	2.92	4.21	6.07	7.86	7.44	5.58	4.42	3.62	3.04
13	2.61	.13	.24	.34	.54	.78	1.01	1.23	1.45	1.87	2.29	2.70	3.50	5.04	7.26	9.42	9.56	7.17	5.67	4.65	3.90
15	3.01	.15	.28	.40	.63	.90	1.17	1.43	1.69	2.19	2.67	3.15	4.08	5.88	8.48	11.0	11.9	8.89	7.03	5.76	4.83
17	3.40	.17	.32	.45	.72	1.04	1.34	1.64	1.93	2.50	3.06	3.60	4.67	6.73	9.70	12.6	14.3	10.7	8.48	6.95	5.83
19	3.80	.19	.36	.51	.81	1.17	1.51	1.85	2.18	2.82	3.45	4.06	5.27	7.59	10.9	14.2	16.9	12.7	10.0	8.22	6.89
21	4.19	.21	.40	.57	.90	1.30	1.69	2.06	2.43	3.15	3.85	4.53	5.87	8.46	12.2	15.8	19.3	14.7	11.6	9.55	8.01
23	4.59	.23	.44	.63	1.00	1.44	1.86	2.27	2.68	3.47	4.24	5.00	6.48	9.33	13.4	17.4	21.3	16.9	13.3	10.9	9.18
25	4.99	.26	.48	.69	1.09	1.57	2.04	2.49	2.93	3.80	4.64	5.47	7.09	10.2	14.7	19.1	23.3	19.1	15.1	12.4	10.4
Lubrication #		Type I					Type II						Type III				Type IV				

Small Sprocket		HP RATINGS—STANDARD SINGLE * STRAND ROLLER CHAIN—NO. 60-3/4" PITCH																			
RPM →		10	20	30	50	75	100	125	150	200	250	300	400	600	900	1200	1400	1600	1800	2000	2200	2400
Teeth	P.D.																					
11	2.66	.18	.34	.49	.78	1.11	1.44	1.76	2.07	2.69	3.29	3.87	5.02	7.23	10.5	11.9	9.45	7.70	6.49	5.51	4.78	4.20
13	3.13	.22	.41	.58	.93	1.33	1.72	2.11	2.48	3.22	3.94	4.64	6.01	8.65	12.5	15.3	12.1	9.89	8.34	7.08	6.14	5.39
15	3.61	.25	.47	.68	1.08	1.55	2.01	2.46	2.90	3.76	4.59	5.41	7.01	10.1	14.6	18.9	15.0	12.3	10.3	8.77	7.61	6.68
17	4.08	.29	.54	.78	1.24	1.78	2.30	2.82	3.32	4.31	5.26	6.20	8.03	11.6	16.7	21.7	18.2	14.8	12.5	10.6	9.18	8.06
19	4.56	.33	.61	.88	1.40	2.01	2.60	3.18	3.74	4.86	5.93	6.99	9.05	13.0	18.8	24.4	21.5	17.5	14.7	12.5	10.9	9.52
21	5.03	.37	.68	.98	1.56	2.24	2.89	3.54	4.17	5.41	6.61	7.78	10.1	14.5	21.0	27.2	24.9	20.3	17.1	14.5	12.6	11.1
23	5.51	.40	.75	1.08	1.72	2.47	3.19	3.91	4.60	5.97	7.29	8.59	11.1	16.0	23.2	30.2	28.6	23.3	19.6	16.7	14.4	12.7
25	5.98	.44	.82	1.18	1.88	2.70	3.49	4.28	5.04	6.53	7.98	9.40	12.2	17.5	25.4	32.9	32.4	26.4	22.3	18.9	16.4	14.4
Lubrication #		Type I					Type II					Type III				Type IV						

Small Sprocket		HP RATINGS—STANDARD SINGLE * STRAND ROLLER CHAIN—NO. 80-1" PITCH																				
RPM →		10	20	30	50	75	100	125	150	200	250	300	400	600	900	1000	1200	1400	1600	1800	2000	2200
Teeth	P.D.																					
11	3.55	.42	.79	1.14	1.80	2.60	3.36	4.11	4.84	6.28	7.67	9.04	11.7	16.9	23.0	19.6	14.9	11.8	9.69	8.12	6.94	6.01
13	4.18	.51	.95	1.36	2.16	3.11	4.03	4.92	5.80	7.51	9.19	10.8	14.0	20.2	29.1	25.2	19.2	15.2	12.5	10.4	8.91	7.72
15	4.81	.59	1.10	1.59	2.52	3.63	4.70	5.75	6.77	8.77	10.7	12.6	16.4	23.6	34.0	31.2	23.8	18.9	15.4	12.9	11.0	9.57
17	5.44	.68	1.26	1.82	2.88	4.15	5.38	6.58	7.75	10.0	12.3	14.5	18.7	27.0	38.9	37.6	28.7	22.7	18.6	15.6	13.3	11.5
19	6.08	.76	1.43	2.05	3.25	4.68	6.07	7.42	8.74	11.3	13.8	16.3	21.1	30.4	43.8	44.5	33.9	26.9	22.0	18.4	15.7	13.6
21	6.71	.85	1.59	2.29	3.62	5.22	6.76	8.27	9.74	12.6	15.4	18.2	23.6	34.0	48.9	51.7	39.4	31.2	25.6	21.4	18.3	15.9
23	7.34	.94	1.75	2.52	4.00	5.76	7.46	9.12	10.7	13.9	17.0	20.0	26.0	37.4	53.9	59.2	45.1	35.8	29.3	24.6	21.0	18.2
25	7.98	1.03	1.92	2.76	4.38	6.30	8.17	9.98	11.8	15.2	18.6	21.9	28.4	40.9	59.0	64.9	51.1	40.6	33.2	27.8	23.8	20.6
Lubrication #		Type I			Type II						Type III			Type IV								

*See Page 169 for Multiple Strand Rating Factor.
#See Page 169 for Lubrication Details.
RATINGS FOR INTERMEDIATE NUMBERS OF TEETH OR RPM MAY BE OBTAINED BY INTERPOLATION.

HORSEPOWER RATINGS FOR ANSI ROLLER CHAINS

(See Horsepower Ratings, Page 169)

Small Sprocket		HP RATINGS—STANDARD SINGLE * STRAND ROLLER CHAIN—NO. 100-1-1/4" PITCH																	
RPM →		10	20	30	50	75	100	125	150	200	250	300	400	500	600	900	1000	1200	1400
Teeth	P.D.																		
11	4.44	.81	1.51	2.18	3.45	4.97	6.44	7.88	9.28	12.0	14.7	17.3	22.4	27.4	32.3	27.5	23.4	17.8	14.2
13	5.22	.97	1.81	2.61	4.13	5.96	7.72	9.43	11.1	14.4	17.6	20.7	26.9	32.8	38.7	35.3	30.1	22.9	18.2
15	6.01	1.13	2.12	3.05	4.82	6.95	9.00	11.0	13.0	16.8	20.6	24.2	31.4	38.3	45.2	43.7	37.3	28.4	22.5
17	6.80	1.30	2.42	3.49	5.52	7.96	10.3	12.6	14.9	19.2	23.5	27.7	35.9	43.9	51.7	52.7	45.0	34.3	27.2
19	7.59	1.46	2.73	3.93	6.23	8.98	11.6	14.2	16.8	21.7	26.5	31.2	40.5	49.5	58.3	62.3	53.2	40.5	32.1
21	8.39	1.63	3.04	4.38	6.94	10.0	12.9	15.8	18.7	24.2	29.6	34.8	45.1	55.1	64.9	72.4	61.8	47.0	37.3
23	9.18	1.80	3.36	4.84	7.65	11.0	14.3	17.5	20.6	26.6	32.6	38.4	49.7	60.8	71.7	83.0	70.9	53.9	42.8
25	9.97	1.97	3.67	5.29	8.37	12.1	15.6	19.1	22.5	29.2	35.7	42.0	54.4	66.5	78.4	94.1	80.3	61.1	48.5
Lubrication #		Type I			Type II		Type III						Type IV						

Small Sprocket		HP RATINGS—STANDARD SINGLE * STRAND ROLLER CHAIN—NO. 120-1-1/2" PITCH																	
RPM →		10	20	30	50	75	100	125	150	200	250	300	400	500	600	700	800	900	1000	1200
Teeth	P.D.																			
11	5.324	1.37	2.56	3.68	5.82	8.40	10.9	13.3	15.6	20.3	24.8	29.2	37.8	46.3	54.5	46.3	37.9	31.8	27.1	20.6
13	6.268	1.64	3.06	4.41	6.97	10.1	13.0	15.9	18.7	24.3	29.7	35.0	45.3	55.4	65.3	59.5	48.7	40.8	34.9	26.5
15	7.215	1.91	3.57	5.14	8.13	11.7	15.2	18.6	21.9	28.3	34.7	40.8	52.9	64.6	76.1	73.8	60.4	50.6	43.2	32.9
17	8.164	2.19	4.09	5.88	9.31	13.4	17.4	21.3	25.0	32.4	39.7	46.7	60.5	74.0	87.2	89.0	72.8	61.0	52.1	39.6
19	9.114	2.47	4.61	6.64	10.5	15.2	19.6	24.0	28.2	36.5	44.8	52.7	68.2	83.4	98.3	105	86.1	72.1	61.6	46.8
21	10.064	2.75	5.13	7.39	11.7	16.9	21.8	26.7	31.4	40.7	49.8	58.7	76.0	93.0	110	122	100	83.8	71.6	54.4
Lubrication		#Type I			Type II				Type IV				Type IV							

Small Sprocket		HP RATINGS—STANDARD SINGLE * STRAND ROLLER CHAIN—NO. 140-1-3/4" PITCH																
RPM →		10	20	30	50	75	100	125	150	200	250	300	400	500	600	700	800	900
Teeth	P.D.																	
11	6.211	2.13	3.97	5.72	9.06	13.1	16.9	20.7	24.4	31.5	38.6	45.5	58.9	72.0	65.8	52.4	42.9	35.9
13	7.312	2.55	4.74	6.83	10.9	15.6	20.3	24.7	29.2	37.8	46.2	54.4	70.5	86.2	84.6	67.3	55.1	46.2
15	8.417	2.98	5.56	8.01	12.7	18.3	23.7	28.9	34.1	44.1	54.0	63.6	82.4	101	105	83.4	68.3	57.2
17	9.523	3.41	6.36	9.16	14.5	20.9	27.1	33.1	39.0	50.5	61.7	72.8	94.2	115	126	100	82.4	69.1
19	10.632	3.84	7.17	10.3	16.0	23.5	30.5	37.3	44.0	57.0	70.0	82.1	106	130	149	119	97.4	81.6
21	11.742	4.28	7.98	11.5	18.2	26.2	34.0	41.5	49.0	63.4	77.6	91.4	118	145	171	138	113	94.8
Lubrication #		Type I			Type II			Type III					Type IV					

Small Sprocket		HP RATINGS—STANDARD SINGLE * STRAND ROLLER CHAIN—NO. 160-2" PITCH														
RPM →		10	20	30	50	75	100	125	150	200	250	300	400	500	550	600
Teeth	P.D.															
11	7.099	3.07	5.74	8.26	13.1	18.8	24.4	29.8	35.1	45.5	55.6	65.5	84.9	96.7	83.9	73.5
13	8.357	3.67	6.85	9.86	15.7	22.5	29.2	35.6	42.0	54.4	66.6	78.4	102	124	108	94.4
15	9.620	4.28	8.00	11.5	18.3	26.3	34.1	41.7	49.0	63.5	77.7	91.5	119	145	134	117
17	10.884	4.90	9.16	13.2	20.9	30.1	39.0	47.7	56.1	72.7	88.9	105	136	166	161	141
19	12.151	5.53	10.3	14.9	23.6	33.9	44.0	53.8	63.2	82.0	100	118	153	188	190	166
21	13.419	6.16	11.5	16.6	26.3	37.8	49.0	59.9	70.5	91.4	112	132	171	209	220	194
Lubrication #	Type I		Type II		Type III						Type IV					

*See Page 169 for Multiple Strand Rating Factor.
#See Page 169 for Lubrication Details.
RATINGS FOR INTERMEDIATE NUMBERS OF TEETH OR RPM MAY BE OBTAINED BY INTERPOLATION.

SELECTION

SPEED RATIOS - CENTER DISTANCES - CHAIN LENGTHS

Teeth Driven Sprocket	Teeth on Driver Sprocket														
	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
15	1.36 6.469 26	1.25 7.235 28	1.15 6.993 28	1.07 7.748 20	1.00 7.500 30					**RATIO** **CENTER DISTANCE - IN PITCHES** **CHAIN LENGTH - IN PITCHES** To obtain corresponding values in INCHES, multiply by the appropriate Chain Pitch.					
16	1.45 7.207 28	1.33 6.971 28	1.23 7.736 30	1.14 7.494 30	1.07 8.249 32	1.00 8.000 32									
17	1.55 7.943 30	1.42 7.710 30	1.31 7.473 30	1.21 8.237 32	1.13 7.994 32	1.06 8.749 34	1.00 8.500 34								
18	1.64 7.669 30	1.50 8.446 32	1.38 8.212 32	1.29 7.975 32	1.20 8.737 34	1.13 8.495 34	1.06 9.249 36	1.00 9.000 36							
19	1.73 8.404 32	1.58 8.174 32	1.46 8.949 34	1.36 8.714 34	1.27 8.477 34	1.19 9.238 36	1.12 8.995 36	1.06 9.749 38	1.00 9.500 38						
20	1.82 8.124 32	1.67 8.909 34	1.54 8.679 34	1.43 9.452 36	1.33 9.216 36	1.25 8.978 36	1.18 9.739 38	1.11 9.495 38	1.05 10.249 40	1.00 10.000 40					
21	1.91 8.857 34	1.75 8.632 34	1.61 9.414 36	1.50 9.183 36	1.40 9.955 38	1.31 9.718 38	1.24 9.479 38	1.17 10.239 40	1.11 9.995 40	1.05 10.749 42	1.00 10.500 42				
22	2.00 9.590 36	1.83 9.365 36	1.69 9.139 36	1.57 9.918 38	1.47 9.686 38	1.37 10.457 40	1.29 10.220 40	1.22 9.980 40	1.16 10.740 42	1.10 10.496 42	1.05 11.249 44	1.00 11.000 44			
23	2.09 9.304 36	1.92 10.098 38	1.77 9.872 38	1.64 9.645 38	1.53 10.422 40	1.44 10.189 40	1.35 10.959 42	1.28 10.721 42	1.21 10.481 42	1.15 11.240 44	1.10 10.996 44	1.05 11.749 46	1.00 11.500 46		
24	2.18 10.037 38	2.00 9.815 38	1.85 10.605 40	1.72 10.378 40	1.69 10.150 40	1.50 10.926 42	1.41 10.692 42	1.33 11.461 44	1.26 11.222 44	1.20 10.982 44	1.14 11.741 46	1.09 11.496 46	1.04 12.249 48	1.00 12.000 48	
25	2.27 9.744 38	2.08 10.547 40	1.92 10.324 40	1.79 11.112 42	1.67 10.884 42	1.56 10.654 42	1.47 11.429 44	1.39 11.195 44	1.31 11.963 46	1.25 11.723 46	1.19 11.483 46	1.14 12.241 48	1.09 11.996 48	1.04 12.750 50	1.00 12.500 50
30	2.72 11.345 44	2.50 12.161 46	2.31 11.943 46	2.14 12.746 48	2.00 12.522 48	1.88 12.299 48	1.76 13.087 50	1.67 12.858 50	1.58 13.638 52	1.50 13.406 52	1.43 13.172 52	1.36 13.942 54	1.30 13.705 54	1.25 14.469 56	1.20 14.228 56
32	2.91 12.812 48	2.66 12.597 48	2.46 12.379 48	2.28 13.188 50	2.14 12.967 50	2.00 13.765 52	1.88 13.539 52	1.78 13.314 52	1.68 14.099 54	1.60 13.869 54	1.52 14.646 56	1.45 14.413 56	1.39 14.178 56	1.33 14.946 58	1.28 14.708 58
35	3.18 13.976 52	2.92 13.761 52	2.69 13.546 52	2.50 14.361 54	2.33 14.141 54	2.19 13.921 54	2.06 14.721 56	1.94 14.497 56	1.84 15.288 58	1.75 15.061 58	1.67 14.833 58	1.59 15.613 60	1.52 15.382 60	1.46 16.155 62	1.40 15.921 62
36	3.27 13.668 52	3.00 14.495 54	2.77 14.279 54	2.57 14.063 54	2.40 14.874 56	2.25 14.653 56	2.12 14.433 56	2.00 15.230 58	1.89 15.006 58	1.80 15.795 60	1.71 15.567 60	1.64 15.338 60	1.56 16.117 62	1.50 15.886 62	1.44 16.658 64
40	3.64 15.561 58	3.34 15.349 58	3.08 15.136 58	2.86 15.961 60	2.67 15.746 60	2.50 15.528 60	2.35 16.339 62	2.22 16.119 62	2.10 16.920 64	2.00 16.697 64	1.90 16.473 64	1.82 17.262 66	1.74 17.035 66	1.67 17.818 68	1.60 17.588 68
42	3.82 15.983 60	3.50 15.773 60	3.23 16.605 62	3.00 16.391 62	2.80 16.177 62	2.62 16.994 64	2.47 16.777 64	2.34 16.557 64	2.21 17.364 66	2.10 17.142 66	2.00 17.939 68	1.91 17.714 68	1.83 17.489 68	1.75 18.275 70	1.68 18.047 70
45	4.09 17.139 64	3.75 16.930 64	3.46 16.719 64	3.22 17.553 66	3.00 17.340 66	2.81 18.161 68	2.65 17.945 68	2.50 17.728 68	2.37 18.536 70	2.25 18.317 70	2.14 18.096 70	2.04 18.895 72	1.96 18.671 72	1.88 19.463 74	1.80 19.237 74

For Center Distances other than listed in this Table, the Chain Length must be calculated, see Page 175.

SELECTION

SPEED RATIOS - CENTER DISTANCES - CHAIN LENGTHS

Teeth Driven Sprocket	Teeth on Driver Sprocket														
	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
48	4.36 18.294 68	4.00 18.085 68	3.69 18.925 70	3.43 18.713 70	3.20 18.500 70	3.00 18.287 70	2.92 19.110 72	2.67 18.894 72	2.52 18.677 72	2.40 19.489 74	2.28 19.270 74	2.18 20.073 76	2.08 18.829 74	2.00 19.628 76	1.92 20.422 78
54	4.91 19.539 74	4.50 20.396 76	4.15 20.186 76	3.86 19.977 76	3.60 20.819 78	3.38 20.607 78	3.18 20.395 78	3.00 21.223 80	2.84 21.008 80	2.70 21.827 82	2.57 21.609 82	2.46 21.392 82	2.34 22.200 84	2.25 21.980 84	2.16 21.760 84
60	5.45 21.843 82	5.00 21.637 82	4.61 22.496 84	4.29 22.287 84	4.00 22.079 84	3.75 22.923 86	3.53 22.712 86	3.33 22.501 86	3.16 23.332 88	3.00 23.119 88	2.86 23.492 90	2.73 23.726 90	2.61 23.510 90	2.50 24.323 92	2.40 24.104 92
70		5.83 25.834 96	5.39 25.628 96	5.00 25.422 96	4.67 26.279 98	4.37 26.071 98	4.12 25.863 98	3.89 26.708 100	3.68 26.498 100	3.50 26.287 100	3.33 27.121 102	3.18 26.910 102	3.04 26.695 102	2.92 27.522 104	2.80 27.306 104
72		6.00 26.244 98	5.54 26.038 98	5.14 25.834 98	4.80 26.694 100	4.50 26.487 100	4.24 27.337 102	4.00 27.128 102	3.79 27.918 102	3.60 27.758 104	3.43 27.547 104	3.27 27.334 104	3.13 28.164 106	3.00 27.951 106	2.88 27.736 106
80				5.71 28.545 108	5.33 29.413 110	5.00 29.206 110	4.70 29.000 110	4.44 29.855 112	4.21 29.647 112	4.00 31.330 118	3.81 30.283 114	3.64 30.073 114	3.48 30.910 116	3.33 30.699 118	3.20 30.486 116
84				6.00 30.439 114	5.60 30.234 114	5.25 31.098 116	4.94 30.891 116	4.66 30.685 116	4.41 31.539 118	4.20 31.330 118	4.00 31.122 118	3.82 31.965 120	3.65 31.755 120	3.50 31.544 120	3.36 32.380 122
96						6.00 34.633 130	5.64 34.429 130	5.33 35.295 132	5.05 35.088 132	4.80 34.882 132	4.57 35.738 134	4.36 35.531 134	4.17 35.322 134	4.00 36.170 136	3.84 35.960 136
112									5.90 40.516 152	5.60 40.312 152	5.33 41.177 154	5.03 40.971 154	4.87 40.765 154	4.67 41.622 156	4.48 41.414 156

SELECTION

PITCH CONVERSION CHART

TO DETERMINE CHAIN LENGTH IN PITCHES
(Approximately):

$$\text{Chain Length in Pitches} = \left(\frac{2 \times \text{CD (inches)}}{\text{Pitch}}\right) + \left(\frac{\text{Teeth in Driver \& Driven}}{2}\right) + \text{Constant}$$

Add for Ratio Constant

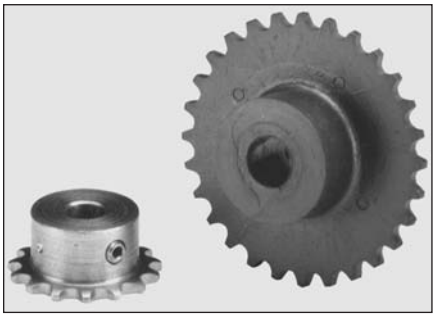
- up to 4 : 1=12
- 4 to 6: 1=4
- 6 to 8: 1=6

This chart gives chain length in feet when number of pitches and chain pitch (in inches) is known

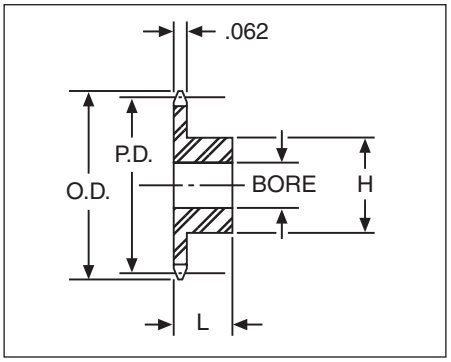
No. of Pitches	Chain Pitch — Inches											
	1/4	3/8	1/2	5/8	3/4	1	1-1/4	1-1/2	1-3/4	2	2-1/4	2-1/2
	Chain Length — Feet											
1	0.02	0.03	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.16	0.18	0.20
2	0.04	0.06	0.08	0.10	0.12	0.16	0.20	0.25	0.29	0.33	0.37	0.41
3	0.06	0.09	0.12	0.15	0.18	0.25	0.31	0.37	0.43	0.50	0.56	0.62
4	0.08	0.12	0.16	0.20	0.25	0.33	0.41	0.50	0.58	0.66	0.75	0.83
5	0.10	0.15	0.20	0.26	0.31	0.41	0.52	0.62	0.72	0.83	0.93	1.04
6	0.12	0.18	0.25	0.31	0.37	0.50	0.62	0.75	0.87	1.00	1.12	1.25
7	0.14	0.21	0.29	0.36	0.43	0.58	0.72	0.87	1.02	1.16	1.31	1.45
8	0.16	0.25	0.33	0.41	0.50	0.66	0.83	1.00	1.16	1.33	1.50	1.66
9	0.18	0.28	0.37	0.46	0.56	0.75	0.93	1.12	1.31	1.50	1.68	1.87
10	0.20	0.31	0.41	0.52	0.62	0.83	1.04	1.25	1.45	1.66	1.87	2.08
11	0.22	0.34	0.45	0.57	0.68	0.91	1.14	1.37	1.60	1.83	2.06	2.29
12	0.25	0.37	0.50	0.62	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50
13	0.27	0.40	0.54	0.67	0.81	1.08	1.35	1.62	1.89	2.16	2.43	2.70
14	0.29	0.43	0.58	0.72	0.87	1.16	1.45	1.75	2.04	2.33	2.62	2.91
15	0.31	0.46	0.62	0.78	0.93	1.25	1.56	1.87	2.18	2.50	2.81	3.12
16	0.33	0.50	0.66	0.83	1.00	1.33	1.66	2.00	2.33	2.66	3.00	3.33
17	0.35	0.53	0.70	0.88	1.06	1.41	1.77	2.12	2.47	2.83	3.18	3.54
18	0.37	0.56	0.75	0.93	1.12	1.50	1.87	2.25	2.62	3.00	3.37	3.75
19	0.39	0.59	0.79	0.98	1.18	1.58	1.97	2.37	2.77	3.16	3.56	3.95
20	0.41	0.62	0.83	1.04	1.25	1.66	2.08	2.50	2.91	3.33	3.75	4.16
22	0.45	0.68	0.91	1.14	1.37	1.83	2.29	2.75	3.20	3.66	4.12	4.58
24	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00
28	0.58	0.87	1.16	1.45	1.75	2.33	2.91	3.50	4.08	4.56	5.25	5.83
30	0.62	0.93	1.25	1.56	1.87	2.50	3.12	3.75	4.37	5.00	5.62	6.25
34	0.70	1.06	1.41	1.77	2.12	2.83	3.54	4.25	4.95	5.66	6.37	7.08
38	0.79	1.18	1.58	1.97	2.37	3.16	3.95	4.75	5.54	6.33	7.12	7.91
40	0.83	1.25	1.66	2.08	2.50	3.33	4.16	5.00	5.83	6.66	7.50	8.33
44	0.91	1.37	1.83	2.29	2.75	3.66	4.58	5.50	6.41	7.33	8.25	9.16
48	1.00	1.50	2.00	2.50	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00
50	1.04	1.56	2.08	2.60	3.12	4.16	5.20	6.25	7.29	8.33	9.37	10.41
54	1.12	1.68	2.25	2.81	3.37	4.50	5.62	6.75	7.87	9.00	10.12	11.25
58	1.20	1.81	2.41	3.02	3.62	4.83	6.04	7.25	8.45	9.66	10.87	12.08
60	1.25	1.87	2.50	3.12	3.75	5.00	6.25	7.50	8.75	10.00	11.25	12.50
65	1.35	2.03	2.70	3.38	4.06	5.41	6.77	8.12	9.47	10.83	12.18	13.54
70	1.45	2.18	2.91	3.64	4.37	5.83	7.29	8.75	10.20	11.66	13.12	14.58
75	1.56	2.34	3.12	3.90	4.68	6.25	7.81	9.37	10.93	12.50	14.06	15.62
80	1.66	2.50	3.33	4.16	5.00	6.66	8.33	10.00	11.66	13.33	15.00	16.66
85	1.77	2.65	3.54	4.42	5.31	7.08	8.85	10.62	12.39	14.16	15.93	17.70
90	1.87	2.81	3.75	4.68	5.62	7.50	9.37	11.25	13.12	15.00	16.87	18.75
95	1.97	2.96	3.95	4.94	5.93	7.91	9.89	11.87	13.85	15.83	17.81	19.79
100	2.08	3.12	4.16	5.20	6.25	8.33	10.41	12.50	14.58	16.66	18.75	20.83

.1475 PITCH
PLASTIC AND STAINLESS STEEL

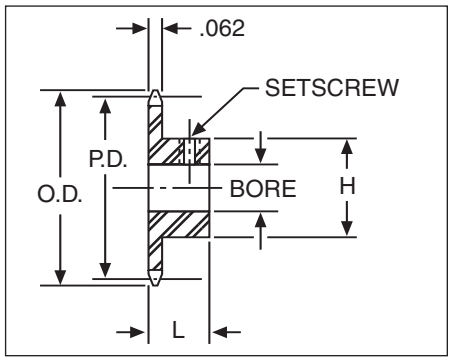
SINGLE STRAND



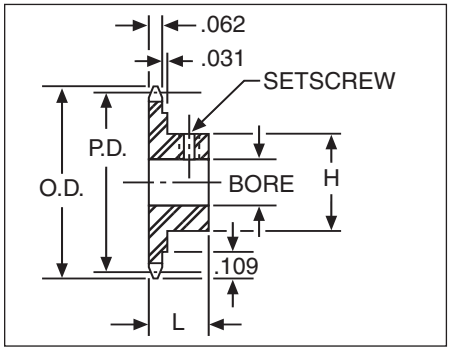
PLASTIC



STAINLESS STEEL
7-28 TEETH



30-48 TEETH



ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	O.D.	Length thru Bore	Catalog Number	Item Code
TYPE B SINGLE HUB PLASTIC (NYLATRON GS)							
7	.340	.093	3/16	.392		15BP7	54144
8	.385		7/32	.437		15BP8	54145
9	.431	.1250		.483		15BP9	54146
10	.477		1/4	.529		15BP10	54147
12	.570			.622		15BP12	54148
13	.616		3/8	.668		15BP13	54149
14	.663			.715		15BP14	54150
15	.709			.761		15BP15	54151
16	.756	.1875		.808		15BP16	54152
17	.803		1/2	.855		15BP17	54153
18	.849			.901		15BP18	54154
19	.890			.948		15BP19	54155
20	.943			.995		15BP20	54156
21	.990			1.042		15BP21	54157
22	1.036			1.088		15BP22	54158
23	1.083			1.135		15BP23	54159
24	1.130			1.182	3/8	15BP24	54160
25	1.177			1.228		15BP25	54161
26	1.224			1.276		15BP26	54162
27	1.270			1.322		15BP27	54163
28	1.317			1.369		15BP28	54164
29	1.364			1.416		15BP29	54165
30	1.411			1.463		15BP30	54166
31	1.458	.250	5/8	1.510		15BP31	54167
32	1.505			1.557		15BP32	54168
33	1.552			1.604		15BP33	54169
34	1.598			1.650		15BP34	54170
35	1.645			1.697		15BP35	54171
36	1.692			1.744		15BP36	54172
38	1.786			1.838		15BP38	54173
40	1.880			1.922		15BP40	54174
42	1.974			2.026		15BP42	54175
44	2.068			2.120		15BP44	54176
52	2.443			2.495		15BP52	54177
TYPE B SINGLE HUB STAINLESS STEEL (TYPE 303 – CLEAR PASSIVATED)							
7	.340	.0937	15/64*	.392		15BSS7	54178
8	.385		9/32*	.437		15BSS8	54179
9	.431	.1250	21/64*	.483		15BSS9	54180
10	.477		3/8*	.529	11/32	15BSS10	54181
12	.570		25/64	.622		15BSS12	54182
15	.709		17/32	.761		15BSS15	54183
16	.756	.1875	9/16	.808		15BSS16	54184
18	.849		21/32	.901		15BSS18	54185
20	.943			.995		15BSS20	54186
24	1.130			1.182		15BSS24	54187
28	1.317			1.369		15BSS28	54188
30	1.411		3/4	1.463	13/32	15BSS30	54189
34	1.598	.2500		1.650		15BSS34	54190
36	1.692			1.744		15BSS36	54191
40	1.880			1.932		15BSS40	54192
48	2.255			2.307		15BSS48	54193

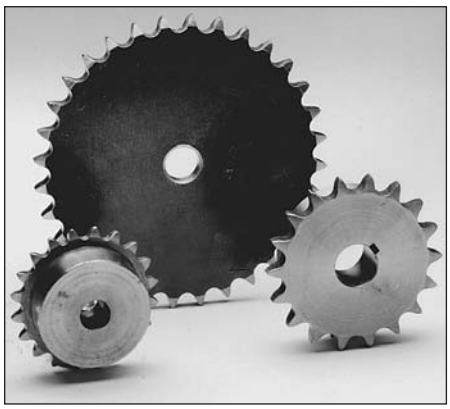
STANDARD TOLERANCES*

Dimension		Tolerance
Bore	All	±.001 to –.000

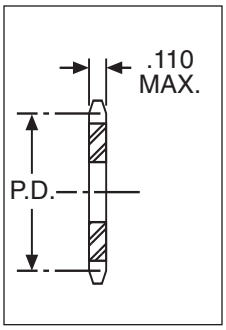
*Stainless Steel Only.

NO. 25 1/4" PITCH STEEL

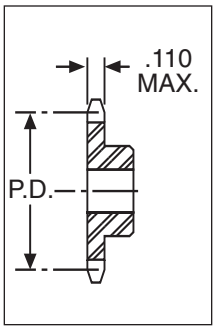
SINGLE STRAND



TYPE A



TYPE B



MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. +.234"

STANDARD TOLERANCES

Dimension		Tolerance	
Type A	Bore	All	+.002 - .001
Type B	Bore	All	±.001

REFERENCE PAGES

Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

*All sprockets have 10-32 setscrews.

ORDER BY CATALOG NUMBER OR ITEM CODE

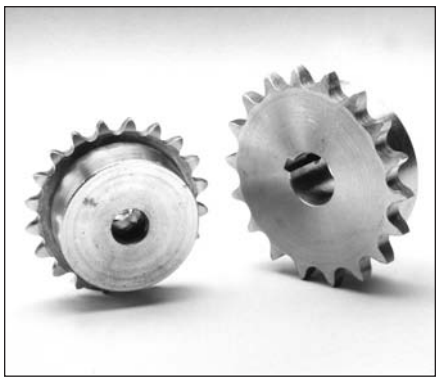
No. of Teeth	Pitch Dia.	Bore	Catalog Number	Item Code
TYPE A NO HUB STEEL				
32	2.551	3/8	25A32	68195
36	2.868		25A36	46224
40	3.186	1/2	25A40	46225
45	3.584		25A45	68198
48	3.822		25A48	46226
54	4.300		25A54	46227
60	4.777		25A60	46228
72	5.731		25A72	46229

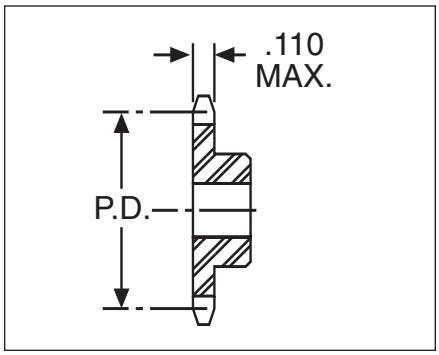
ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Setscrew*		Without Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
9	.731	1/4	29/64	1/2	25B9 – 1/4	68466	25B9	68465
10	.809	1/4	17/32	1/2	25B10 – 1/4	58230	25B10	15600
11	.887	1/4	9/16	1/2	25B11 – 1/4	68468	25B11	68467
12	.966	1/4	11/16	1/2	25B12 – 1/4	19200	25B12A	19199
		5/16			25B12 – 5/16	58231	25B12	15602
		3/8			25B12 – 3/8	58232	—	—
13	1.045	1/4	11/16	1/2	25B13 – 1/4	19202	25B13A	19201
		5/16			25B13 – 5/16	68470	25B13	15603
		3/8			25B13 – 3/8	68471	—	—
14	1.123	1/4	3/4	1/2	25B14 – 1/4	19204	25B14A	19203
		5/16			25B14 – 5/16	68473	25B14	68472
		3/8			25B14 – 3/8	68474	—	—
15	1.202	1/4	3/4	1/2	25B15 – 1/4	19206	25B15A	19205
		5/16			25B15 – 5/16	58233	25B15	15604
		3/8			25B15 – 3/8	58234	—	—
16	1.281	1/4	13/16	1/2	25B16 – 1/4	19208	25B16A	19207
		5/16			25B16 – 5/16	58235	25B16	15606
		3/8			25B16 – 3/8	58236	—	—
17	1.361	1/4	29/32	1/2	25B17 – 1/4	19210	25B17A	19209
		5/16			25B17 – 5/16	58237	25B17	15608
		3/8			25B17 – 3/8	58238	—	—
		1/2			25B17 – 1/2	58239	—	—
18	1.440	1/4	1	1/2	25B18 – 1/4	19212	25B18A	19211
		3/8			25B18 – 3/8	58240	25B18	15610
		1/2			25B18 – 1/2	58241	—	—
19	1.519	1/4	1-1/16	1/2	25B19 – 1/4	19214	25B19A	19213
		3/8			25B19 – 3/8	58242	25B19	15612
		1/2			25B19 – 1/2	58243	—	—
		5/8			25B19 – 5/8	58244	—	—
20	1.598	1/4	1-5/32	1/2	25B20 – 1/4	19216	25B20A	19215
		3/8			25B20 – 3/8	58245	25B20	15614
		1/2			25B20 – 1/2	58246	—	—
		5/8			25B20 – 5/8	58247	—	—
21	1.677	3/8	1-3/8	5/8	25B21 – 3/8	45670	25B21	68187
		1/2			25B21 – 1/2	45671	—	—
		5/8			25B21 – 5/8	45672	—	—
22	1.757	3/8	1-7/16	5/8	25B22 – 3/8	45673	25B22	68188
		1/2			25B22 – 1/2	45674	—	—
		5/8			25B22 – 5/8	45675	—	—
23	1.836	3/8	1-1/2	5/8	25B23 – 3/8	45676	25B23	68189
		1/2			25B23 – 1/2	45677	—	—
		5/8			25B23 – 5/8	45678	—	—
24	1.915	3/8	1-1/2	5/8	25B24 – 3/8	45679	25B24	68190
		1/2			25B24 – 1/2	45680	—	—
		5/8			25B24 – 5/8	45681	—	—

NO. 25 1/4" PITCH
STEEL AND STAINLESS STEEL

SINGLE STRAND





MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. +.234"

STANDARD TOLERANCES

Dimension		Tolerance
Bore	All	±.001

REFERENCE PAGES

Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

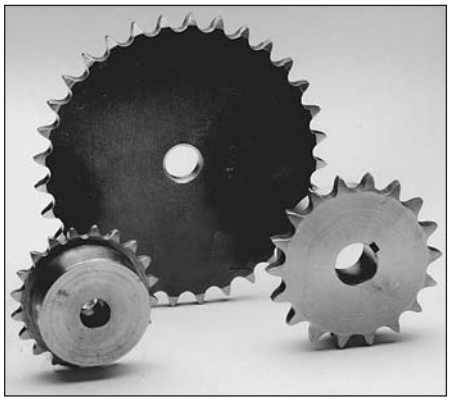
*Sprockets 28 and 30 teeth have 10-32 setscrews. 32-72 teeth 1/4-20 setscrews.

ORDER BY CATALOG NUMBER OR ITEM CODE

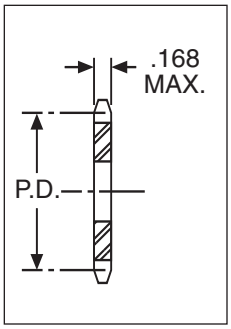
No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Setscrew*		Without Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
25	1.995	3/8	1-1/2	5/8	25B25 – 3/8	45682	25B25	68191
		1/2			25B25 – 1/2	45683		
		5/8			25B25 – 5/8	45684		
26	2.074	3/8	1-1/2	5/8	25B26 – 3/8	45685	25B26	68192
		1/2			25B26 – 1/2	45686		
		5/8			25B26 – 5/8	45687		
28	2.233	3/8	1-1/2	5/8	25B28 – 3/8	45692	25B28	68193
		1/2			25B28 – 1/2	45693		
		5/8			25B28 – 5/8	45694		
30	2.392	3/8	1-9/32	1/2	25B30 – 3/8	58248	25B30	15616
		1/2			25B30 – 1/2	58249		
		5/8			25B30 – 5/8	58250		
		3/4			25B30 – 3/4	58251		
32	2.551	1/2	1-1/2	5/8	25B32 – 1/2	67922	25B32	68204
		5/8			25B32 – 5/8	45695		
		3/4			25B32 – 3/4	45696		
36	2.868	1/2	1-1/2	3/4	25B36 – 1/2	58252	25B36	15618
		5/8			25B36 – 5/8	45709		
		3/4			25B36 – 3/4	45710		
40	3.186	1/2	2	3/4	25B40 – 1/2	58253	25B40	15620
		5/8			25B40 – 5/8	45723		
		3/4			25B40 – 3/4	45724		
45	3.584	1/2	2	3/4	25B45 – 1/2	67925	25B45	68207
		5/8			25B45 – 5/8	45725		
		3/4			25B45 – 3/4	45726		
48	3.822	1/2	2	3/4	25B48 – 1/2	58254	25B48	15622
		5/8			25B48 – 5/8	45727		
		3/4			25B48 – 3/4	45728		
54	4.300	1/2	2	3/4	25B54 – 1/2	58255	25B54	15624
		5/8			25B54 – 5/8	45729		
		3/4			25B54 – 3/4	45730		
60	4.777	1/2	2	3/4	25B60 – 1/2	58256	25B60	15626
		5/8			25B60 – 5/8	45731		
		3/4			25B60 – 3/4	45732		
72	5.731	1/2	2	3/4	25B72 – 3/4	58257	25B72	15628
		5/8			25B72 – 5/8	45739		
		3/4			25B72 – 3/4	45740		
TYPE B SINGLE HUB STAINLESS STEEL								
9	.731	1/4	7/16	1/2			25B9SS	69448
10	.809	1/4	1/2				25B10SS	69449
11	.887	1/4	9/16				25B11SS	69450
12	.966	1/4	5/8				25B12SS	69451
13	1.045	1/4	23/32				25B13SS	69452
14	1.123	1/4	13/16				25B14SS	69453
15	1.202	1/4	57/64				25B15SS	69456
16	1.281	1/4	31/32				25B16SS	69467
17	1.361	1/4	1-1/32				25B17SS	69468
18	1.440	1/4	1-1/8				25B18SS	69469
19	1.519	1/4	1-7/32				25B19SS	69470
20	1.598	1/4	1-9/32	5/8			25B20SS	69471
25	1.995	3/8	1-1/2				25B25SS	69472
30	2.392	3/8	1-1/2				25B30SS	69473
36	2.868	3/8	1-1/2	3/4			25B36SS	69474
40	3.186	1/2	2				25B40SS	69475
45	3.584	1/2	2				25B45SS	69476
60	4.777	1/2	2				25B60SS	69477

NO. 35 3/8" PITCH STEEL

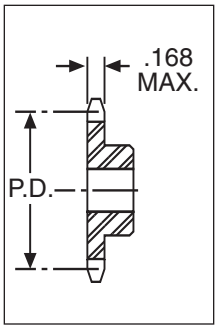
SINGLE STRAND



TYPE A



TYPE B



MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. +.359"

STANDARD TOLERANCES

Dimension		Tolerance	
Type A	Bore	All	+.002 - .001
Type B	Bore	All	±.001

REFERENCE PAGES

Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

*All sprockets have standard keyway. All sprockets have 1/4-20 setscrews located over keyway, except at 90° where marked.

ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Catalog Number	Item Code
TYPE A NO HUB STEEL				
26	3.111	1/2	35A26	67761
28	3.349		35A28	67763
30	3.588		35A30	67764
32	3.826	5/8	35A32	46230
36	4.303		35A36	46232
40	4.780	19/32	35A40	46233
45	5.376		35A45	46235
48	5.734		35A48	46236
72	8.597	23/32	35A72	67775

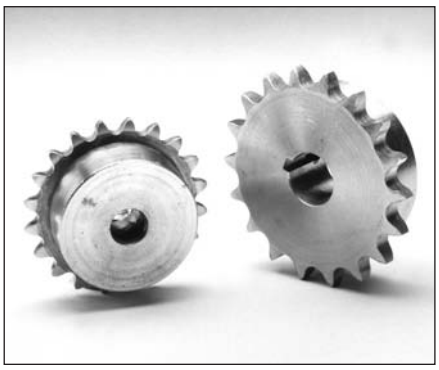
ORDER BY CATALOG NUMBER OR ITEM CODE

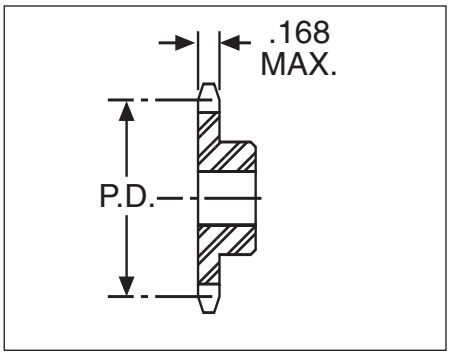
No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway and Setscrew*		Without Keyway and Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
8	.980	3/8	3/4†	3/4	35B8 – 3/8*	49474	35B8	15630†
9	1.096	3/8	27/32†	3/4	35B9 – 3/8	45750	35B9	14882
10	1.214	3/8	31/32†	3/4	35B10 – 3/8	45751	35B10	14884
		1/2			35B10 – 1/2*	14886		
		5/8			35B10 – 5/8*	45752		
11	1.331	3/8	1-1/6†	3/4	35B11 – 3/8	45753	35B11	14888
		1/2			35B11 – 1/2	14890		
		5/8			35B11 – 5/8*	45754		
		3/4			35B11 – 3/4*	45755		
12	1.449	1/2	1-7/32†	3/4	35B12 – 1/2	14892	35B12	15632
		5/8			35B12 – 5/8*	14894		
		3/4			35B12 – 3/4*	14896		
13	1.567	1/2	1-1/4†	3/4	35B13 – 1/2	14898	35B13	15634
		5/8			35B13 – 5/8*	14900		
		3/4			35B13 – 3/4*	14902		
14	1.685	1/2	1-1/4	3/4	35B14 – 1/2	14904	35B14	15636
		5/8			35B14 – 5/8*	14906		
		3/4			35B14 – 3/4*	14908		
15	1.804	1/2	1-11/32	3/4	35B15 – 1/2	14910	35B15	15638
		5/8			35B15 – 5/8	14912		
		3/4			35B15 – 3/4*	14914		
16	1.922	1/2	1-15/32	3/4	35B16 – 1/2	14916	35B16	15640
		5/8			35B16 – 5/8	14918		
		3/4			35B16 – 3/4	14920		
17	2.041	1/2	1-19/32	3/4	35B17 – 1/2	14922	35B17	15642
		5/8			35B17 – 5/8	14924		
		3/4			35B17 – 3/4	14926		
		7/8			35B17 – 7/8	45756		
		1			35B17 – 1*	14928		
18	2.160	1/2	1-23/32	3/4	35B18 – 1/2	14930	35B18	15644
		5/8			35B18 – 5/8	14932		
		3/4			35B18 – 3/4	14934		
		7/8			35B18 – 7/8	46674		
		1			35B18 – 1	14936		
19	2.278	1/2	1-27/32	3/4	35B19 – 1/2	45757	35B19	15646
		5/8			35B19 – 5/8	14938		
		3/4			35B19 – 3/4	14940		
		1			35B19 – 1	14942		
20	2.397	1/2	1-15/16	3/4	35B20 – 1/2	45758	35B20	15648
		5/8			35B20 – 5/8	14944		
		3/4			35B20 – 3/4	14946		
		1			35B20 – 1	14948		
21	2.516	1/2	2	7/8	35B21 – 1/2	45759	35B21	15650
		5/8			35B21 – 5/8	14950		
		3/4			35B21 – 3/4	14952		
		1			35B21 – 1	14954		

†Has recessed grove in hub for chain clearance.

NO. 35 3/8" PITCH STEEL

SINGLE STRAND





MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. +.359"

STANDARD TOLERANCES

Dimension		Tolerance
Bore	All	±.001

REFERENCE PAGES

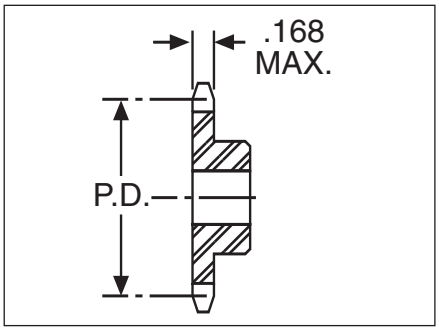
Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

*All sprockets have standard keyway. All sprockets have 1/4-20 setscrew located over keyway, except at 90° where marked.

ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway and Setscrew*		Without Keyway and Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
22	2.635	1/2	2	7/8	35B22 – 1/2	45760	35B22	15652
		5/8			35B22 – 5/8	14956		
		3/4			35B22 – 3/4	14958		
		1			35B22 – 1	14960		
23	2.754	1/2	2	7/8	35B23 – 1/2	45761	35B23	15654
		5/8			35B23 – 5/8	14962		
		3/4			35B23 – 3/4	14964		
		1			35B23 – 1	14966		
24	2.873	1/2	2	7/8	35B24 – 1/2	45762	35B24	15656
		5/8			35B24 – 5/8	14968		
		3/4			35B24 – 3/4	14970		
		1			35B24 – 1	14972		
25	2.992	1/2	2	7/8	35B25 – 1/2	45763	35B25	15658
		5/8			35B25 – 5/8	14974		
		3/4			35B25 – 3/4	14976		
		1			35B25 – 1	14978		
26	3.111	1/2	2	7/8	35B26 – 1/2	45764	35B26	67808
		5/8			35B26 – 5/8	68257		
		3/4			35B26 – 3/4	68258		
		1			35B26 – 1	68259		
28	3.349	1/2	2	78	35B28 – 1/2	45766	35B28	67810
		5/8			35B28 – 5/8	68263		
		3/4			35B28 – 3/4	68264		
		1			35B28 – 1*	68265		
30	3.588	1/2	2	7/8	35B30 – 1/2	45767	35B30	15660
		5/8			35B30 – 5/8	68266		
		3/4			35B30 – 3/4	68267		
		1			35B30 – 1*	68268		
32	3.826	1/2	2	7/8	35B32 – 1/2	45768	35B32	15662
		5/8			35B32 – 5/8	68269		
		3/4			35B32 – 3/4	68270		
		1			35B32 – 1*	68271		
36	4.303	5/8	2-1/4	7/8	35B36 – 5/8	68275	35B36	15664
		3/4			35B36 – 3/4	68276		
		1			35B36 – 1*	68277		
40	4.780	5/8	2-1/4	1	35B40 – 5/8	68278	35B40	15666
		3/4			35B40 – 3/4	68279		
		1			35B40 – 1	68280		
45	5.376	5/8	2-1/4	1	35B45 – 5/8	45772	35B45A	46241
		3/4			35B45 – 3/4	45773		
		1			35B45 – 1	45774		
48	5.734	5/8	2-1/4	1	–	–	35B48	15668
54	6.449	5/8	2-1/4	1	–	–	35B54	15670
60	7.165	3/4	2-1/4	1	35B60 – 3/4	45782	35B60	15672
		1			35B60 – 1	45783		
72	8.597	3/4	2-1/4	1	–	–	35B72	15674
84	10.029	3/4	2-1/4	1	–	–	35B84	15676
96	11.461	3/4	2-1/4	1	–	–	35B96	15678
112	13.371	3/4	2-1/4	1	–	–	35B112	15680

NO. 35 3/8" PITCH STAINLESS STEEL — SINGLE STRAND

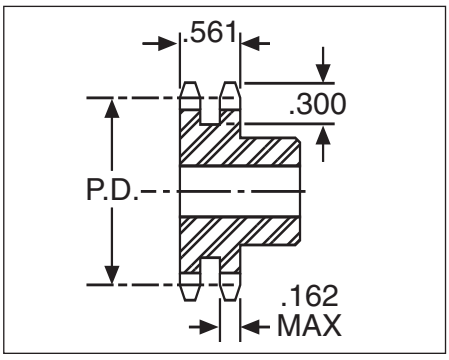


ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	Without Keyway or Setscrew	
					Catalog Number	Item Code
TYPE A NO HUB STEEL						
9	1.096	3/8	27/32†	3/4	35B9SS	69478
10	1.214		31/32†		35B10SS	69479
11	1.331		1-1/16†		35B11SS	69480
12	1.449	1/2	1-7/32†	3/4	35B12SS	69481
13	1.567		1-1/4†		35B13SS	69482
14	1.685		1-1/4		35B14SS	69483
15	1.804		1-11/32		35B15SS	69484
16	1.922		1-15//32		35B16SS	69485
17	2.041		1-19/32		35B17SS	69486
18	2.160		1-23/32		35B18SS	69487
19	2.278		1-27/32		35B19SS	69488
20	2.397		1-15/16		35B20SS	69489
25	2.992	1/2	2	7/8	35B25SS	69490
30	3.588				35B30SS	69511
35	4.183	5/8	2-1/4	1	35B35SS	69512
40	4.780				35B40SS	69513
45	5.376				35B45SS	69624
60	7.165	3/4	2-1/4	1	35B60SS	69682

†Has recessed groove in hub for chain reference.

NO. 35 3/8" PITCH STAINLESS STEEL — DOUBLE STRAND



ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	Without Keyway or Setscrew	
					Catalog Number	Item Code
TYPE B SINGLE HUB STEEL						
16	1.922	1/2	1-15/32	1-1/4	D35B16	15930
17	2.041		1-19/32		D35B17	15932
18	2.160		1-23/32		D35B18	15934
19	2.278		1-7/8		D35B19	15936
20	2.397	3/4	1-15/16	1-3/8	D35B20	15938
21	2.516		2-1/16		D35B21	15940
22	2.635		2-3/16		D35B22	15942
23	2.754		2-1/4		D35B23	15944
24	2.873		2-1/4		D35B24	15946
25	2.992		2-1/4		D35B25	15948
30	3.588	3/4	2-1/2	1-3/8	D35B30	69995

MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. +.359"

STANDARD TOLERANCES

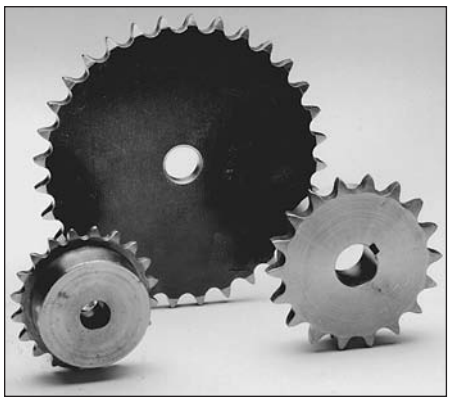
Dimension		Tolerance
Stainless Steel		
Bore	All	+.002 —.000
Double Strand		
Bore	All	±.001

REFERENCE PAGES

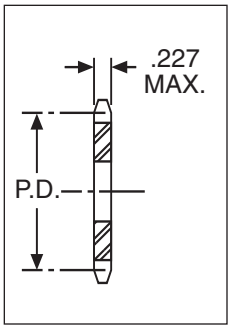
Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

NO. 41 1/2" PITCH STEEL

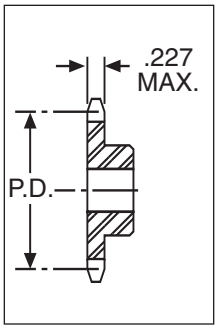
SINGLE STRAND



TYPE A



TYPE B



MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. +.391"

STANDARD TOLERANCES

Dimension		Tolerance	
Type A	Bore	All	+.002 - .001
Type B	Bore	All	±.001

REFERENCE PAGES

Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

*All sprockets have standard keyway. All sprockets have 1/4-20 setscrews located over keyway except at 90° where marked.

†Has recessed groove in hub for chain clearance.

ORDER BY CATALOG NUMBER OR ITEM CODE

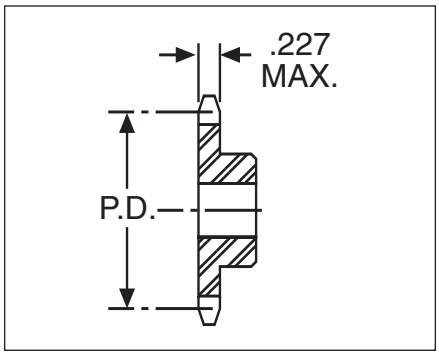
No. of Teeth	Pitch Dia.	Bore	Catalog Number	Item Code
TYPE A—NO HUB STEEL				
21	3.355	5/8	41A21	56742
22	3.513		41A22	56743
23	3.672		41A23	56744
24	3.831		41A24	56745
25	3.989		41A25	56746
26	4.148		41A26	67876
27	4.307		41A27	67877
28	4.466		41A28	67878
30	4.783		41A30	16094
32	5.101	19/32	41A32	16096
36	5.737		41A36	16098
40	6.373	23/32	41A40	16100
45	7.168		41A45	16102
48	7.645		41A48	16104
54	8.599		41A54	16106
60	9.554		41A60	16108
72	11.463		41A72	16112
96	15.282	15/16	41A96	16116

ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway and Setscrew*		Without Keyway and Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
6	1.000	3/8	21/32†	7/8	—	—	41B6	15758
7	1.15	3/8	3/4†	7/8	—	—	41B7	15760
8	1.307	1/2	63/64†	7/8	—	—	41B8	15762
9	1.462	1/2	1-1/8†	7/8	41B9-1/2	15506	41B9	15764
		5/8			41B9-5/8*	15508		
10	1.618	1/2	1-1/4†	7/8	41B10-1/2	15510	41B10	15766
		5/8			41B10-5/8*	15512		
		3/4			41B10-3/4*	15514		
11	1.775	1/2	1-7/16†	7/8	41B11-1/2	15516	41B11	15768
		5/8			41B11-5/8	15518		
		3/4			41B11-3/4*	15520		
12	1.932	1/2	1-9/16†	7/8	41B12-1/2	15522	41B12	15770
		5/8			41B12-5/8	15524		
		3/4			41B12-3/4	15526		
		7/8			41B12-7/8	35950		
13	2.089	1/2	1-9/16†	7/8	41B13-1/2	15528	41B13	15772
		5/8			41B13-5/8	15530		
		3/4			41B13-3/4	15532		
		7/8			41B13-7/8	35952		
		1			41B13-1*	15534		
14	2.247	1/2	1-3/4	7/8	41B14-1/2	15536	41B14	15774
		5/8			41B14-5/8	15538		
		3/4			41B14-3/4	15540		
		7/8			41B14-7/8	35954		
		1			41B14-1*	15542		
15	2.405	1/2	1-29/32	7/8	41B15-1/2	15544	41B15	15776
		5/8			41B15-5/8	15546		
		3/4			41B15-3/4	15548		
		1			41B15-1	15550		

NO. 41 1/2" PITCH STEEL

SINGLE STRAND



MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. +.391"

STANDARD TOLERANCES

Dimension	Tolerance
Bore	All ±.001

REFERENCE PAGES

Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

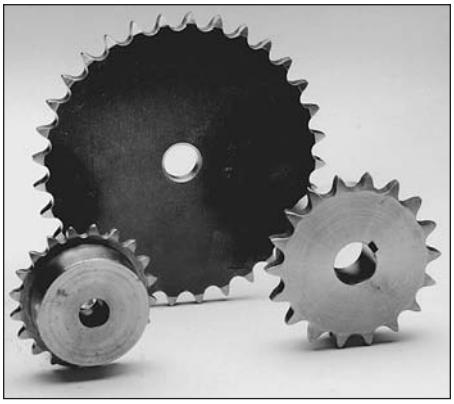
*All sprockets have standard keyways. All sprockets have 1/4-20 setscrews located over keyway.

ORDER BY CATALOG NUMBER OR ITEM CODE

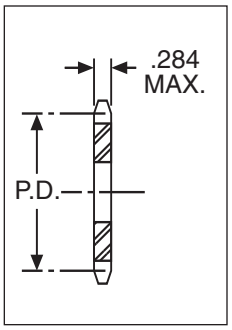
No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway and Setscrew*		Without Keyway and Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
16	2.563	5/8	2-1/16	7/8	41B16-5/8	15552	41B16	15778
		3/4			41B16-3/4	15554		
		1			41B16-1	15556		
17	2.721	5/8	2-15/64	1	41B17-5/8	15558	41B17	15780
		3/4			41B17-3/4	15560		
		1			41B17-1	15562		
18	2.879	5/8	2-3/8	1	41B18-5/8	15564	41B18	15782
		3/4			41B18-3/4	15566		
		1			41B18-1	15568		
19	3.038	5/8	2-15/32	1	41B19-5/8	35956	41B19	15784
		3/4			41B19-3/4	15570		
		1			41B19-1	15572		
20	3.196	5/8	2-3/4	1	41B20-5/8	35958	41B20	15786
		3/4			41B20-3/4	15574		
		1			41B20-1	15576		
21	3.355	5/8	2-7/8	1	41B21-5/8	35960	41B21	15788
		3/4			41B21-3/4	15578		
		1			41B21-1	15580		
22	3.513	5/8	3	1	41B22-5/8	35962	41B22	15790
		3/4			41B22-3/4	15582		
		1			41B22-1	15584		
23	3.672	5/8	3-3/16	1	41B23-5/8	35964	41B23	15792
		3/4			41B23-3/4	15586		
		1			41B23-1	15588		
24	3.831	5/8	3-1/4	1	41B24-5/8	35966	41B24	15794
		3/4			41B24-3/4	15590		
		1			41B24-1	15592		
25	3.989	5/8	3-1/4	1	41B25-5/8	35968	41B25	15796
		3/4			41B25-3/4	15594		
		1			41B25-1	15596		
26	4.148	5/8	3-1/4	1	41B26-5/8	68281	41B26	67920
		3/4			41B26-3/4	68282		
		1			41B26-1	68283		
27	4.307	5/8	3-1/4	1	41B27-5/8	68284	41B27	67930
		3/4			41B27-3/4	68285		
		1			41B27-1	68286		
28	4.466	5/8	3-1/4	1	41B28-5/8	68287	41B28	67931
		3/4			41B28-3/4	68288		
		1			41B28-1	68289		
30	4.783	5/8	3-1/4	1	41B30-5/8	68290	41B30	16464
		3/4			41B30-3/4	68291		
		1			41B30-1	68292		
32	5.101	5/8	3-1/4	1	—	—	41B32	16466
36	5.737	5/8	3-1/4	1	—	—	41B36	16468
40	6.373	3/4	3-1/4	1-1/16	—	—	41B40	16470
45	7.168	3/4	3-1/2	1-1/16	—	—	41B45	16472
48	7.645	3/4	3-1/2	1-1/16	—	—	41B48	16474
54	8.599	3/4	3-1/2	1-1/16	—	—	41B54	16476
60	9.554	3/4	3-1/2	1-1/16	—	—	41B60	16478
72	11.463	3/4	4	1-3/16	—	—	41B72	16482
96	15.282	1	4	1-3/16	—	—	41B96	16486

NO. 40 1/2" PITCH STEEL

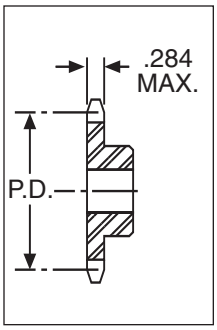
SINGLE STRAND



TYPE A



TYPE B



MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. +.469"

STANDARD TOLERANCES

Dimension		Tolerance	
Type A	Bore	All	+.002 - .001
Type B	Bore	All	±.001

REFERENCE PAGES

Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

*All sprockets have standard keyways. All sprockets have 1/4-20 setscrews, located over keyway, except at 90° where marked.

†Has recessed groove in the hub for chain clearance.

ORDER BY CATALOG NUMBER OR ITEM CODE

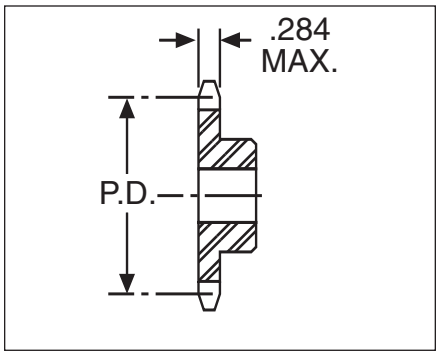
No. of Teeth	Pitch Dia.	Bore	Catalog Number	Item Code
TYPE A—NO HUB STEEL				
19	3.038	5/8	40A19	68007
20	3.196		40A20	68008
21	3.355		40A21	56747
22	3.513		40A22	56748
23	3.672		40A23	56749
24	3.831		40A24	56750
25	3.989		40A25	56751
26	4.148		40A26	67014
27	4.307		40A27	67015
28	4.466		40A28	67016
30	4.783	19/32	40A30	16258
32	5.101		40A32	16260
35	5.578		40A35	68023
36	5.737		40A36	16262
38	6.055		40A38	68026
40	6.373	23/32	40A40	16264
42	6.691		40A42	16266
45	7.168		40A45	16268
48	7.645		40A48	16270
54	8.599		40A54	16272
60	9.554		40A60	16274
72	11.463		40A72	16278
84	13.372		40A84	16282
96	15.282	15/16	40A96	16284
112	17.828		40A112	16286

ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway and Setscrew*		Without Keyway and Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
8	1.307	1/2	31/32†	7/8	—	—	40B8	15682
9	1.462	1/2	1-1/16†	7/8	40B9-1/2*	14980	40B9	15684
		5/8			40B9-5/8*	14982		
10	1.618	1/2	1-1/4†	7/8	40B10-1/2	14984	40B10	15686
		5/8			40B10-5/8*	14986		
		3/4			40B10-3/4*	14988		
11	1.775	1/2	1-3/8†	7/8	40B11-1/2	36054	40B11	15688
		5/8			40B11-5/8	14990		
		3/4			40B11-3/4	14992		
		7/8			40B11-7/8*	14994		
12	1.932	1/2	1-9/16†	7/8	40B12-1/2	36056	40B12	15690
		5/8			40B12-5/8	14996		
		3/4			40B12-3/4	14998		
		7/8			40B12-7/8	15000		
		1			40B12-1*	15002		
13	2.089	1/2	1-9/16	7/8	40B13-1/2	36058	40B13	15692
		5/8			40B13-5/8	15004		
		3/4			40B13-3/4	15006		
		7/8			40B13-7/8	15008		
		1			40B13-1*	15010		
14	2.247	1/2	1-11/16	7/8	40B14-1/2	36060	40B14	15694
		5/8			40B14-5/8	15012		
		3/4			40B14-3/4	15014		
		7/8			40B14-7/8	15016		
		1			40B14-1	15018		
		1-1/8			40B14-1-1/8*	56732		
15	2.405	1/2	1-13/16	7/8	40B15-1/2	36062	40B15	15696
		5/8			40B15-5/8	15020		
		3/4			40B15-3/4	15022		
		7/8			40B15-7/8	15024		
		1			40B15-1	15026		
		1-1/8			40B15-1-1/8	15028		
		1-3/16			40B15-1-3/16*	15030		
		1-1/4			40B15-1-1/4*	15032		

NO. 40 1/2" PITCH STEEL

SINGLE STRAND



MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. +.469"

STANDARD TOLERANCES

Dimension		Tolerance
Bore	All	±.001

REFERENCE PAGES

Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

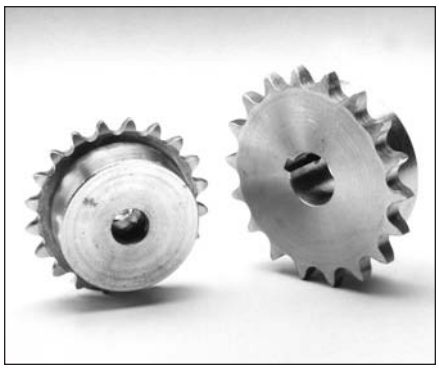
*All sprockets have standard keyways. Sprockets 16-17 teeth have 1/4-20 setscrews, 18-21 teeth 5/16-18 setscrews, located over keyway, except at 90° where marked.

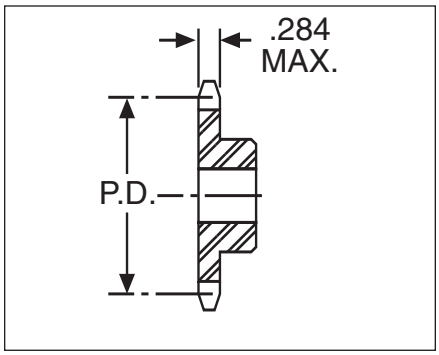
ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway and Setscrew*		Without Keyway and Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
16	2.563	5/8	2	7/8	40B16-5/8	15034	40B16	15698
		3/4			40B16-3/4	15036		
		7/8			40B16-7/8	15038		
		1			40B16-1	15040		
		1-1/8			40B16-1-1/8	36064		
		1-3/16			40B16-1-3/16	15042		
		1-1/4			40B16-1-1/4	15044		
17	2.721	5/8	2-1/8	1	40B17-5/8	15046	40B17	15700
		3/4			40B17-3/4	15048		
		7/8			40B17-7/8	36066		
		1			40B17-1	15050		
		1-1/8			40B17-1-1/8	15052		
		1-3/16			40B17-1-3/16	15054		
		1-1/4			40B17-1-1/4	56733		
18	2.879	5/8	2-5/16	1	40B18-5/8	36068	40B18	15702
		3/4			40B18-3/4	15056		
		7/8			40B18-7/8	15058		
		1			40B18-1	15060		
		1-1/8			40B18-1-1/8	15062		
		1-3/16			40B18-1-3/16	15064		
		1-1/4			40B18-1-1/4	15066		
		1-3/8			40B18-1-3/8	36070		
		1-7/16			40B18-1-7/16	15068		
		1-1/2			40B18-1-1/2	15070		
19	3.038	5/8	2-1/2	1	40B19-5/8	36072	40B19	15704
		3/4			40B19-3/4	15072		
		7/8			40B19-7/8	36074		
		1			40B19-1	15074		
		1-1/8			40B19-1-1/8	36076		
		1-3/16			40B19-1-3/16	15076		
		1-1/4			40B19-1-1/4	36078		
		1-3/8			40B19-1-3/8	36080		
		1-7/16			40B19-1-7/16*	15078		
		1-1/2			40B19-1-1/2*	56734		
20	3.196	5/8	2-5/8	1	40B20-5/8	36082	40B20	15706
		3/4			40B20-3/4	15080		
		7/8			40B20-7/8	15082		
		1			40B20-1	15084		
		1-1/8			40B20-1-1/8	15086		
		1-3/16			40B20-1-3/16	15088		
		1-1/4			40B20-1-1/4	15090		
		1-3/8			40B20-1-3/8	36084		
		1-7/16			40B20-1-7/16	15092		
		1-1/2			40B20-1-1/2	15094		
21	3.355	5/8	2-3/4	1	40B21-5/8	36086	40B21	15708
		3/4			40B21-3/4	17148		
		7/8			40B21-7/8	15096		
		1			40B21-1	15098		
		1-1/8			40B21-1-1/8	36088		
		1-3/16			40B21-1-3/16	15100		
		1-1/4			40B21-1-1/4	36090		
		1-3/8			40B21-1-3/8	36092		
		1-7/16			40B21-1-7/16*	15102		
		1-1/2			40B21-1-1/2*	15104		

NO. 40 1/2" PITCH STEEL

SINGLE STRAND





MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. +.469"

STANDARD TOLERANCES

Dimension		Tolerance
Bore	All	±.001

REFERENCE PAGES

Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

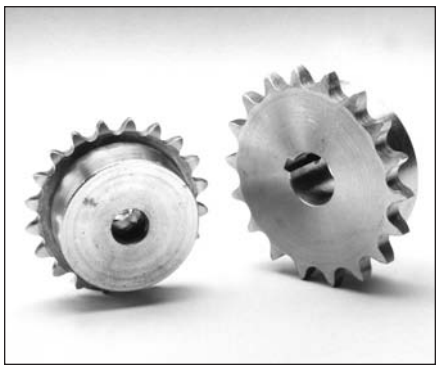
*All sprockets have standard keyways. All sprockets have 5/16-18 setscrews located over keyway, except at 90° where marked.

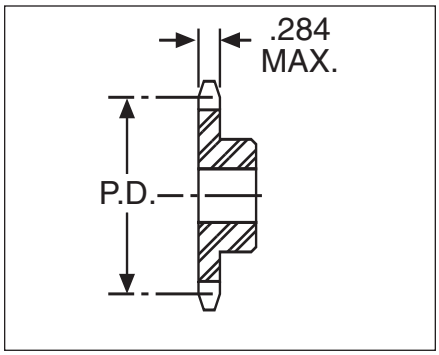
ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway and Setscrew*		Without Keyway and Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
22	3.513	5/8	2-7/8	1	40B22-5/8	36094	40B22	15710
		3/4			40B22-3/4	15106		
		7/8			40B22-7/8	36096		
		1			40B22-1	15108		
		1-1/8			40B22-1-1/8	15110		
		1-3/16			40B22-1-3/16	15112		
		1-1/4			40B22-1-1/4	15114		
		1-3/8			40B22-1-3/8	36098		
		1-7/16			40B22-1-7/16	15116		
		1-1/2			40B22-1-1/2	56735		
23	3.672	5/8	3	1	40B23-5/8	36102	40B23	15712
		3/4			40B23-3/4	15118		
		7/8			40B23-7/8	36104		
		1			40B23-1	15120		
		1-1/8			40B23-1-1/8	36106		
		1-3/16			40B23-1-3/16	15122		
		1-1/4			40B23-1-1/4	15124		
		1-3/8			40B23-1-3/8	36108		
		1-7/16			40B23-1-7/16	15126		
		1-1/2			40B23-1-1/2	56736		
24	3.831	5/8	3-1/4	1	40B24-5/8	36110	40B24	15714
		3/4			40B24-3/4	15128		
		7/8			40B24-7/8	36112		
		1			40B24-1	15130		
		1-1/8			40B24-1-1/8	15132		
		1-3/16			40B24-1-3/16	15134		
		1-1/4			40B24-1-1/4	15136		
		1-3/8			40B24-1-3/8	36114		
		1-7/16			40B24-1-7/16	15138		
		1-1/2			40B24-1-1/2	15140		
25	3.989	5/8	3-1/4	1	40B25-5/8	36116	40B25	15716
		3/4			40B25-3/4	15142		
		7/8			40B25-7/8	36118		
		1			40B25-1	15144		
		1-1/8			40B25-1-1/8	36120		
		1-3/16			40B25-1-3/16	36122		
		1-1/4			40B25-1-1/4	15146		
		1-7/16			40B25-1-7/16	36124		
		1-1/2			40B25-1-1/2	15148		
26	4.148	5/8	3-1/4	1	40B26-5/8	36126	40B26	68089
		3/4			40B26-3/4	68293		
		7/8			40B26-7/8	68294		
		1			40B26-1	68295		
		1-1/8			40B26-1-1/8	68296		
		1-3/16			40B26-1-3/16	68297		
		1-1/4			40B26-1-1/4	68298		
		1-7/16			40B26-1-7/16	68299		
		1-1/2			40B26-1-1/2	68300		
27	4.307	5/8	3-1/4	1	40B27-5/8	36128	40B27	68090
		3/4			40B27-3/4	68301		
		7/8			40B27-7/8	68302		
		1			40B27-1	68303		
		1-1/8			40B27-1-1/8	68304		
		1-3/16			40B27-1-3/16	68305		
		1-1/4			40B27-1-1/4	68306		
		1-7/16			40B27-1-7/16	68307		
		1-1/2			40B27-1-1/2	68308		

NO. 40 1/2" PITCH STEEL

SINGLE STRAND





MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. +.469"

STANDARD TOLERANCES

Dimension		Tolerance
Bore	All	±.001

REFERENCE PAGES

Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

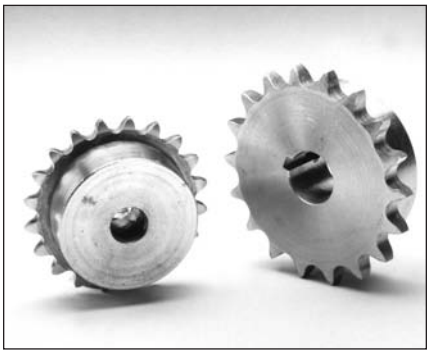
*All sprockets have standard keyways. All sprockets have 5/16-18 setscrews located over keyway.

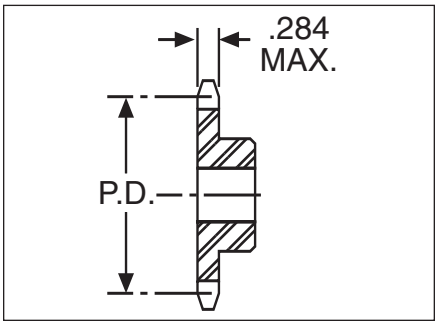
ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway and Setscrew*		Without Keyway and Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
28	4.466	5/8	3-1/4	1	40B28-5/8	36130	40B28	68091
		3/4			40B28-3/4	68309		
		7/8			40B28-7/8	68310		
		1			40B28-1	68311		
		1-1/8			40B28-1-1/8	68312		
		1-3/16			40B28-1-3/16	68313		
		1-1/4			40B28-1-1/4	68314		
		1-7/16			40B28-1-7/16	68315		
		1-1/2			40B28-1-1/2	68316		
30	4.783	5/8	3-1/4	1	40B30-5/8	36134	40B30	16434
		3/4			40B30-3/4	68325		
		7/8			40B30-7/8	68326		
		1			40B30-1	68327		
		1-1/8			40B30-1-1/8	68328		
		1-3/16			40B30-1-3/16	68329		
		1-1/4			40B30-1-1/4	68330		
		1-7/16			40B30-1-7/16	68331		
		1-1/2			40B30-1-1/2	68332		
32	5.101	5/8	3-1/4	1	—	—	40B32	16436
35	5.578	5/8	3-1/4	1	40B35-5/8	36186	40B35	68096
		3/4			40B35-3/4	36188		
		1			40B35-1	36190		
		1-1/4			40B35-1-1/4	36192		
		1-7/16			40B35-1-7/16	36194		
		1-1/2			40B35-1-1/2	36196		
36	5.738	3/4	3-1/4	1	40B36-3/4	49478	40B36	16438
		1			40B36-1	36200		
		1-1/4			40B36-1-1/4	45979		
		1-7/16			40B36-1-7/16	45980		
		1-1/2			40B36-1-1/2	45981		
38	6.055	5/8	3-1/4	1	—	—	40B38	68098
40	6.373	3/4	3-1/2	1-1/8	—	—	40B40	16440
42	6.691	3/4	3-1/2	1-1/8	40B42-3/4	49479	40B42	16442
		1			40B42-1	36264		
		1-1/4			40B42-1-1/4	36266		
		1-7/16			40B42-1-7/16	36268		
		1-1/2			40B42-1-1/2	36270		
45	7.168	3/4	3-1/2	1-1/8	40B45-3/4	49480	40B45	16444
		1			40B45-1	36298		
		1-1/4			40B45-1-1/4	36300		
		1-7/16			40B45-1-7/16	36302		
		1-1/2			40B45-1-1/2	36304		
48	7.645	3/4	3-1/2	1-1/8	40B48-3/4	49481	40B48	16446
		1			40B48-1	36330		
		1-1/4			40B48-1-1/4	36332		
		1-7/16			40B48-1-7/16	36334		
		1-1/2			40B48-1-1/2	36336		
54	8.599	3/4	3-1/2	1-1/8	—	—	40B54	16448
60	9.554	1	3-1/2	1-1/8	40B60-1	36470	40B60	16450
		1-1/4			40B60-1-1/4	36472		
		1-7/16			40B60-1-7/16	36474		
		1-1/2			40B60-1-1/2	36476		
72	11.463	3/4	4	1-1/4	—	—	40B72	16454
84	13.372	3/4	4	1-1/4	—	—	40B84	16458
96	15.282	1	4	1-1/4	—	—	40B96	16460
112	17.828	1	4	1-1/4	—	—	40B112	16462

NO. 40 1/2" PITCH STAINLESS STEEL

SINGLE STRAND





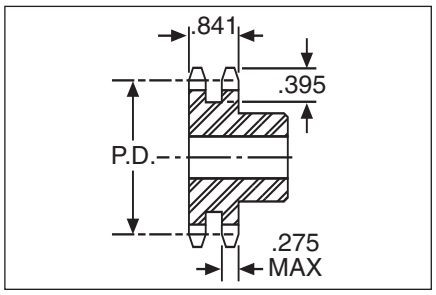
ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru	Without Keyway or Setscrew	
					Catalog Number	Item Code
TYPE B SINGLE HUB STAINLESS STEEL						
10	1.618	1/2	1-1/4†	7/8	40B10SS	69275
11	1.775		1-3/8†		40B11SS	69276
12	1.932		1-9/16†		40B12SS	69277
13	2.089		1-9/16		40B13SS	69278
14	2.247		1-11/16		40B14SS	69279
15	2.405	5/8	1-13/16	7/8	40B15SS	69280
16	2.563		2		40B16SS	69281
17	2.721	5/8	2-1/8	1	40B17SS	69282
18	2.879		2-5/16		40B18SS	69283
19	3.038		2-1/2		40B19SS	69294
20	3.196		2-5/8		40B20SS	69295
25	3.989		3-1/4		40B25SS	69296
30	4.783		3-1/4		40B30SS	69297
40	6.373	3/4	3-1/2	1	40B40SS	69300
45	7.168		3-1/2		40B45SS	69301
60	9.554		3-1/2		40B60SS	69302

†Has recessed groove in hub for chain reference.

NO. 40-2 1/2" PITCH STEEL

DOUBLE STRAND



ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru	Without Keyway or Setscrew	
					Catalog Number	Item Code
TYPE B SINGLE HUB STEEL						
13	2.089	1/2	1-1/2	1-1/2	D40B13	46563
14	2.247		1-11/16		D40B14	46564
15	2.405		1-13/126		D40B15	46565
16	2.563	1/2	2	1-1/2	D40B16	15950
17	2.721		2-1/8		D40B17	15952
18	2.879		2-5/16		D40B18	15954
19	3.038		2-1/2		D40B19	15956
20	3.196	5/8	2-5/8	1-5/8	D40B20	15958
21	3.355		2-3/4		D40B21	15960
22	3.513		2-7/8		D40B22	15962
23	3.672		3		D40B23	15964
24	3.831		3-1/4		D40B24	15966
25	4.989		3-1/4		D40B25	15968
26	4.148		3-1/4		D40B26	68011
30	4.783	7/8	2-1/2	1-5/8	D40B30	68012
35	5.578		3-1/4		D40B35	68013
36	5.737	15/16	3-3/4	1-5/8	D40B36	68018
40	6.373		3-3/4	1-3/4	D40B40	68020

MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. +.469"

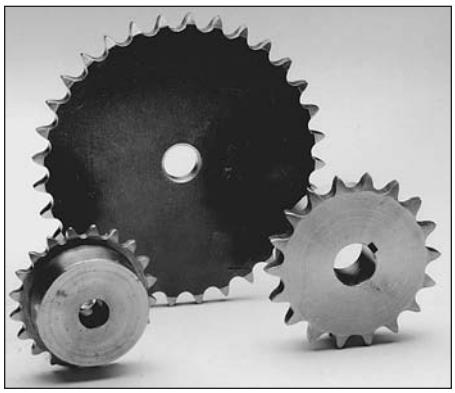
STANDARD TOLERANCES

Dimension		Tolerance
Stainless Steel		
Bore	All	+.002 —.000
Double Strand		
Bore	All	±,001

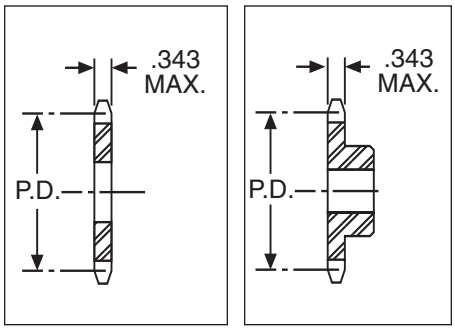
REFERENCE PAGES

Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

NO. 50 5/8" PITCH STEEL — SINGLE STRAND



TYPE A TYPE B



MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. + .594"

STANDARD TOLERANCES

Dimension		Tolerance	
Type A	Bore	All	±.002 –.001
Type B	Bore	All	±.001

REFERENCE PAGES

Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

*All sprockets have standard keyway. Sprockets 8-12 teeth have 1/4–20 setscrew, 13-14 teeth 5/16-18 setscrew located over keyway except at 90° where marked.

†Has recessed groove in hub for chain clearance.

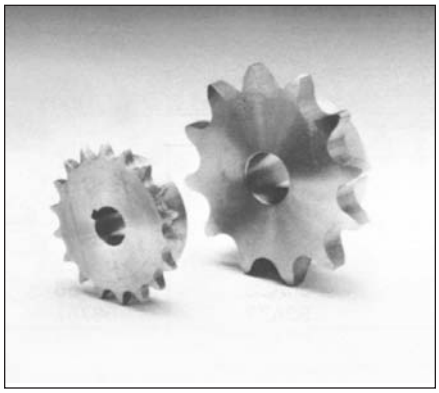
ORDER BY CATALOG NUMBER OR ITEM CODE

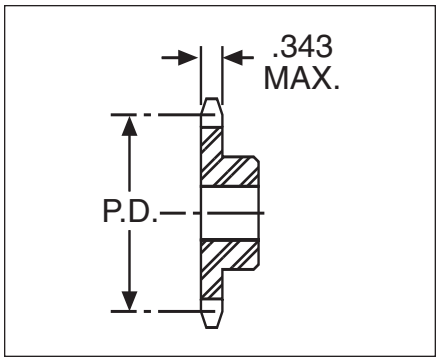
No. of Teeth	Pitch Dia.	Bore	Catalog Number	Item Code
TYPE A NO HUB STEEL				
17	3.401	5/8	50A17	45865
18	3.599		50A18	56752
19	3.797		50A19	56753
20	3.955	3/4	50A20	56754
21	4.193		50A21	56755
22	4.392		50A22	56756
23	4.590		50A23	56757
24	4.788	23/32	50A24	56758
25	4.987		50A25	16288
26	5.185		50A26	45866
28	5.582		50A28	45867
30	5.979		50A30	16290
32	6.376		50A32	16292
35	6.872		50A35	45872
36	7.171		50A36	16294
40	7.966		50A40	16296
42	8.363		50A42	16298
45	8.960		50A45	16300
48	9.556	15/16	50A48	16302
54	10.749		50A54	16304
60	11.942		50A60	16306
72	14.328		50A72	16310
84	16.715		50A84	16314
96	19.102		50A96	16316
112	21.885		50A112	16318

ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway & Setscrew*		Without Keyway or Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
8	1.633	5/8	1-1/8†	1	50B8-5/8*	49482	50B8	15798
9	1.827	5/8	1-3/8†	1	50B9-5/8	15150	50B9	15800
		3/4			50B9-3/4*	15152		
10	2.023	5/8	1-9/16†	1	50B10-5/8	15154	50B10	15802
		3/4			50B10-3/4	15156		
		7/8			50B10-7/8	36496		
		1			50B10-1*	36498		
11	2.218	5/8	1-3/4†	1	50B11-5/8	15158	50B11	15804
		3/4			50B11-3/4	15160		
		7/8			50B11-7/8	15162		
		1			50B11-1*	15164		
12	2.415	5/8	1-63/64†	1	50B12-5/8	15166	50B12	15806
		3/4			50B12-3/4	15168		
		7/8			50B12-7/8	15170		
		1			50B12-1	15172		
		1-1/8			50B12-1-1/8	15174		
		1-3/16			50B12-1-3/16	36500		
		1-1/4			50B12-1-1/4*	36502		
13	2.612	5/8	1-7/8	1	50B13-5/8	36504	50B13	15808
		3/4			50B13-3/4	15176		
		7/8			50B13-7/8	15178		
		1			50B13-1	15180		
		1-1/8			50B13-1-1/8*	15182		
		1-3/16			50B13-1-3/16	15184		
		1-1/4			50B13-1-1/4*	15186		
14	2.809	5/8	2-1/8	1	50B14-5/8	36506	50B14	15810
		3/4			50B14-3/4	15188		
		7/8			50B14-7/8	15190		
		1			50B14-1	15192		
		1-1/8			50B14-1-1/8	15194		
		1-3/16			50B14-1-3/16	15196		
		1-1/4			50B14-1-1/4*	15198		

NO. 50 5/8" PITCH STEEL — SINGLE STRAND





MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. + .594"

STANDARD TOLERANCES

Dimension	Tolerance	
Bore	All	±.001

REFERENCE PAGES

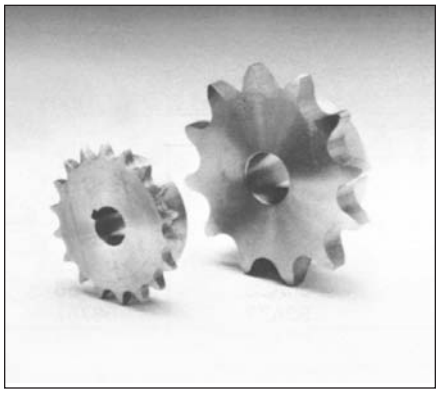
Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

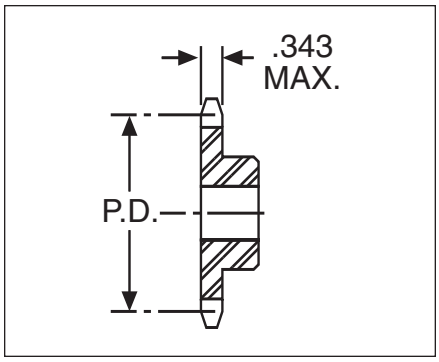
*All sprockets have standard keyway. All sprockets have 5/16–18 setscrews located over keyway except at 90° where marked.

ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway & Setscrew*		Without Keyway or Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
15	3.006	5/8	2-3/8	1	50B15-5/8	36508	50B15	15812
		3/4			50B15-3/4	15200		
		7/8			50B15-7/8	15202		
		1			50B15-1	15204		
		1-1/8			50B15-1-1/8	36206		
		1-3/16			50B15-1-3/16	15208		
		1-1/4			50B15-1-1/4	15210		
		1-3/8			50B15-1-3/8	15212		
		1-7/16			50B15-1-7/16*	15214		
		1-1/2			50B15-1-1/2*	36510		
16	3.204	5/8	2-1/2	1	50B16-5/8	36512	50B16	15814
		3/4			50B16-3/4	15216		
		7/8			50B16-7/8	15218		
		1			50B16-1	15220		
		1-1/8			50B16-1-1/8	15222		
		1-3/16			50B16-1-3/16	15224		
		1-1/4			50B16-1-1/4	15226		
		1-3/8			50B16-1-3/8	15228		
		1-7/16			50B16-1-7/16	15230		
		1-1/2			50B16-1-1/2*	15232		
		1-5/8			50B16-1-5/8*	36514		
17	3.401	5/8	2-11/16	1	50B17-5/8	36516	50B17	15816
		3/4			50B17-3/4	15234		
		7/8			50B17-7/8	17150		
		1			50B17-1	15236		
		1-1/8			50B17-1-1/8	15238		
		1-3/16			50B17-1-3/16	15240		
		1-1/4			50B17-1-1/4	15242		
		1-3/8			50B17-1-3/8*	15244		
		1-7/16			50B17-1-7/16*	15246		
		1-1/2			50B17-1-1/2*	56737		
		1-5/8			50B17-1-5/8*	36518		
18	3.599	5/8	2-7/8	1	50B18-5/8	36520	50B18	15818
		3/4			50B18-3/4	15248		
		7/8			50B18-7/8	15250		
		1			50B18-1	15252		
		1-1/8			50B18-1-1/8	36522		
		1-3/16			50B18-1-3/16	15254		
		1-1/4			50B18-1-1/4	15256		
		1-3/8			50B18-1-1/4	15258		
		1-7/16			50B18-1-7/16	15260		
		1-1/2			50B18-1-1/2	15262		
19	3.797	5/8	3	1	50B19-5/8	36524	50B19	15820
		3/4			50B19-3/4	36526		
		7/8			50B19-7/8	36528		
		1			50B19-1	15264		
		1-1/8			50B19-1-1/8	15266		
		1-3/16			50B19-1-3/16	15268		
		1-1/4			50B19-1-1/4	15270		
		1-3/8			50B19-1-1/4	15272		
		1-7/16			50B19-1-7/16	15274		
		1-1/2			50B19-1-1/2	15276		
20	3.995	3/4	3	1	50B20-3/4	36530	50B20	15833
		7/8			50B20-7/8	15278		
		1			50B20-1	15280		
		1-1/8			50B20-1-1/8	56738		
		1-3/16			50B20-1-3/16	15282		
		1-1/4			50B20-1-1/4	15284		
		1-3/8			50B20-1-1/4	15286		
		1-7/16			50B20-1-7/16	15288		
		1-1/2			50B20-1-1/2	15290		
		1-5/8			50B20-1-5/8	36532		

NO. 50 5/8" PITCH STEEL — SINGLE STRAND





MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. + .594"

STANDARD TOLERANCES

Dimension	Tolerance	
Bore	All	±.001

REFERENCE PAGES

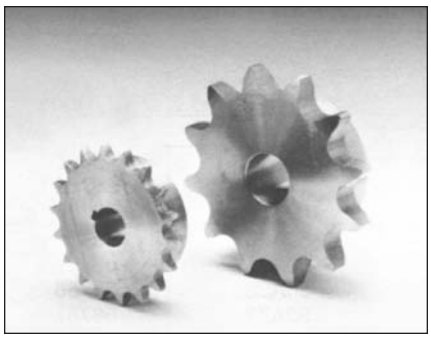
Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

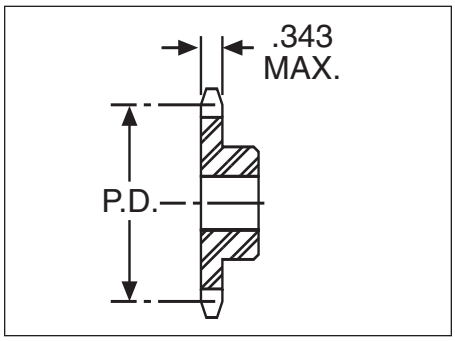
*All sprockets have standard keyway. All sprockets have 5/16–18 setscrews located over keyway except at 90° where marked.

ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway & Setscrew*		Without Keyway or Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
21	4.193	3/4	3	1	50B21-3/4	36536	50B21	15824
		1			50B21-1	15292		
		1-1/8			50B21-1-1/8	36540		
		1-3/16			50B21-1-3/16	36538		
		1-1/4			50B21-1-1/4	15294		
		1-3/8			50B21-1-3/8	36542		
		1-7/16			50B21-1-7/16	56739		
		1-1/2			50B21-1-1/2	15296		
22	4.392	3/4	3	1	50B22-3/4	36546	50B22	15826
		1			50B22-1	15300		
		1-1/8			50B22-1-1/8	36548		
		1-3/16			50B22-1-3/16	36550		
		1-1/4			50B22-1-1/4	15302		
		1-3/8			50B22-1-3/8	36552		
		1-7/16			50B22-1-7/16	36554		
		1-1/2			50B22-1-1/2	15304		
23	4.590	3/4	3	1	50B23-3/4	36558	50B23	15828
		1			50B23-1	15308		
		1-1/8			50B23-1-1/8	36560		
		1-3/16			50B23-1-3/16	36562		
		1-1/4			50B23-1-1/4	15310		
		1-3/8			50B23-1-3/8	36564		
		1-7/16			50B23-1-7/16	36566		
		1-1/2			50B23-1-1/2	15312		
24	4.788	3/4	3	1-1/4	50B24-3/4	36570	50B24	15830
		1			50B24-1	15316		
		1-1/8			50B24-1-1/8	36572		
		1-3/16			50B24-1-3/16	36574		
		1-1/4			50B24-1-1/4	15318		
		1-3/8			50B24-1-3/8	36576		
		1-7/16			50B24-1-7/16	36578		
		1-1/2			50B24-1-1/2	15320		
25	4.987	3/4	3	1-1/4	50B25-3/4	36582	50B25	15832
		1			50B25-1	36584		
		1-1/8			50B25-1-1/8	36586		
		1-3/16			50B25-1-3/16	36588		
		1-1/4			50B25-1-1/4	36590		
		1-3/8			50B25-1-3/8	36592		
		1-7/16			50B25-1-7/16	36594		
		1-1/2			50B25-1-1/2	36596		
26	5.185	3/4	3	1-1/4	50B26-3/4	36602	50B26	36598
		1			50B26-1	36604		
		1-1/8			50B26-1-1/8	36606		
		1-3/16			50B26-1-3/16	36608		
		1-1/4			50B26-1-1/4	36610		
		1-7/16			50B26-1-7/16	36612		
		1-1/2			50B26-1-1/2	36614		
28	5.582	3/4	3	1-1/4	50B28-3/4	36638	50B28	36630
		1			50B28-1	36640		
		1-1/8			50B28-1-1/8	36642		
		1-3/16			50B28-1-3/16	36644		
		1-1/4			50B28-1-1/4	36646		
		1-7/16			50B28-1-7/16	36648		
		1-1/2			50B28-1-1/2	36650		
30	5.979	3/4	3	1-1/4	50B30-3/4	36674	50B30	16488
		1			50B30-1	36676		
		1-1/8			50B30-1-1/8	36678		
		1-3/16			50B30-1-3/16	36680		
		1-1/4			50B30-1-1/4	36682		
		1-7/16			50B30-1-7/16	36684		
		1-1/2			50B30-1-1/2	36686		

NO. 50 5/8" PITCH STEEL — SINGLE STRAND





REFERENCE PAGES

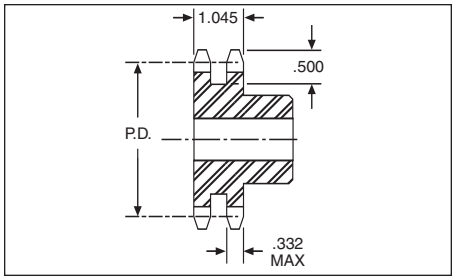
Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

*All sprockets have standard keyway. All sprockets have 5/16–18 setscrews located over keyway except at 90° where marked.

ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway & Setscrew*		Without Keyway or Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
32	6.376	3/4	3-1/4	1-1/4	—	—	50B32	16490
35	6.972	—	3-1/4	1-1/4	—	—	—	—
		3/4			50B35-3/4	36748	50B35	36744
		1			50B35-1	36750		
		1-1/4			50B35-1-1/4	36752		
		1-7/16			50B35-1-7/16	36754		
		1-1/2			50B35-1-1/2	36756		
36	7.171	3/4	3-1/4	1-1/4	—	—	50B36	16490
40	7.966	3/4	3-1/4	1-1/4	50B40-3/4	36808	50B40	16494
		1			50B40-1	36810		
		1-1/4			50B40-1-1/4	36812		
		1-7/16			50B40-1-7/16	36814		
		1-1/2			50B40-1-1/2	36816		
		1-15/16			50B40-1-15/16*	36818		
42	8.363	3/4	3-1/4	1-1/4	—	—	50B42	16496
45	8.960	3/4	3-3/4	1-1/4	50B45-3/4	36876	50B45	16498
		1			50B45-1	36878		
		1-1/4			50B45-1-1/4	36880		
		1-7/16			50B45-1-7/16	36882		
		1-1/2			50B45-1-1/2	36884		
		1-15/16			50B45-1-15/16*	36886		
48	9.556	1	3-3/4	1-1/4	50B48-1	36892	50B48	16500
		1-1/4			50B48-1-1/4	36894		
		1-7/16			50B48-1-7/16	36896		
		1-1/2			50B48-1-1/2	36898		
		1-15/16			50B48-1-15/16*	35942		
54	10.749	1	3-3/4	1-1/4	—	—	50B54	16502
60	11.942	1	3-3/4	1-1/4	50B60-1	35920	50B60	16504
		1-1/4			50B60-1-1/4	35922		
		1-7/16			50B60-1-7/16	35924		
		1-1/2			50B60-1-1/2	35926		
		1-15/16			50B60-1-15/16*	35928		
72	14.328	1	3-3/4	1-3/4	—	—	50B72	16508
84	16.715	1	4-1/4	1-3/4	—	—	50B84	16512
96	19.102	1	4-1/4	1-3/4	—	—	50B96	16514
112	21.885	1	4-1/4	1-3/4	—	—	50B112	16516

NO. 50-2 5/8" PITCH STEEL — DOUBLE STRAND



ORDER BY CATALOG NUMBER OR ITEM CODE

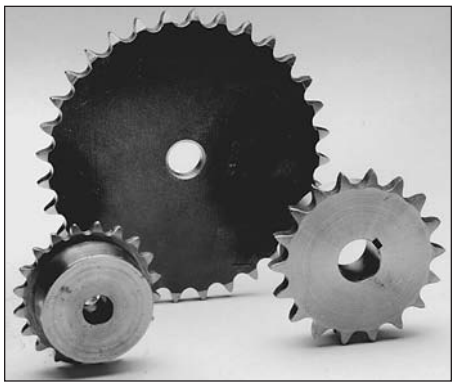
No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway & Setscrew*	
					Catalog Number	Item Code
TYPE B SINGLE HUB STEEL						
15	3.006	3/4	2-5/16	1-3/4	D50B15	15970
16	3.204		2-1/2		D50B16	15972
17	3.401		2-11/16		D50B17	15974
18	3.599		2-15/16		D50B18	15976
20	3/995	1	3-1/4	1-3/4	D50B20	15980
21	4.193		3-1/2		D50B21	15982
22	4.392	1	3-9/16	1-7/8	D50B22	15984
24	4.788		3-5/8		D50B24	15988
25	4.987		3-5/8		D50B25	15990
30	5.979		3-3/4		D50B30	68166
40	7.966	1-3/16	4	2-1/8	D50B40	68173

STANDARD TOLERANCES

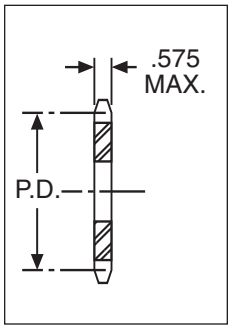
Dimension	Tolerance	
Bore	All	±.001

MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. + .594"

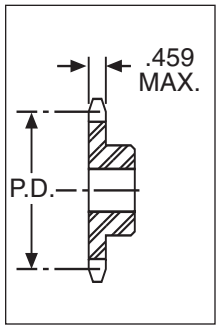
NO. 60 3/4" PITCH STEEL — SINGLE STRAND



TYPE A



TYPE B



MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. + .703"

STANDARD TOLERANCES

Dimension		Tolerance	
Type A	Bore	All	±.002 –.001
Type B	Bore	All	±.001

REFERENCE PAGES

Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

*All sprockets have standard keyway. All sprockets have 1/4–20 setscrew, 9 to 12 tooth sprockets have 5/16–18 setscrew and 13 and 14 tooth sprockets have 3/8–16 setscrew, located over keyway except at 90° where marked.

†Has recessed groove in hub for chain clearance.

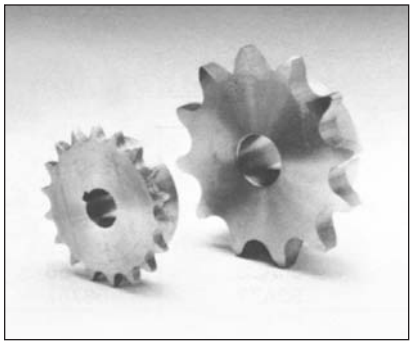
ORDER BY CATALOG NUMBER OR ITEM CODE

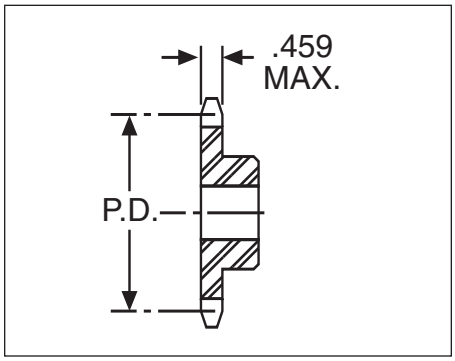
No. of Teeth	Pitch Dia.	Bore	Catalog Number	Item Code
TYPE A NO HUB STEEL				
17	4.082	3/4	60A17	56759
18	4.319		60A18	56760
19	4.557		60A19	56761
20	4.794		60A20	56762
21	5.032		60A21	16320
22	5.270		60A22	16322
23	5.508		60A23	16324
24	5.746	23/32	60A24	16326
25	5.984		60A25	16328
26	6.222		60A26	61894
28	6.699		60A28	46466
30	7.175		60A30	16330
32	7.652		60A32	16332
35	8.367	15/16	60A35	46471
36	8.605		60A36	16334
40	9.559		60A40	16336
45	10.752		60A45	16340
48	11.467		60A48	16342
54	12.899		60A54	16344
60	14.330	1-1/4	60A60	16346
72	17.194		60A72	16350

ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway & Setscrew*		Without Keyway or Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
8	1.960	5/8	1-15/32†	1-1/4	60B8-3/4*	49483	60B8	15834
9	2.193	3/4	1-9/16†	1-1/4	60B9-3/4*	15324	60B9	15836
10	2.023	3/4	1-9/16†	1-1/4	60B10-3/4	15326	60B10	15838
		7/8			60B10-7/8	36180		
		1			60B10-1	15328		
		1-1/8			60B10-1-1/8*	36182		
		1-3/16			60B10-1-3/16*	36184		
		1-3/4			60B10-1-1/4*	36162		
11	2.662	3/4	2-1/16†	1-1/4	60B11-3/4	15334	60B11	15840
		7/8			60B11-7/8	36164		
		1			60B11-1	15332		
		1-1/8			60B11-1-1/8*	56740		
		1-3/16			60B11-1-3/16*	36494		
		1-3/4			60B11-1-1/4*	15330		
12	2.898	3/4	2-3/8†	1-1/4	60B12-3/4	15336	60B12	15842
		7/8			60B12-7/8	36616		
		1			60B12-1	15338		
		1-1/8			60B12-1-1/8	15340		
		1-3/16			60B12-1-3/16	15342		
		1-3/4			60B12-1-1/4	15344		
		1-7/16			60B12-1-7/16*	36618		
13	3.134	3/4	2-11/32	1-1/4	60B13-3/4	15346	60B13	15844
		7/8			60B13-7/8	36620		
		1			60B13-1	15348		
		1-1/8			60B13-1-1/8	15350		
		1-3/16			60B13-1-3/16	15352		
		1-1/4			60B13-1-1/4	15354		
		1-3/8			60B13-1-3/8	15356		
		1-7/16			60B13-1-7/16*	15358		
		1-1/2			60B13-1-1/2*	15360		
14	3.370	3/4	2-9/16	1-1/4	60B14-3/4	15362	60B14	15846
		7/8			60B14-7/8	36144		
		1			60B14-1	15364		
		1-1/8			60B14-1-1/8	36146		
		1-3/16			60B14-1-3/16	15366		
		1-1/4			60B14-1-1/4	15368		
		1-3/8			60B14-1-3/8	15370		
		1-7/16			60B14-1-7/16	15372		
		1-1/2			60B14-1-1/2	15374		
		1-9/16			60B14-1-9/16*	36148		
		1-5/8			60B14-1-5/8*	36150		

NO. 60 3/4" PITCH STEEL — SINGLE STRAND





MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. + .703"

STANDARD TOLERANCES

Dimension	Tolerance	
Bore	All	±.001

REFERENCE PAGES

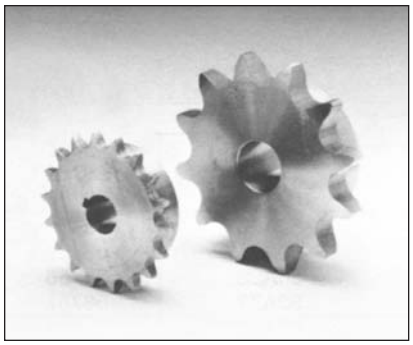
Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

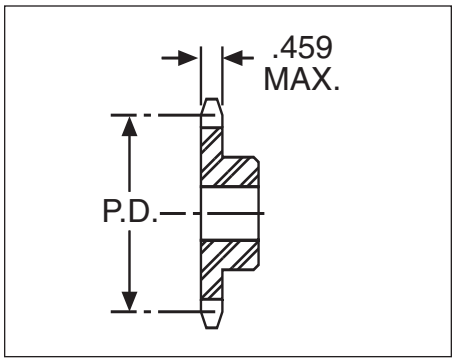
*All sprockets have standard keyway. All sprockets have 3/8–16 setscrew, located over keyway except at 90° where marked.

ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway & Setscrew*		Without Keyway or Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
15	3.607	3/4	2-7/8	1-1/4	60B15-3/4	36152	60B15	15848
		7/8			60B15-7/8	36154		
		1			60B15-1	15376		
		1-1/8			60B15-1-1/8	36156		
		1-3/16			60B15-1-3/16	15378		
		1-1/4			60B15-1-1/4	15380		
		1-3/8			60B15-1-3/8	15382		
		1-7/16			60B15-1-7/16	15384		
		1-1/2			60B15-1-1/2	15386		
		1-9/16			60B15-1-9/16	36158		
		1-5/8			60B15-1-5/8	15388		
		1-3/4			60B15-1-3/4	15390		
16	3.844	3/4	3-1/16	1-1/4	60B16-3/4	36160	60B16	15850
		7/8			60B16-7/8	36166		
		1			60B16-1	15392		
		1-1/8			60B16-1-1/8	36168		
		1-3/16			60B16-1-3/16	15394		
		1-1/4			60B16-1-1/4	15396		
		1-3/8			60B16-1-3/8	15398		
		1-7/16			60B16-1-7/16	15400		
		1-1/2			60B16-1-1/2	15402		
		1-9/16			60B16-1-9/16	36170		
		1-5/8			60B16-1-5/8	15404		
		1-3/4			60B16-1-3/4	36172		
		1-15/16			60B16-1-15/16	15406		
17	4.082	3/4	3-1/4	1-1/4	60B17-3/4	49484	60B17	15852
		1			60B17-1	15408		
		1-1/8			60B17-1-1/8	21782		
		1-3/16			60B17-1-3/16	21784		
		1-1/4			60B17-1-1/4	15410		
		1-3/8			60B17-1-3/8	21816		
		1-7/16			60B17-1-7/16	21818		
		1-1/2			60B17-1-1/2*	15412		
		1-9/16			60B17-1-9/16*	45666		
		1-5/8			60B17-1-5/8*	45667		
		1-3/4			60B17-1-3/4*	15414		
18	4.319	3/4	3-1/2	1-1/4	60B18-3/4	49485	60B18	15854
		1			60B18-1	15416		
		1-1/8			60B18-1-1/8	21866		
		1-3/16			60B18-1-3/16	21896		
		1-1/4			60B18-1-1/4	15418		
		1-3/8			60B18-1-3/8	21906		
		1-7/16			60B18-1-7/16	21910		
		1-1/2			60B18-1-1/2	15420		
		1-9/16			60B18-1-9/16	21920		
		1-5/8			60B18-1-5/8	21924		
		1-3/4			60B18-1-3/4	15422		
19	4.557	3/4	3-1/2	1-1/4	60B19-3/4	21928	60B19	15856
		1			60B19-1	15424		
		1-1/8			60B19-1-1/8	45656		
		1-3/16			60B19-1-3/16	46625		
		1-1/4			60B19-1-1/4	15426		
		1-3/8			60B19-1-3/8	45990		
		1-7/16			60B19-1-7/16	45657		
		1-1/2			60B19-1-1/2	15428		
		1-9/16			60B19-1-9/16	45658		
		1-5/8			60B19-1-5/8	45659		
		1-3/4			60B19-1-3/4	15430		
		1-15/16			60B19-1-15/16	45660		

NO. 60 3/4" PITCH STEEL — SINGLE STRAND





MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. + .703"

STANDARD TOLERANCES

Dimension	Tolerance	
Bore	All	±.001

REFERENCE PAGES

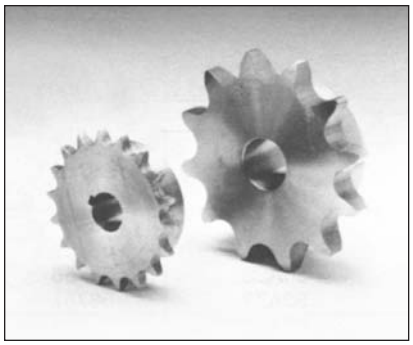
Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

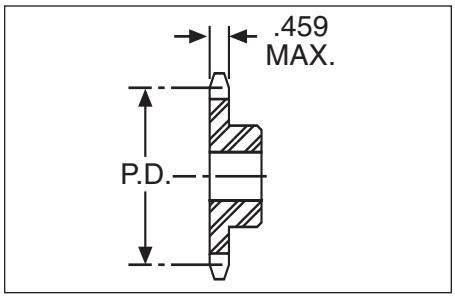
*All sprockets have standard keyway. All sprockets have 3/8–16 setscrew, located over keyway except at 90° where marked.

ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway & Setscrew*		Without Keyway or Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
20	4.794	3/4	3-7/8	1-1/4	60B20-3/4	46576	60B20	15858
		1			60B20-1	17152		
		1-1/8			60B20-1-1/8	46577		
		1-3/16			60B20-1-3/16	45661		
		1-1/4			60B20-1-1/4	15432		
		1-3/8			60B20-1-3/8	46578		
		1-7/16			60B20-1-7/16	45662		
		1-1/2			60B20-1-1/2	15434		
		1-9/16			60B20-1-9/16	45663		
		1-5/8			60B20-1-5/8	45664		
		1-3/4			60B20-1-3/4	15436		
		1-15/16			60B20-1-15/16	46579		
21	5.032	3/4	4	1-1/4	60B21-3/4	20034	60B21	15860
		1			60B21-1	20040		
		1-1/4			60B21-1-1/4	20132		
		1-7/16			60B21-1-7/16	20142		
		1-1/2			60B21-1-1/2	20846		
		1-15/16			60B21-1-15/16	20858		
22	5.270	3/4	4	1-1/4	60B22-3/4	21550	60B22	15862
		1			60B22-1	21570		
		1-1/4			60B22-1-1/4	45669		
		1-7/16			60B22-1-7/16	45688		
		1-1/2			60B22-1-1/2	45689		
		1-15/16			60B22-1-15/16	45690		
23	5.508	3/4	4	1-1/4	60B23-3/4	45744	60B23	15864
		1			60B23-1	45691		
		1-1/4			60B23-1-1/4	45698		
		1-7/16			60B23-1-7/16	45699		
		1-1/2			60B23-1-1/2	45700		
		1-15/16			60B23-1-15/16	45702		
24	5.746	3/4	4	1-1/4	60B24-3/4	36020	60B24	15866
		1			60B24-1	45703		
		1-1/4			60B24-1-1/4	45704		
		1-7/16			60B24-1-7/16	45705		
		1-1/2			60B24-1-1/2	45706		
		1-15/16			60B24-1-15/16	45707		
25	5.984	3/4	4	1-1/4	60B25-3/4	36022	60B25	15868
		1			60B25-1	45745		
		1-1/4			60B25-1-1/4	45711		
		1-7/16			60B25-1-7/16	45712		
		1-1/2			60B25-1-1/2	45713		
		1-15/16			60B25-1-15/16	45714		
26	6.222	3/4	4	1-1/4	60B26-3/4	36024	60B26	45747
		1			60B26-1	45746		
		1-1/4			60B26-1-1/4	45715		
		1-7/16			60B26-1-7/16	45716		
		1-1/2			60B26-1-1/2	45717		
		1-15/16			60B26-1-15/16	45718		
28	6.699	3/4	4	1-1/4	60B28-3/4	36030	60B28	45720
		1			60B28-1	45721		
		1-1/4			60B28-1-1/4	45722		
		1-7/16			60B28-1-7/16	45734		
		1-1/2			60B28-1-1/2	45735		
		1-15/16			60B28-1-15/16	45736		
30	7.175	3/4	4	1-1/4	60B30-3/4	36036	60B30	16518
		1			60B30-1	45738		
		1-1/4			60B30-1-1/4	45749		
		1-7/16			60B30-1-7/16	45765		
		1-1/2			60B30-1-1/2	45795		
		1-15/16			60B30-1-15/16	45775		

NO. 60 3/4" PITCH STEEL — SINGLE STRAND





REFERENCE PAGES

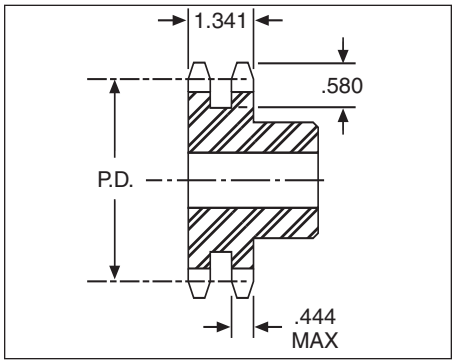
Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

*All sprockets have standard keyway. All sprockets have 3/8–16 setscrew, located over keyway.

ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway & Setscrew*		Without Keyway or Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
32	7.652	3/4	4	1-1/4	60B32-3/4	49486	60B32	16520
		1			60B32-1	49847		
		1-1/4			60B32-1-1/4	49488		
		1-7/16			60B32-1-7/16	49489		
		1-1/2			60B32-1-1/2	49490		
		1-15/16			60B32-1-15/16	49491		
35	8.367	—	4	1-1/4	—	—	—	—
		1			60B35-1	45779	60B35	45778
		1-1/4			60B35-1-1/4	45780		
		1-7/16			60B35-1-7/16	45793		
		1-1/2			60B35-1-1/2	45784		
		1-15/16			60B35-1-15/16	45796		
36	8.605	1	4	1-1/4	—	—	60B36	16522
40	9.559	1-3/16	4-1/4	1-1/4	60B40-1-3/16	45843	60B40	16524
		1-1/4			60B40-1-1/4	45844		
		1-7/16			60B40-1-7/16	45845		
		1-1/2			60B40-1-1/2	45846		
		1-15/16			60B40-1-15/16	45848		
		2-7/16			60B40-2-7/16	45849		
45	10.752	1-3/16	4-1/4	1-1/4	60B45-1-3/16	61668	60B45	16528
		1-1/4			60B45-1-1/4	61673		
		1-7/16			60B45-1-7/16	46463		
		1-1/2			60B45-1-1/2	61677		
		1-15/16			60B45-1-15/16	61679		
		2-7/16			60B45-2-7/16	61680		
48	11.467	1-3/16	4-1/4	1-1/4	—	—	60B48	16530
54	12.899	1-3/16	4-1/4	1-3/4	—	—	60B54	16532
60	14.330	1-3/16	4-1/4	1-3/4	—	—	60B60	16534
		1-7/16			60B60-1-7/16	46464		
		1-1/2			60B60-1-1/2	46465		
		1-15/16			60B60-1-15/16	61869		
		2-7/16			60B60-2-7/16	61870		
72	17.194	1-1/4	4-1/4	2	—	—	60B72	16538

NO. 60-2 3/4" PITCH STEEL — DOUBLE STRAND



ORDER BY CATALOG NUMBER OR ITEM CODE

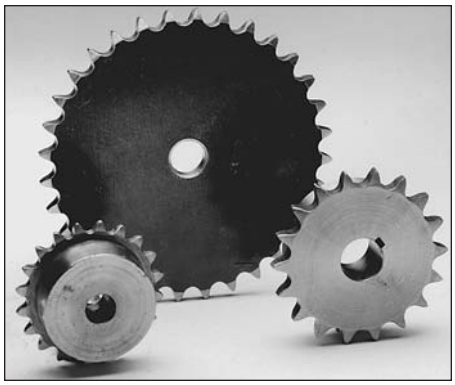
No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	Without Keyway & Setscrew*	
					Catalog Number	Item Code
TYPE B SINGLE HUB STEEL						
15	3.607	1	2-13/16	2-1/8	D60B15	15992
16	3.844		3		D60B16	15994
17	4.082		3-1/4		D60B17	15996
18	4.319		3-1/2		D60B18	15998
19	4.557		3-11/16		D60B19	16000
20	4.794		3-3/4		D60B20	16002
21	5.032		4-1/8		D60B21	16004
25	5.984		4-1/4		D60B25	16006

STANDARD TOLERANCES

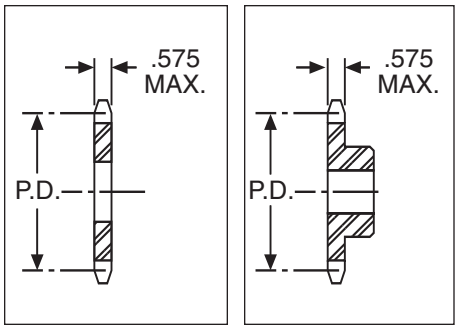
Dimension	Tolerance	
Bore	All	±.001

MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. + .703"

NO. 80 1" PITCH STEEL — SINGLE STRAND



TYPE A TYPE B



MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. + .875"

STANDARD TOLERANCES

Dimension		Tolerance	
Type A	Bore	All	±.002 –.001
Type B	Bore	All	±.001

REFERENCE PAGES

Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

*All sprockets have standard keyway. All sprockets have 3/8–16 setscrew, located over keyway except at 90° where marked.

†Has recessed groove in hub for chain clearance.

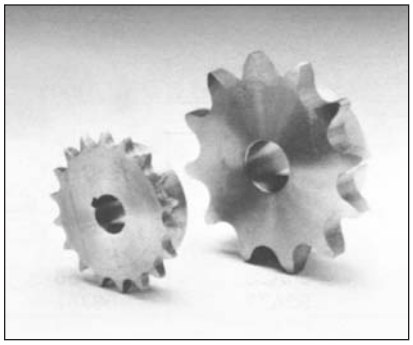
ORDER BY CATALOG NUMBER OR ITEM CODE

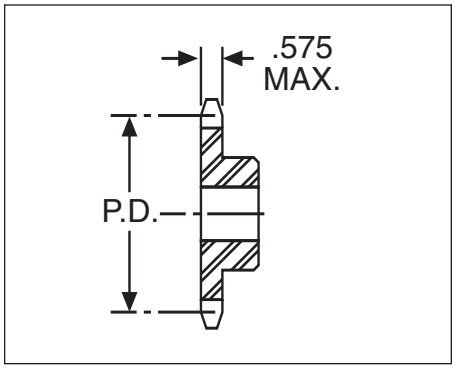
No. of Teeth	Pitch Dia.	Bore	Catalog Number	Item Code
TYPE A NO HUB STEEL				
16	5.126	15/16	80A16	16356
17	5.442		80A17	16358
18	5.759		80A18	16360
19	6.079		80A19	16362
20	6.392		80A20	16364
21	6.710		80A21	16366
22	7.027		80A22	16368
23	7.344		80A23	16370
24	7.661		80A24	16372
25	7.979		80A25	16374
26	8.296	1-3/16	80A26	16376
30	9.567		80A30	16378
36	11.474		80A36	16382
40	12.745		80A40	16384
48	15.290	1-1/4	80A48	16388
50	15.926		80A54	46555
60	19.107		80A60	16392

ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway & Setscrew*		Without Keyway or Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
8	2.613	1	1-15/16	1-5/8	80B8-1*	46489	80B8	15870
9	2.924	1	2-1/4†	1-5/8	80B9-1*	46490	80B9	15872
		1-1/8			80B9-1-1/8*	46491		
		1-3/16			80B9-1-3/16*	15438		
		1-1/4			80B9-1-1/4*	46492		
10	3.236	1	2-9/16†	1-5/8	80B10-1	15440	80B10	15874
		1-1/8			80B10-1-1/8	46493		
		1-3/16			80B10-1-3/16	46494		
		1-1/4			80B10-1-1/4	15442		
11	3.549	1	2-13/16†	1-5/8	80B11-1	46495	80B11	15876
		1-1/8			80B11-1-1/8	46496		
		1-3/16			80B11-1-3/16	15444		
		1-1/4			80B11-1-1/4	15446		
		1-3/8			80B11-1-3/8	63651		
		1-7/16			80B11-1-7/16	15448		
		1-1/2			80B11-1-1/2*	15450		
		1-9/16			80B11-1-9/16*	46497		
		1-5/8			80B11-1-5/8*	15452		
12	3.864	1	3-1/8†	1-5/8	80B12-1	63653	80B12	15878
		1-1/8			80B12-1-1/8	63654		
		1-3/16			80B12-1-3/16	63655		
		1-1/4			80B12-1-1/4	15454		
		1-3/8			80B12-1-3/8	63656		
		1-7/16			80B12-1-7/16	15456		
		1-1/2			80B12-1-1/2	15458		
		1-9/16			80B12-1-9/16	63657		
		1-5/8			80B12-1-5/8	15460		
		1-3/4			80B12-1-3/4	15462		

NO. 80 1" PITCH STEEL — SINGLE STRAND





MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. + .875"

STANDARD TOLERANCES

Dimension	Tolerance	
Bore	All	±.001

REFERENCE PAGES

Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

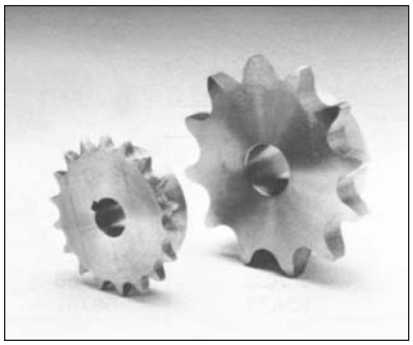
*All sprockets have standard keyway. All sprockets have 3/8–16 setscrew, located over keyway.

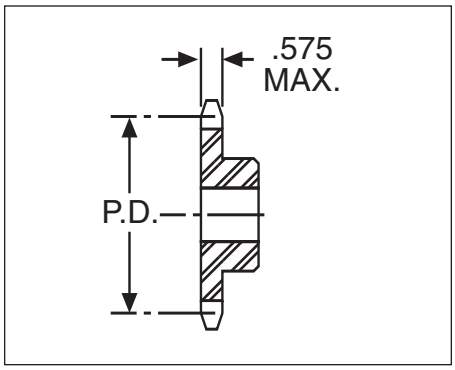
†Has recessed groove in hub for chain clearance.

ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Dia.	Bore	Hub Dia.	Length thru Bore	With Keyway & Setscrew*		Without Keyway or Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
13	4.179	1	3	1-1/2	80B13-1	63658	80B13	15880
		1-1/8			80B13-1-1/8	63659		
		1-3/16			80B13-1-3/16	63662		
		1-1/4			80B13-1-1/4	15464		
		1-3/8			80B13-1-3/8	63664		
		1-7/16			80B13-1-7/16	15466		
		1-1/2			80B13-1-1/2	15468		
		1-9/16			80B13-1-9/16	63666		
		1-5/8			80B13-1-5/8	15470		
		1-3/4			80B13-1-3/4	15472		
		1-7/8			80B13-1-7/8	63667		
		1-15/16			80B13-1-15/16	15474		
		2			80B13-2	15476		
14	4.494	1	3-1/4	1-1/2	80B14-1	63669	80B14	15882
		1-1/8			80B14-1-1/8	63670		
		1-3/16			80B14-1-3/16	63708		
		1-1/4			80B14-1-1/4	15478		
		1-3/8			80B14-1-3/8	63709		
		1-7/16			80B14-1-7/16	15480		
		1-1/2			80B14-1-1/2	15482		
		1-9/16			80B14-1-9/16	63710		
		1-5/8			80B14-1-5/8	15484		
		1-3/4			80B14-1-3/4	15486		
		1-7/8			80B14-1-7/8	63711		
		1-15/16			80B14-1-15/16	15488		
15	4.810	1	3-13/16	1-1/2	80B15-1	63712	80B15	15884
		1-1/8			80B15-1-1/8	46498		
		1-3/16			80B15-1-3/16	46499		
		1-1/4			80B15-1-1/4	15492		
		1-7/16			80B15-1-7/16	15494		
		1-1/2			80B15-1-1/2	15496		
		1-9/16			80B15-1-9/16	63725		
		1-5/8			80B15-1-5/8	15498		
		1-3/4			80B15-1-3/4	15500		
		1-7/8			80B15-1-7/8	63726		
		1-15/16			80B15-1-15/16	15502		
		2			80B15-2	15504		
16	5.126	1	4	1-1/2	80B16-1	35932	80B16	15886
		1-1/4			80B16-1-1/4	63734		
		1-3/8			80B16-1-3/8	63735		
		1-7/16			80B16-1-7/16	63736		
		1-1/2			80B16-1-1/2	63737		
		1-9/16			80B16-1-9/16	63738		
		1-5/8			80B16-1-5/8	46500		
		1-3/4			80B16-1-3/4	46501		
		1-15/16			80B16-1-15/16	63765		
17	5.442	1	4	1-1/2	80B17-1	63775	80B17	15888
		1-1/4			80B17-1-1/4	63776		
		1-3/8			80B17-1-3/8	63777		
		1-7/16			80B17-1-7/16	46502		
		1-1/2			80B17-1-1/2	46503		
		1-9/16			80B17-1-9/16	46504		
		1-5/8			80B17-1-5/8	46505		
		1-3/4			80B17-1-3/4	46506		
		1-15/16			80B17-1-15/16	46507		

NO. 80 1" PITCH STEEL — SINGLE STRAND





MAXIMUM DIA. OF CHAIN OVER SPROCKET = SPROCKET P.D. + .875"

STANDARD TOLERANCES

Dimension	Tolerance	
Bore	All	±.001

REFERENCE PAGES

Alterations – 207
Horsepower Ratings – 170-172
Lubrication – 169
Materials – 207
Selection Procedure – 168
ANSI Diameters – 208

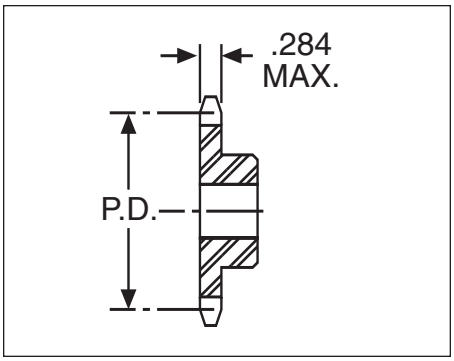
*All sprockets have standard keyway. All sprockets have 3/8–16 setscrew, located over keyway.

ORDER BY CATALOG NUMBER OR ITEM CODE

No. of Teeth	Pitch Diameter	Bore	Hub Dia.	Length thru Bore	With Keyway & Setscrew*		Without Keyway or Setscrew	
					Catalog Number	Item Code	Catalog Number	Item Code
TYPE B SINGLE HUB STEEL								
18	5.759	1	4-1/4	1-1/2	80B18-1	46509	80B18	15890
		1-1/4			80B18-1-1/4	46510		
		1-3/8			80B18-1-3/8	46511		
		1-7/16			80B18-1-7/16	46512		
		1-1/2			80B18-1-1/2	46513		
		1-9/16			80B18-1-9/16	63816		
		1-5/8			80B18-1-5/8	63820		
		1-3/4			80B18-1-3/4	63903		
		1-15/16			80B18-1-15/16	46514		
		2			80B18-2	63905		
19	6.076	1	4-1/4	1-1/2	80B19-1	63911	80B19	15892
		1-1/4			80B19-1-1/4	63912		
		1-7/16			80B19-1-7/16	63935		
		1-1/2			80B19-1-1/2	63936		
		1-5/8			80B19-1-5/8	63951		
		1-3/4			80B19-1-3/4	63953		
		1-15/16			80B19-1-15/16	63954		
		2			80B19-2	63955		
		2-7/16			80B19-2-7/16	63956		
20	6.076	1	4-1/4	1-1/2	80B20-1	21968	80B20	15892
		1-1/4			80B20-1-1/4	63962		
		1-7/16			80B20-1-7/16	63963		
		1-1/2			80B20-1-1/2	63964		
		1-5/8			80B20-1-5/8	63965		
		1-3/4			80B20-1-3/4	63966		
		1-15/16			80B20-1-15/16	63967		
		2			80B20-2	63969		
		2-7/16			80B20-2-7/16	63970		
21	6.710	1	4-1/4	1-3/4	—	—	80B21	15896
22	7.027	1	4-1/4	1-3/4	—	—	80B22	15898
23	7.344	1	4-1/4	1-3/4	—	—	80B23	16544
24	7.661	1	4-1/4	1-3/4	—	—	80B24	16546
25	7.979	1	4-1/4	1-3/4	—	—	80B25	16548
26	8.296	1-1/4	4-3/4	2	—	—	80B26	16550
30	9.567	1-3/16	4-3/4	2	—	—	80B30	16552
36	11.474	1-3/16	4-3/4	2	—	—	80B36	16556
40	12.745	1-3/16	4-3/4	2	—	—	80B40	16558
48	15.290	1-1/4	4-3/4	2	—	—	80B48	16562
60	19.107	1-1/4	5-1/4	2	—	—	80B60	16566

BLOCK CHAIN SPROCKETS*
STEEL AND IRON

TYPE B SINGLE HUB
FOR 5/16” WIDE B504 BLOCK CHAIN



ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

Teeth	Pitch Diam.	Bore	Hub		Style	Catalog Number	Item Code
			Diameter	Project			
STEEL							
6	1.94	5/8	1-3/8	3/4	A	H917	14876
7	2.25	5/8	1-11/16	3/4	A	H918	14878
8	2.57	5/8	2	3/4	A	H919	14880
CAST IRON							
9	2.88	5/8	1-1/2	3/4	A	H920	16594
10	3.20	5/8	1-1/2	5/8	B	H921	16596
12	3.83	5/8	1-3/4	5/8	B	H922	16598

STANDARD TOLERANCES

Dimension	Tolerance	
Bore	All	±.001 – .000

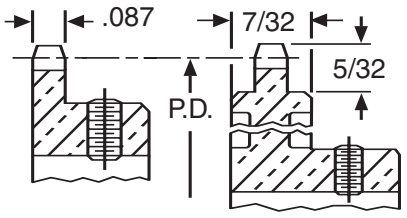
REFERENCE PAGES

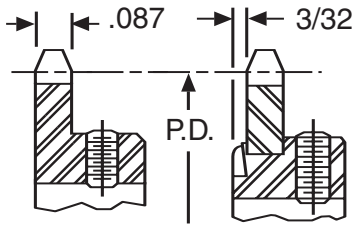
Alterations – 207
Materials – 207

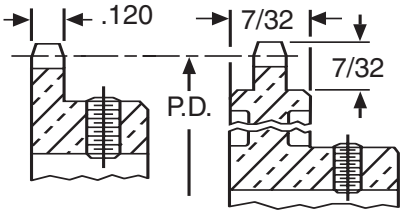
*For Block Chain refer to Page 163.

NOS. 1A AND 1 BRONZE AND STEEL — TYPE B SINGLE HUB

(ALL SPROCKETS EQUIPPED WITH STANDARD SETSCREWS, EXCEPT CBA 8)







ORDER BY CATALOG NUMBER OR ITEM CODE

Teeth	Pitch Diam.	Bore	Hub		Style	Catalog Number	Item Code
			Diameter	Project			
No. 1A							
BRONZE SPROCKETS							
8	.48	1/8	5/16†	7/32	Plain	CBA8	16856
10	.60	1/8	3/8	7/32	Plain	CBA10	16858
12	.71	3/16	7/16	7/32	Plain	CBA12	16860
15	.88	3/16	7/16	7/32	Plain	CBA15B	16862
18	1.06	3/16	1/2	1/4	Plain	CBA18B	16864
20	1.18	3/16	5/8	1/4	Plain	CBA20B	16866
24	1.41	3/16	3/4	1/4	Plain	CBA24B	16868
32	1.88	1/4	5/8	5/16	Plain	CBA32	16870
36	2.12	5/16	3/4	3/8	Plain	CBA36	16872
STEEL SPROCKETS							
7	.42	3/16	3/8†	1/2	Plain	CA7	14780
8	.48	3/16	7/16†	1/2	Plain	CA8	14782
9	.54	1/4	1/2†	1/2	Plain	CA9	14784
10	.60	1/4	9/16†	1/2	Plain	CA10	14786
12	.71	1/4	11/16†	1/2	Plain	CA12	14788
14	.83	1/4	3/4†	1/2	Plain	CA14	14790
16	.95	5/16	7/8†	1/2	Plain	CA16	14792
20	1.18	5/16	7/8	13/32	Plain	CA20	14794
24	1.41	5/16	7/8	13/32	Plain	CA24	14796
34	2.00	3/8	1-1/4	1/2	Plain	CA34	14798
42	2.47	3/8	1-1/4	1/2	Plain	CA42	14800
No. 1							
BRONZE SPROCKETS							
6	.57	3/16	11/32†	1/4	Plain	CB1 6	16878
8	.75	3/16	1/2	1/4	Plain	CB1 8	16880
10	.93	3/16	1/2	1/4	Plain	CB1 10	16882
11	1.01	3/16	1/2	1/4	Plain	CB1 11	16884
12	1.10	3/16	1/2	1/4	Plain	CB1 12	16886
14	1.28	1/4	5/8	5/16	Plain	CB1 14	16890
24	2.19	5/16	3/4	3/8	Plain	CB1 24	16900
32	2.92	5/16	3/4	3/8	Plain	CB1 32	16904

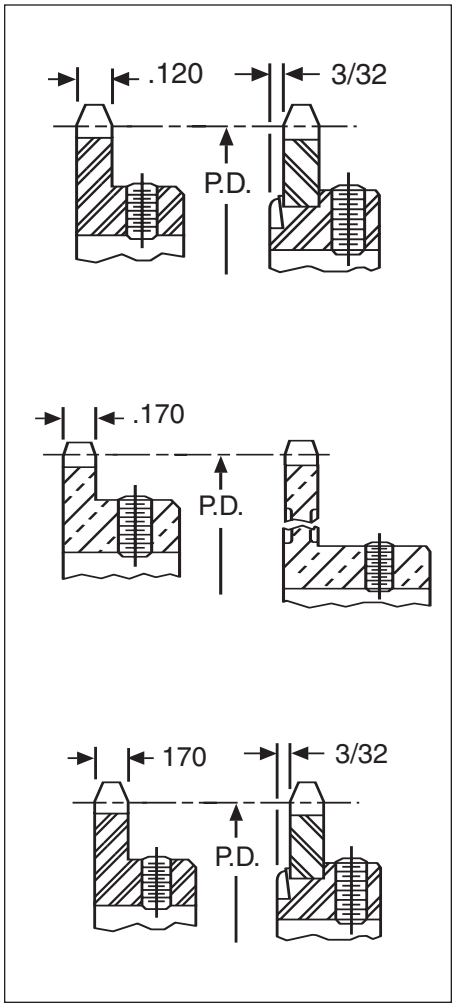
†Has Recessed Groove in Hub for Chain Clearance

STANDARD TOLERANCES

Dimension	Tolerance	
Bore	All	±.001

NOS. 1-2 AND 2-1/2—BRONZE AND STEEL — TYPE B SINGLE HUB

ALL SPROCKETS HAVE STANDARD SETSCREWS



ALL DIMENSIONS IN INCHES
ORDER BY CATALOG NUMBER OR ITEM CODE

Teeth	Pitch Diam.	Bore	Hub		Style	Catalog Number	Item Code
			Diameter	Project			
No. 1							
STEEL SPROCKETS							
6	.57	1/4	1/2**	1/2	Plain	C1 6	14810
7	.66	1/4	9/16**	1/2	Plain	C1 7	14812
8	.75	5/16	11/16**	1/2	Plain	C1 8	14814
10	.93	5/16	7/8**	1/2	Plain	C1 10	14818
12	1.10	5/16	7/8	1/2	Plain	C1 12	14820
14	1.28	5/16	7/8	1/2	Plain	C1 14	14822
16	1.46	5/16	7/8	1/2	Plain	C1 16	14824
20	1.83	1/2	1-3/8	1/2	Plain	C1 20	14826
26	2.37	1/2	1-3/8	1/2	Plain	C1 26	14828
32	2.92	1/2	1-3/8	1/2	Plain	C1 32	14830
Nos. 2 and 2-1/2							
BRONZE SPROCKETS							
10	1.14	3/16	9/16	5/16	Web	CB3 10	16920
12	1.36	1/4	5/8	5/16	Web	CB3 12	16922
16	1.81	1/4	5/8	5/16	Web	CB3 16	16924
20	2.26	5/16	3/4	3/8	Web	CB3 20	16926
22	2.48	5/16	3/4	3/8	Web	CB3 22	16928
24	2.70	5/16	3/4	3/8	Web	CB3 24	16930
45	5.06	3/8	7/8	7/16	Spoke	CB3 45	16936
STEEL SPROCKETS							
8	.92	3/8	13/16†	11/16	Plain	C3 8	14842
9	1.03	3/8	15/16†	11/16	Plain	C3 9	14844
10	1.14	3/8	1-1/32†	11/16	Plain	C3 10	14846
12	1.36	1/2	1-1/4†	11/16	Plain	C3 12	14850
14	1.59	1/2	1-1/4	11/16	Plain	C3 14	14852
16	1.81	1/2	1-15/32	11/16	Plain	C3 16	14854
20	2.26	1/2	1-1/2	11/16	Plain	C3 20	14856
30	3.38	1/2	1-5/8	11/16	Plain	C3 30	14860

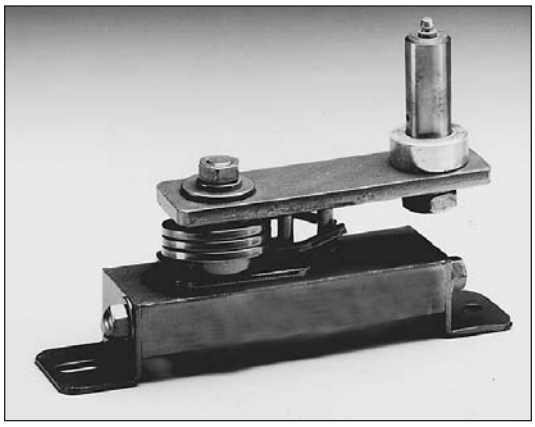
**Blind hole—3/4" deep from Hub End.

†Has Recessed Groove in Hub for Chain Clearance

STANDARD TOLERANCES

Dimension	Tolerance	
Bore	All	±.001

SCREW ADJUSTABLE/SPRING ADJUSTABLE/SHAFT MOUNTED NON-ADJUSTABLE (Drive Positioners)



Boston Gear chain drive tensioners improve drive performance by eliminating whipping and slipping of loose chains. They reduce vibration, noise and maintenance and provide additional life to drive components. They are also suitable for flat-face and V-Belt drive systems and are provided with a grease fitting for lubricating idler bearings other than Bost-Bronz.

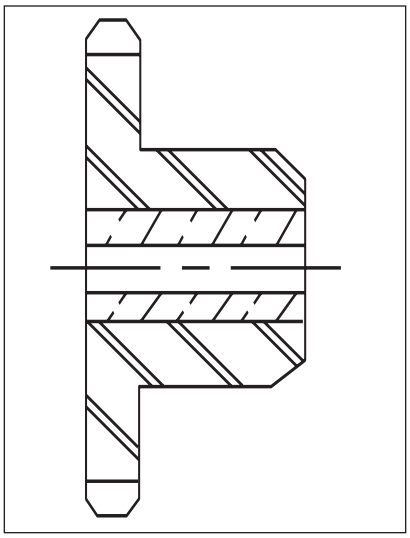
All tensioners are constructed of structural steel and are available for use with Roller Chains up to 1-1/2" Piitch. No. 120.

INSTALLATION INSTRUCTIONS

- Idlers should be located on the slack side of the drive chain.
- Chain idlers should be run on the outside of the chain.
- Idler sprockets should have at least three teeth engaged with the chain.
- Idlers, when used on the outside of the drive, should be located approximately 1/3 of the center distance from the large sprocket.
- Idlers, when used on the inside of the drive, should be located approximately 1/3 of the center distance from the large sprocket.
- Tensioning that is too tight causes excessive wear on the chain and bearings.
- Tensioning that is too loose allows chain vibration, causing loss of horsepower or wear.

IDLER SPROCKETS

Boston stocks a wide range of idler sprockets for use with its chain drive tensioners and positioners. In addition special sizes and configurations can be furnished to order. All idlers are equipped with Bost-Bronz, oil impregnated bushings. Grease lubrication is not recommended. Use normal relubrication procedure for oil-impregnated bearings.

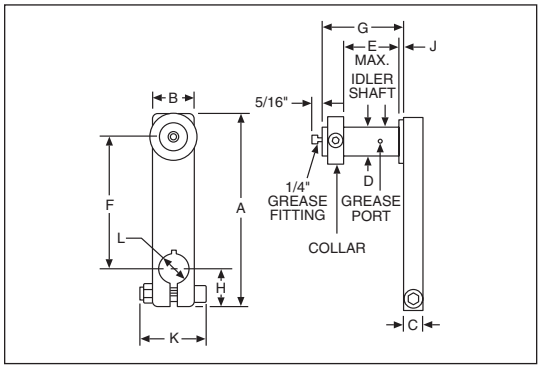


ORDER BY CATALOG NUMBER OR ITEM CODE

For Use with Chain No.	Hole Diameter	No. of Teeth	Catalog Number	Item Code
35	1/2	12	35B12TI-8	48901
		15	35B15TI-8	48902
		18	35B18TI-8	48903
40	1/2	9	40B9TI-8	48904
		12	40B12TI-8	48905
		15	40B15TI-8	48906
	7/8	12	40B12TI-14	48910
		15	40B15TI-14	48911
		18	40B18TI-14	48912
41	1/2	9	41B9TI-8	48907
		12	41B12TI-8	48908
		15	41B15TI-8	48909
	7/8	15	41B15TI-14	48913
		18	41B18TI-14	48914
50	7/8	12	50B12TI-14	48915
		15	50B15TI-14	48916
		18	50B18TI-14	48917
60	7/8	12	60B12TI-14	48918
		15	60B15TI-14	48919
		18	60B18TI-14	48920
	1-1/8	12	60B12TI-18	48921
		15	60B15TI-18	48922
		18	60B18TI-18	48923
80	1-1/8	12	80B12TI-18	48924
		15	80B15TI-18	48925
		18	80B18TI-18	48926

SHAFT MOUNTED

TYPE LG



This shaft-mounted tensioner is best suited for applications where it is impractical to bolt the tensioner on a frame. This tensioner can be mounted at any point on a shaft and is adjustable to any location in a 360° arc on the shaft.

ORDER BY CATALOG NUMBER OR ITEM CODE

Suggested Chain Number*	Catalog Number	Item Code
35, 40, 41	0-LG	48888
40, 50, 60	1-LG	48889
80, 100, 120	2-LG	48890

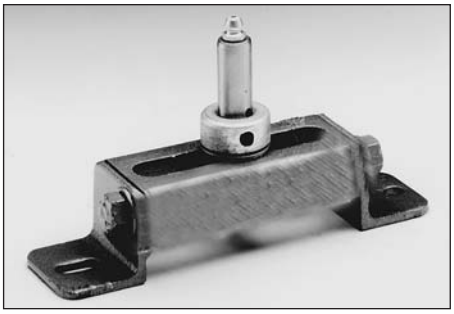
*Single-strand chain. For multiple strand chain, use larger tensioner.

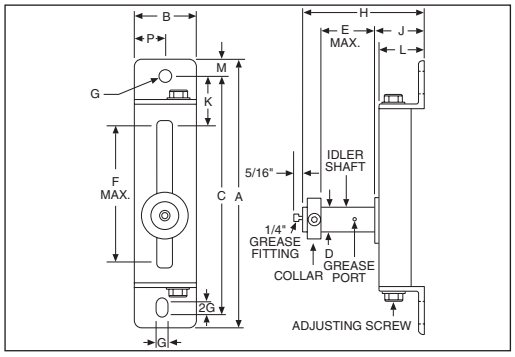
ALL DIMENSIONS IN INCHES

Size	A	B	C	D	E	F	G	H	J	K	L
0-LG	4	7/8	3/4	.500	1	2-1/2	1-9/16	7/8	1/16	1-5/8	.500
1-LG	6	1-1/4	1	.875	1-3/4	4	2-15/32	1-3/16	3/32	2-1/8	.875
2-LG	8	1-1/2	1-1/4	1.125	2-7/8	5-1/2	3-21/32	1-3/8	1/8	2-3/4	1.125

SCREW ADJUSTABLE

TYPE BG





These Boston Gear tensioners use a screw for precise, easily adjustable tension, to provide maximum life for the sprocket and chain. These tensioners are useful on vertical drives to prevent lower sprocket disengagement and on heavy chains where slack is normally taken up by hand, while making the adjustment. With these tensioners chain take-up and tension are both controlled with the screw.

Many drive systems are enclosed for safety reasons. With conventional tensioners, the enclosure must be removed for drive adjustment. With Boston tensioners adjustments can often be made through a hole in the enclosure adjacent to the head of the screw, substantially reducing cost maintenance and drive down time. The screw is adjustable from either end of the tensioner.

ORDER BY CATALOG NUMBER OR ITEM CODE

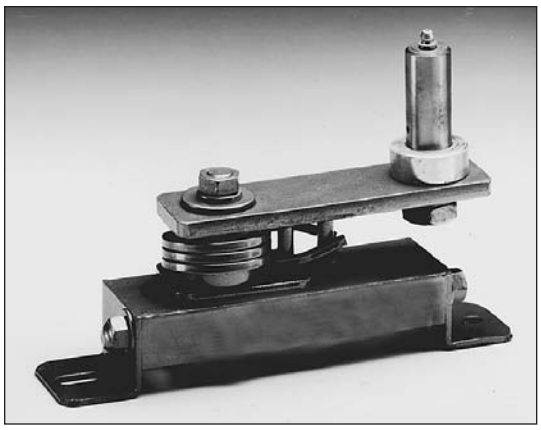
Suggested Chain Number*	Catalog Number	Item Code
35, 40, 41	0-BG	48878
40, 50, 60	1-BG	48879
80, 100, 120	2-BG	48880

*Single-strand chain. For multiple strand chain, use larger tensioner.

ALL DIMENSIONS IN INCHES

Size	A	B	C	D	E	F	G	2G	H	J	K	L	M	P	Wgt.
0-BG	5-7/8	1-1/2	5-1/4	.500	1	2-1/2	9/32	3/8	2-13/16	1-5/16	1-3/8	1-1/4	3/8	3/4	1 LB.
1-BG	9	2	8-1/8	.875	1-3/4	4-1/2	11/32	1/2	4	1-5/8	1-3/4	1-1/2	1/2	1	2-1/2 LB.
2-BG	13	3	11-7/8	1.125	2-7/8	6	9/16	3/4	5-11/16	2-5/32	2-7/8	2	5/8	1-1/2	6 LB.

SPRING ADJUSTABLE — TYPE BG



The Boston Gear Series 50 Tensioner is a screw-adjustable tensioner with a spring-loaded pivot arm. The arm maintains tension on the chain and automatically takes up the slack due to cycle loading or wear. It offers all the advantages of the screw adjustable tensioner plus the automatic take-up feature, which substantially reduces maintenance. The double-coil spring is loaded by turning the adjustment screw in the base of the unit, forcing the idler arm against the slack side of the chain.

The Series 60 Tensioner has a spring-loaded pivot arm but does not have the screw-type adjustment. It is used in lighter applications (#35-#60 chain) when automatic take-up is desired. Since the pivot arm must be adjusted by hand, the mounting location of the tensioner is important.

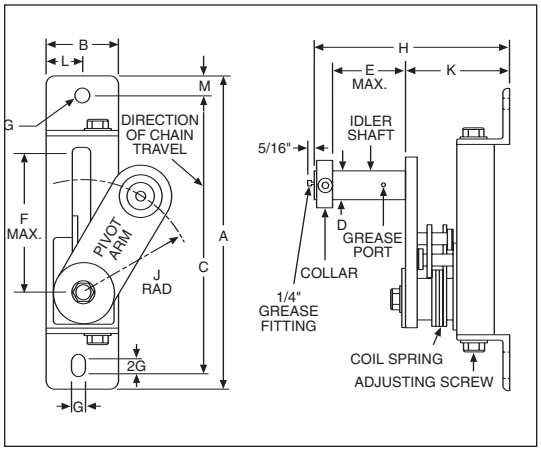
On both the Series 50 and 60 Tensioners, the pivot arm swings 90° from the center line in either direction, however, it must be positioned to swing in the direction of chain travel.

ORDER BY CATALOG NUMBER OR ITEM CODE

Suggested Chain Number*	Available Load at Idler Shaft @90°	Catalog Number	Item Code
40, 50, 60 80, 100, 120	63 Lbs. 105 Lbs.	51-BG 52-BG	48883 48884
35, 40, 41 50, 60	32.2 Lbs. 33.3 Lbs.	60-BG 61-BG	48886 48887

*Single-strand chain. For multiple strand chain, use large tensioner.

SERIES 50 DIMENSIONS



Available load at idler shaft is the maximum amount of force on the chain developed by the spring loaded arm when deflected 90° to either side of the neutral position.

The basic spring preload is 20% of the total capability. The load curve is a straight line proportion of load to angle of deflection. Upon request, lighter springs can be supplied for all units. Heavier springs (to 150% of above capacity) can be furnished for all units except #60BG and #61BG.

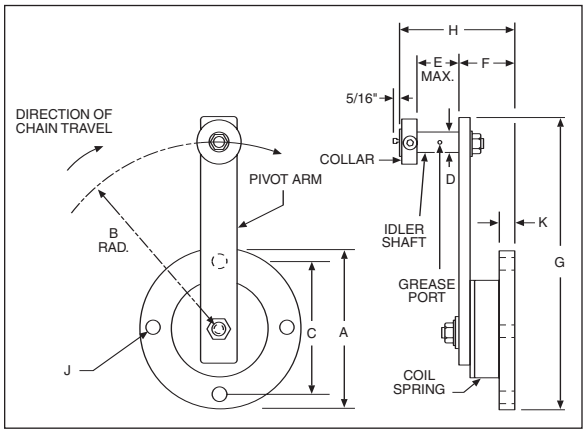
Depending on application, please allow a service factor for spring capacity.

Springs are shot-peened for longer life.

ALL DIMENSIONS IN INCHES

Size	A	B	C	D	E	F	G	2G	H	J	K	L	M	Wgt.
51BG	9	2	8-1/8	.875	1-3/4	2-1/2	11/32	1/2	5-3/8	4-1/4	3	1	1/2	5 Lb.
52BG	13	3	11-7/8	1.125	2-7/8	4	9/16	3/4	7-13/16	4-3/4	3-7/8	1-1/2	5/8	10 Lb.

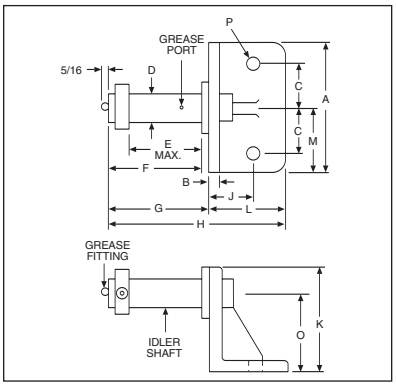
SERIES 60 DIMENSIONS



ALL DIMENSIONS IN INCHES

Size	A	B	C	D	E	F	G	2G	H	J	K	L	M	Wgt.
60BG	4	4-3/4	3-3/8	.500	1	1-3/8	7-3/8	—	2-7/8	9/32	1/4	—	—	2 Lb.
61BG	5-1/2	6	4-3/4	.875	1-3/4	1-7/8	9-1/2	—	4-1/4	13/32	5/16	—	—	5 Lb.

DRIVE POSITIONERS — TYPE HG



The Type HG is an angle-mounted positioner which can be mounted on any flat horizontal surface. Its variety of sizes provides advantages not enjoyed from competitive brands.

ORDER BY CATALOG NUMBER OR ITEM CODE

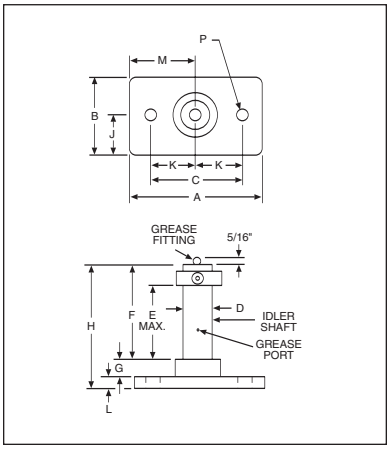
Suggested Chain Number*	Catalog Number	Item Code
35, 40, 41	0-HG	48897
40, 50, 60	1-HG	48898
80, 100, 120	2-HG	48899

*Single-strand chain. For multiple strand chain, use larger tensioner.

ALL DIMENSIONS IN INCHES

Size	A	B	C	D	E	F	G	H	J	K	L	M	O	P
0-HG	2-3/4	1/4	1	1/2	1	1-1/2	1-9/16	3-1/16	7/8	2	1-1/2	1--3/8	1-1/2	11/32
1-HG	4	5/16	1-1/2	7/8	1-3/4	2-3/8	2-15/32	4-15/32	1-1/8	3	2	2	2-1/16	13/32
2-HG	5	7/16	1-3/4	1-1/8	2-7/8	3-17/32	3-5/8	6-21/32	1-3/4	4	3	2-1/2	3	9/16

DRIVE POSITIONERS — TYPE UG



The Type UG drive positioner is a fixed idler bracket which provides chain support. Available in a variety of sizes. Type UG positioners can be mounted on any flat, vertical surface.

ORDER BY CATALOG NUMBER OR ITEM CODE

Suggested Chain Number*	Catalog Number	Item Code
35, 40, 41	0-UG	48893
40, 50, 60	1-UG	48894
80, 100, 120	2-UG	48895

*Single-strand chain. For multiple strand chain, use larger tensioner.

ALL DIMENSIONS IN INCHES

Size	A	B	C	D	E	F	G	H	J	K	L	M	P
0-UG	2-3/4	1-1/2	2	1/2	1	1-1/2	7/16	2-3/16	3/4	1	1/4	1-3/8	11/32
1-UG	4	2	3	7/8	1-3/4	2-3/8	9/16	3-1/4	1	1-1/2	5/16	2	13/32
2-UG	5	3	3-1/2	1-1/8	2-7/8	3-17/32	3/4	4-25/32	1-1/2	1-3/4	1/2	2-1/2	9/16

SPROCKETS

ALTERATIONS

Boston Gear Service Centers are equipped to alter catalog sprockets (rebore, keyway, setscrew, etc.). For customers, choosing to make their own alterations, the guidelines listed below should be beneficial. Alterations to hardened gears should not be made without consultation with factory.

In setting up for reboring the most important consideration is to preserve the accuracy of concentricity and lateral runout provided in the original product. There are several methods for accomplishing this. One procedure is: mount the part on an arbor, machine hub diameter to provide a true running surface, remove from arbor and chuck on the hub diameter, check face and bore runout prior to reboring. As a basic rule of thumb, the maximum bore should not exceed 60% of the Hub Diameter and depending on Key size should be checked for minimum wall thickness. A minimum of one setscrew diameter over a keyway is considered adequate.

Boston Gear offers a service for hardening stock sprockets. This added treatment can provide increased horsepower capacity with resultant longer life and/or reduction in size and weight.

Customers wishing to do the hardening operation should refer to “Materials” below for information.

MATERIALS

Plastic

Plastic sprockets listed are molded from Nylatron GS.

Steel

Type B one-piece sprockets are furnished in a free-machining, low carbon steel.

Plate sprockets (Type A) and two-piece construction (Type B) are made of low carbon steel (basically AISI 1020).

1/4” pitch (Type B) up to 20 teeth is furnished from sintered metal powder conforming to ASTM-B-426-70 Grade 1, Type III with hardness of RB60 MIN.

Stainless Steel

1/4, 3/8 and 1/2” Pitches stock bore, single strand are furnished from 303 free-machining Stainless Steel.

Cast Iron

Block Chain Sprockets are furnished in Cast Iron for 9 through 12 teeth, which conforms to ASTM-A48-Class 30 Cast Iron, providing a fine-grained material with good wear resistant properties.

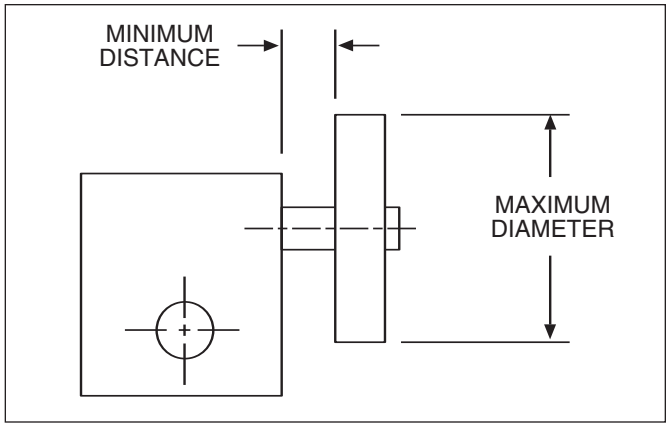
STANDARD KEYWAYS AND SETSCREWS

Diameter of Hole	Standard Keyway		Recommended Setscrew
	W	D	
5/16 to 7/16 “	3/32”	3/64”	10–32
1/2 to 9/16	1/8	1/16	1/4–20
5/8 to 7/8	3/16	3/32	5/16–18
15/16 to 1-1/4	1/4	1/8	3/8–16
1-5/16 to 1-3/8	5/16	5/32	7/16–14
1-7/16 to 1-3/4	3/8	3/16	1/2–13
1-13/16 to 2-1/4	1/2	1/4	9/16–12
2-5/16 to 2-3/4	5/8	5/16	5/8–11
2-13/16 to 3-1/4	3/4	3/8	3/4–10
3-5/16 to 3-3/4	7/8	7/16	7/8–9
3-13/16 to 4-1/2	1	1/2	1–8
4-9/16 to 5-1/2	1-1/4	7/16	1-1/8–7
5-9/16 to 6-1/2	1-1/2	1/2	1-1/4–6

OVERHUNG LOAD

Overhung load is introduced on a shaft by the sprocket, gear, or belt from which the shaft is driven. A shaft driven by a properly installed flexible coupling would not have an overhung load.

The magnitude of the overhung load is determined by the load at the driving or driven member and the distance this member is from the nearest shaft support bearing. Overhung load will reduce the safe power transmission capacity of any shaft, therefore, every effort must be made to reduce this load. There are two ways to reduce this load (1) reduce the support distance or (2) increase the diameter of the driving and driven member. In most cases, increasing the size of a drive is not possible and therefore, all effort should be made to reduce the support distance.



FORMULA:

$$X = \sqrt{(D/2)^2 - (W/2)^2} + D + D/2$$

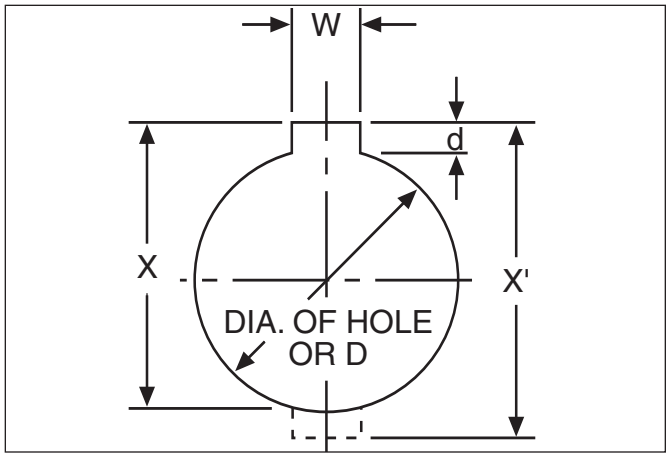
$$X' = 2X - D$$

EXAMPLE

Hole 1"; Keyway 1/4" wide by 1/8" deep.

$$X = \sqrt{(1/2)^2 - (1/8)^2} + 1/8 + 1/2 = 1.109"$$

$$X' = 2.218 - 1.000 = 1.218"$$



SPROCKET DIAMETERS FOR ANSI STANDARD SERIES

Number of Teeth	1/4" Pitch–No. 25 .130" Roller Diameter			3/8" Pitch–No. 35 .200" Roller Diameter			1/2" Pitch–No. 40 .312" Roller Diameter			1/2" Pitch–No. 41 .306" Roller Diameter		
	Pitch Diameter	Outside Diameter	Bottom Diameter	Pitch Diameter	Outside Diameter	Bottom Diameter	Pitch Diameter	Outside Diameter	Bottom Diameter	Pitch Diameter	Outside Diameter	Bottom Diameter
9	0.731	0.83	0.601	1.096	1.26	0.896	1.462	1.67	1.149	1.462	1.67	1.156
10	0.809	0.91	0.679	1.214	1.38	1.014	1.618	1.84	1.305	1.618	1.84	1.312
11	0.887	1.00	0.757	1.331	1.50	1.131	1.775	2.00	1.462	1.775	2.00	1.469
12	0.966	1.08	0.836	1.449	1.63	1.249	1.932	2.17	1.619	1.932	2.17	1.626
13	1.045	1.16	0.915	1.567	1.75	1.367	2.089	2.33	1.776	2.089	2.33	1.783
14	1.124	1.24	0.994	1.685	1.87	1.485	2.247	2.49	1.934	2.247	2.49	1.941
15	1.203	1.32	1.073	1.804	1.99	1.604	2.405	2.65	2.092	2.405	2.65	2.099
16	1.282	1.40	1.152	1.922	2.11	1.722	2.563	2.81	2.250	2.563	2.81	2.257
17	1.361	1.48	1.231	2.041	2.23	1.841	2.721	2.98	2.408	2.721	2.98	2.415
18	1.440	1.56	1.310	2.160	2.35	1.960	2.879	3.14	2.566	2.879	3.14	2.573
19	1.519	1.64	1.389	2.278	2.47	2.078	3.038	3.30	2.725	3.038	3.30	2.732
20	1.598	1.72	1.468	2.397	2.59	2.197	3.196	3.46	2.883	3.196	3.46	2.890
21	1.678	1.80	1.548	2.516	2.71	2.316	3.355	3.62	3.042	3.355	3.62	3.049
22	1.757	1.88	1.627	2.635	2.83	2.435	3.513	3.78	3.200	3.513	3.78	3.207
23	1.836	1.96	1.706	2.754	2.95	2.554	3.672	3.94	3.359	3.672	3.94	3.366
24	1.915	2.04	1.785	2.873	3.07	2.673	3.831	4.10	3.518	3.831	4.10	3.525
25	1.995	2.12	1.865	2.992	3.19	2.792	3.989	4.26	3.676	3.989	4.26	3.683
26	2.074	2.20	1.944	3.111	3.31	2.911	4.148	4.42	3.835	4.148	4.42	3.842
27	2.154	2.28	2.024	3.230	3.43	3.030	4.307	4.58	3.994	4.307	4.58	4.001
28	2.233	2.36	2.103	3.349	3.55	3.149	4.466	4.74	4.153	4.466	4.74	4.159
30	2.392	2.52	2.262	3.588	3.79	3.388	4.783	5.06	4.470	4.783	5.06	4.477
31	2.471	2.60	2.341	3.707	3.91	3.507	4.942	5.22	4.629	4.942	5.22	4.636
32	2.551	2.68	2.421	3.826	4.03	3.626	5.101	5.38	4.789	5.101	5.38	4.794
33	2.630	2.76	2.500	3.945	4.15	3.745	5.260	5.54	4.947	5.260	5.54	4.954
34	2.710	2.84	2.580	4.064	4.27	3.864	5.419	5.70	5.106	5.419	5.70	5.113
35	2.789	2.92	2.659	4.183	4.39	3.983	5.578	5.86	5.265	5.578	5.86	5.272
36	2.869	3.00	2.739	4.303	4.51	4.103	5.737	6.02	5.424	5.737	6.02	5.431
38	3.028	3.16	2.898	4.541	4.75	4.341	6.055	6.33	5.742	6.055	6.33	5.749
39	3.107	3.24	2.977	4.660	4.87	4.460	6.214	6.49	5.901	6.214	6.49	5.908
40	3.187	3.32	3.693	5.734	5.95	5.534	7.645	7.93	7.332	7.645	7.93	7.339
41	3.266	3.40	3.136	4.899	5.11	4.699	6.532	6.81	6.219	6.532	6.81	6.226
42	3.346	3.48	3.216	5.018	5.23	4.818	6.691	6.97	6.378	6.691	6.97	6.385
44	3.505	3.64	3.375	5.257	5.47	5.057	7.009	7.29	6.696	7.009	7.29	6.703
45	3.584	3.72	3.454	5.736	5.59	5.176	7.168	7.45	6.855	7.168	7.45	6.862
48	3.823	3.96	3.693	5.734	5.95	5.534	7.645	7.93	7.332	7.645	7.93	7.339
52	4.141	4.28	4.011	6.211	6.43	6.011	8.281	8.57	7.968	8.281	8.57	7.975
54	4.300	4.44	4.170	6.449	6.66	6.249	8.599	8.89	8.286	8.599	8.89	8.294
56	4.459	4.60	4.329	6.688	6.90	6.488	8.917	9.20	8.605	8.917	9.20	8.611
60	4.777	4.92	4.647	7.165	7.38	6.965	9.554	9.84	9.241	9.554	9.84	9.246
64	5.095	5.23	4.965	7.643	7.86	7.443	10.190	10.48	9.877	10.190	10.48	9.883
65	5.175	5.31	5.045	7.762	7.98	7.562	10.349	10.64	10.036	10.349	10.64	10.044
66	5.254	5.39	5.124	7.881	8.10	7.681	10.508	10.80	10.195	10.508	10.80	10.202
70	5.572	5.71	5.442	8.358	8.58	8.158	11.145	11.43	10.832	11.145	11.43	10.840
72	5.732	5.87	5.602	8.597	8.81	8.397	11.463	11.75	11.150	11.463	11.75	11.156
80	6.368	6.51	6.238	9.552	9.77	9.352	12.736	13.03	12.423	12.736	13.03	12.430
84	6.686	6.83	6.556	10.029	10.25	9.829	13.372	13.66	13.059	13.372	13.66	13.067
96	7.641	7.78	7.511	11.461	11.68	11.261	15.281	15.57	14.969	15.281	15.57	14.976

SPROCKET DIAMETERS FOR ANSI STANDARD SERIES

No. of Teeth	5/8" Pitch–No. 50 .400" Roller Diameter			3/4" Pitch–No. 60 .468" Roller Diameter			1" Pitch–No. 80 .625" Roller Diameter		
	Pitch Diameter	Outside Diameter	Bottom Diameter	Pitch Diameter	Outside Diameter	Bottom Diameter	Pitch Diameter	Outside Diameter	Bottom Diameter
9	1.87	2.09	1.427	2.193	2.51	1.724	2.924	3.35	2.299
10	2.023	2.30	1.623	2.427	2.76	1.958	3.236	3.68	2.611
11	2.218	2.50	1.818	2.662	3.00	2.193	2.549	4.01	2.924
12	2.415	2.71	2.015	2.898	3.25	2.429	3.864	4.33	3.239
13	2.612	2.91	2.212	3.134	3.49	2.665	4.179	4.66	3.554
14	2.809	3.11	2.409	3.371	3.74	2.902	4.494	4.98	3.869
15	3.006	3.32	2.606	3.607	3.98	3.138	4.180	5.31	4.185
16	3.204	3.52	2.804	3.844	4.22	3.375	5.126	5.63	4.501
17	3.401	3.72	3.001	4.082	4.46	3.613	5.442	5.95	4.817
18	3.599	3.92	3.199	4.319	4.70	3.850	5.759	6.27	5.134
19	3.797	4.12	3.397	4.557	4.95	4.088	6.076	6.59	5.451
20	3.995	4.32	3.595	4.794	5.19	4.325	6.393	6.91	5.768
21	4.193	4.52	3.793	5.032	5.43	4.563	6.710	7.24	6.085
22	4.392	4.72	3.992	5.270	5.67	4.801	7.027	7.56	6.402
23	4.590	4.92	4.190	5.508	5.91	5.039	7.344	7.88	6.719
24	4.788	5.12	4.388	5.746	6.15	5.277	7.661	8.20	7.036
25	4.987	5.32	4.587	5.984	6.39	5.515	7.979	8.52	7.354
26	5.185	5.52	4.785	6.222	6.63	5.753	8.296	8.84	7.671
28	5.582	5.92	5.182	6.699	7.11	6.230	8.931	9.48	8.306
30	5.979	6.32	5.579	7.175	7.59	6.706	9.567	10.11	8.942
32	6.376	6.72	5.976	7.652	8.07	7.183	10.202	10.75	9.577
34	6.774	7.12	6.374	8.128	8.54	7.659	10.838	11.39	10.213
35	6.972	7.32	6.572	8.367	8.78	7.898	11.156	11.71	10.531
36	7.171	7.52	6.771	8.605	9.02	8.136	11.474	12.03	10.849
37	7.370	7.72	6.970	8.844	9.26	8.375	11.792	12.35	11.167
38	7.569	7.92	7.169	9.082	9.50	8.613	12.110	12.67	11.485
40	7.966	8.32	7.566	9.559	9.98	9.090	12.746	13.31	12.121
42	8.363	8.72	7.963	10.036	10.46	9.567	13.382	13.94	12.757
44	8.761	9.11	8.361	10.513	10.94	10.044	14.018	14.58	13.393
45	8.960	9.31	8.560	10.752	11.18	10.283	14.336	14.90	13.711
48	9.556	9.91	9.156	11.467	11.89	10.998	15.290	15.86	14.665
49	9.755	10.11	9.355	11.706	12.13	11.237	15.608	16.18	14.983
50	9.954	10.31	9.554	11.945	12.37	11.476	15.926	16.50	15.301
52	10.351	10.71	9.951	12.422	12.85	11.953	16.562	17.13	15.937
54	10.749	11.11	10349	12.899	13.33	12.430	17.198	17.77	16.573
56	11.147	11.50	10.747	13.376	13.81	12.907	17.835	18.41	17.210
60	11.942	12.30	11.542	13.330	14.76	13.861	19.107	19.68	18.482
64	12.738	13.10	12.338	15.285	15.72	14.816	20.380	20.96	19.755
70	13.931	14.29	13.531	16.717	17.15	16.248	22.289	22.87	21.664
72	14.329	14.69	13.929	17.194	17.63	16.725	22.926	23.50	22.301
76	15.124	15.49	14.724	18.149	18.58	17.680	24.199	24.78	23.574
80	15.920	16.28	15.520	19.103	19.54	18.634	25.471	26.05	24.846
84	16.715	17.08	16.315	20.058	20.49	19.589	26.744	27.33	26.119
90	17.909	18.27	17.509	21.490	21.93	21.021	28.654	29.24	28.029
96	19.102	19.47	18.702	22.922	23.36	22.453	30.563	31.15	29.938

HORSEPOWER & TORQUE CAPACITY OF SHAFTING

Diameter	Shaft Horsepower Based on Pure Torsion at 10,000 PSI Maximum Shear Stress							Torque Capacity (Lb. Ins.) Based on 10,000 PSI Shear Stress
	30	50	100	175	690	1150	1750	
3/8	0.049	0.082	0.164	0.287	1.13	1.88	2.87	103
7/16	0.078	0.130	0.261	0.456	1.79	2.99	4.56	164
1/2	0.117	0.194	0.389	0.681	2.68	4.47	6.80	245
9/16	0.166	0.277	0.554	0.969	3.82	6.36	9.69	349
5/8	0.228	0.380	0.760	1.32	5.24	8.73	13.2	479
11/16	0.303	0.506	1.01	1.76	6.97	11.6	17.6	637
3/4	0.394	0.656	1.31	2.29	9.05	15.0	22.9	827
13/16	0.501	0.834	1.66	2.92	11.5	19.1	29.2	1052
7/8	0.625	1.04	2.08	3.64	14.3	23.9	36.4	1314
15/16	0.769	1.28	2.56	4.48	17.6	29.4	44.3	1616
1	0.933	1.55	3.11	5.44	21.4	35.7	54.4	1961
1-1/16	1.12	1.86	3.73	6.53	25.7	42.9	65.3	2352
1-1/8	1.32	2.21	4.43	7.75	30.5	50.9	77.5	2792
1-3/16	1.56	2.60	5.21	9.11	35.9	59.9	91.1	3283
1-1/4	1.82	3.03	6.07	10.6	41.9	69.8	106	3830
1-5/16	2.11	3.51	7.03	12.3	48.5	80	123	4433
1-3/8	2.42	4.04	8.08	11.1	55.8	93	141	5097
1-7/16	2.77	4.62	9.24	16.1	63.7	106	161	5824
1-1/2	3.15	5.25	10.5	18.3	72.4	120	183	6618
1-9/16	3.56	5.93	11.8	20.7	81.8	136	207	7480
1-5/8	4.00	6.67	13.3	23.3	92.1	153	233	8414
1-11/16	4.48	7.47	14.9	26.1	103.1	171	261	9422
1-3/4	5.00	8.33	16.6	29.1	115.0	191	291	10509
1-13/16	5.55	9.26	18.5	32.4	127.8	213	324	11675
1-7/8	6.15	10.2	20.5	35.8	141.5	235	358	12925
1-15/16	6.78	11.3	22.6	39.6	156.1	260	396	14261
2	7.46	12.4	24.8	43.5	171.7	286	435	15686
2-1/16	8.18	13.6	27.2	47.7	188.3	313	477	17203
2-1/8	8.95	14.9	29.8	52.2	206.0	343	522	18815
2-3/16	9.77	16.2	32.5	56.9	224.7	374	569	20525
2-1/4	10.6	17.7	35.4	62.0	244.5	407	620	22335
2-5/16	11.5	19.2	38.4	67.3	265.4	442	673	24248
2-3/8	12.5	20.8	41.6	72.9	287.6	479	729	26268
2-7/16	13.5	22.5	45.0	78.8	310.9	518	788	29396
2-1/2	14.5	24.3	48.6	85.0	335.1	559	850	30637
2-9/16	15.7	26.1	52.3	91.6	361.2	602	916	32993
2-5/8	16.8	28.1	56.2	98.4	388.3	647	984	35466

The above table is computed based on a torsional stress of 10,000 PSI. For applications involving bending moments (gears, sprockets, etc.) the horsepower capacity must be reduced accordingly.

The stress level of 10,000 PSI is representative of medium carbon steel shafting. For other materials, a correction must be made accordingly.

TEMPERATURE CONVERSION TABLE

Degrees Celcius “C”; Degrees Fahrenheit “F”

Degree C.	Degree F.	Degree C.	Degree F.	Degree C.	Degree F.	Degree C.	Degree F.	Degree C.	Degree F.
–40	–40.0	8	46.4	56	132.8	104	219.2	152	305.6
–39	–38.2	9	48.2	57	134.6	105	221.0	153	307.4
–38	–36.4	10	50.0	58	136.4	106	222.8	154	309.2
–37	–34.6	11	51.8	59	138.2	107	224.6	155	311.0
–36	–32.8	12	53.6	60	140.0	108	226.4	156	312.8
–35	–31.0	13	55.4	61	141.8	109	228.2	157	314.6
–34	–29.2	14	57.2	62	143.6	110	230.0	158	316.4
–33	–27.4	15	59.0	63	145.4	111	231.8	159	318.2
–32	–25.6	16	60.8	64	147.2	112	233.6	160	320.0
–31	–23.8	17	62.6	65	149.0	113	235.4	161	321.8
–30	–22.0	18	64.4	66	150.8	114	237.2	162	323.6
–29	–20.2	19	66.2	67	152.6	115	239.0	163	325.4
–28	–18.4	20	68.0	68	154.4	116	240.8	164	327.2
–27	–16.6	21	69.8	69	156.2	117	242.6	165	329.0
–26	–14.8	22	71.6	70	158.0	118	244.4	166	330.8
–25	–13.0	23	73.4	71	159.8	119	246.2	167	332.6
–24	–11.2	24	75.2	72	161.6	120	248.0	168	334.4
–23	– 9.4	25	77.0	73	163.4	121	249.8	169	336.2
–22	– 7.6	26	78.8	74	165.2	122	251.6	170	338.0
–21	– 5.8	27	80.6	75	167.0	123	253.4	171	339.8
–20	– 4.0	28	82.4	76	168.8	124	255.2	172	341.6
–19	– 2.2	29	84.2	77	170.6	125	257.0	173	343.4
–18	– 0.4	30	86.0	78	172.4	126	258.8	174	345.2
–17	+ 1.4	31	87.8	79	174.2	127	260.6	175	347.0
–16	3.2	32	89.6	80	176.0	128	262.4	176	348.8
–15	5.0	33	91.4	81	177.8	129	264.2	177	350.6
–14	6.8	34	93.2	82	179.6	130	266.0	178	352.4
–13	8.6	35	95.0	83	181.4	131	267.8	179	354.2
–12	10.4	36	96.8	84	183.2	132	269.6	180	356.0
–11	12.2	37	98.6	85	185.0	133	271.4	181	357.8
–10	14.0	38	100.4	86	186.8	134	273.2	182	359.6
– 9	15.8	39	102.2	87	188.6	135	275.0	183	361.4
– 8	17.6	40	104.0	88	190.4	136	276.8	184	363.2
– 7	19.4	41	105.8	89	192.2	137	278.6	185	365.0
– 6	21.2	42	107.6	90	194.0	138	280.4	186	366.8
– 5	23.0	43	109.4	91	195.8	139	282.2	187	368.6
– 4	24.8	44	111.2	92	197.6	140	284.0	188	370.4
– 3	26.6	45	113.0	93	199.4	141	285.8	189	372.2
– 2	28.4	46	114.8	94	201.2	142	287.6	190	374.0
– 1	30.2	47	116.6	95	203.0	143	289.4	191	375.8
0	32.0	48	118.4	96	204.8	144	291.2	192	377.6
+ 1	33.8	49	120.2	97	206.6	145	293.0	193	379.4
2	35.6	50	122.0	98	208.4	146	294.8	194	381.2
3	37.4	51	123.8	99	210.2	147	296.6	195	383.0
4	39.2	52	125.6	100	212.0	148	298.4	196	384.8
5	41.0	53	127.4	101	213.8	149	300.2	197	386.6
6	42.8	54	129.2	102	215.6	150	302.0	198	388.4
7	44.5	55	131.0	103	217.4	151	303.8	199	390.2

EQUIVALENT TABLE

FRACTION — DECIMAL — MILLIMETER

Fraction Inches	Inch Decimal Equivalent	Millimeter Equivalent	Fraction Inches	Inch Decimal Equivalent	Millimeter Equivalent
1/64	.0156	.397	33/64	.5156	13.097
1/32	.0312	.794	17/32	.5312	13.494
3/64	.0469	1.191	35/64	.5469	13.891
1/16	.0625	1.588	9/16	.5625	14.288
5/64	.0781	1.984	37/64	.5781	14.684
3/32	.0937	2.381	19/32	.5937	15.081
7/64	.1094	2.778	39/64	.6094	15.478
1/8	.1250	3.175	5/8	.6250	15.875
9/64	.1406	3.572	41/64	.6406	16.272
5/32	.1562	3.969	21/32	.6562	16.669
11/64	.1719	4.366	43/64	.6719	17.066
3/16	.1875	4.763	11/16	.6875	17.463
13/64	.2031	5.159	45/64	.7031	17.859
7/32	.2187	5.556	23/32	.7187	18.256
15/64	.2344	5.953	47/64	.7344	18.653
1/4	.2500	6.350	3/4	.7500	19.050
17/64	.2656	6.747	49/64	.7656	19.447
9/32	.2812	7.144	25/32	.7812	19.844
19/64	.2969	7.541	51/64	.7969	20.241
5/16	.3125	7.938	13/16	.8125	20.638
21/64	.3281	8.334	53/64	.8281	21.034
11/32	.3437	8.731	27/32	.8437	21.431
23/64	.3594	9.128	55/64	.8594	21.828
3/8	.3750	9.525	7/8	.8750	22.225
25/64	.3906	9.922	57/64	.8906	22.622
13/32	.4062	10.319	29/32	.9062	23.019
27/64	.4219	10.716	59/64	.9219	23.416
7/16	.4375	11.113	15/16	.9375	23.813
29/64	.4531	11.509	61/64	.9531	24.209
15/32	.4687	11.906	31/32	.9687	24.606
31/64	.4844	12.303	63/64	.9844	25.003
1/2	.5000	12.700	1	1.0000	25.400

MILLIMETER — INCHES

Millimeters	Inches
1	.0394
2	.0787
3	.1181
4	.1575
5	.1968
6	.2362
7	.2756
8	.3150
9	.3543
10	.3937
11	.4331
12	.4724
13	.5118
14	.5512
15	.5905
16	.6299
17	.6693
18	.7087
19	.7480
20	.7874
21	.8268
22	.8661
23	.9055
24	.9449
25	.9842
26	1.0236
27	1.0630
28	1.1024
29	1.1417
30	1.1811

METRIC CONVERSION CHART

Area

Multiply	By	To Obtain
Millimeters^2	.00155	inches^2
Centimeters^2	.155	inches^2
Meters^2	10.76	feet^2
Inches^2	645.16	millimeters^2
Inches^2	6.452	centimeters^2
Feet^2	929.03	centimeters^2
Feet^2	.0929	meters^2

Density

Multiply	By	To Obtain
lg/cm^3	.03613	lb/in^3
lg/cm^3	62.43	lb/in^3
lb/in^3	27.68	gr/cm^3
lb/ft^3	.016	g/cm^3
lb/ft^3	16.02	Kg/m^3

Power

Multiply	By	To Obtain
Joule/sec	.001341	Horsepower
Kilocalorie/hour	3.967	BTW/hour
Horsepower	.33000	ft-lb/min
Horsepower	746	watts
BTU/hour	.2521	kilocalorie/hour

Length

Multiply	By	To Obtain
Millimeter	.03937	inch
Centimeter	.3937	inch
Meter	39.37	inch
Inch	2.54	centimeter
Feet	30.48	centimeter
Feet	.3048	meter

Volume

Multiply	By	To Obtain
Centimeter^3	.0610	inches^3
Centimeter^3	.034	fluid ounce
Liter	61.02	inches^3
Liter	.0353	feet^3
Liter	.264	U.S. gallon
Inch^3	16.39	centimeter^3
Feet^3	28.32	liter
Gallon	3.785	liter

Weight

Multiply	By	To Obtain
Gram	.03527	ounce
Kilogram	35.27	ounce
Kilogram	2.205	pounds
Ounce	28.35	gram
Pound	453.6	grams

Torque

Multiply	By	To Obtain
Newton-meter	8.84	in-lb
in-lb	.113	Newton-meter

Velocity

Multiply	By	To Obtain
Centimeter/second	.3937	inches/second
Centimeter/second	1.969	feet/minute
Meter/second	3.281	feet/second
Meter/second	196.9	feet/minute
Meter/second	2.237	miles per hour
Inch/second	25.4	millimeters/second
Inch/second	2.54	centimeters/second
Foot/second	.3048	meters/second
Foot/minute	.00508	meters/second

BOSTON GEAR REGISTERED TRADEMARKS

BOSTON GEAR®

BOSTON®

BOStonE®

BOST-BRONZ®

BEAR-N-BRONZ®

APPLICATION CLASSIFICATION FOR VARIOUS LOADS

Type of Machine To Be Driven	Chart I For All Drives — Service Factor Loading		
	Not More Than 15 Mins. in 2 Hrs.	Not More Than 10 Hrs. per Day	More Than 10 Hrs. Per Day
AGITATORS			
Pure Liquid	0.80	1.00	1.25
Semi-Liquids, Variable Density	1.00	1.25	1.50
BLOWERS			
Centrifugal and Vane	0.80	1.00	1.25
Lobe	1.00	1.25	1.50
BREWING AND DISTILLING			
Bottling Machinery	0.80	1.00	1.25
Brew Kettles–Continuous Duty	—	—	1.25
Cookers – Continuous Duty	—	—	1.25
Mash Tubs – Continuous Duty	—	—	1.25
Scale Hopper – Frequent Starts	—	1.25	1.50
CAN FILLING MACHINES	—	1.00	—
CANE KNIVES	—	1.50	—
CAR DUMPERS	—	1.75	—
CAR PULLERS	—	1.25	—
CLARIFIERS	—	1.00	1.25
CLASSIFIERS	—	1.25	1.50
CLAY WORKING MACHINERY			
Brick Press & Briquette Machine	—	1.75	2.00
Extruders and Mixers	1.00	1.25	1.50
COMPRESSORS			
Centrifugal	—	1.00	1.25
Lobe – Reciprocating, Multi-Cycle	—	1.25	1.50
Reciprocating – Single Cycle	—	1.75	2.00
CONVEYORS— UNIFORMLY LOADED & FED			
Apron	—	1.00	1.25
Assembly-Belt – Bucket or Pan	—	1.00	1.25
Chain – Flight	—	1.00	1.25
Oven – Live Roll – Screw	—	1.25	1.50
CONVEYORS—HEAVY DUTY NOT UNIFORMLY FED			
Apron	—	1.25	1.50
Assembly-Belt – Bucket or Pan	—	1.25	1.50
Chain – Flight	—	1.25	1.50
Live Roll	—	—	—
Oven – Screw	—	1.25	1.50
Reciprocating – Shaker	—	1.75	2.00
CRANES AND HOISTS			
Main Hoists			
Bridge and Trolley Drive	*	1.00	1.25
CRUSHER			
Ore, Stone	—	1.75	2.00
Sugar	—	1.50	1.50

Type of Machine To Be Driven	Chart I For All Drives — Service Factor Loading		
	Not More Than 15 Mins. in 2 Hrs.	Not More Than 10 Hrs. per Day	More Than 10 Hrs. Per Day
ELEVATORS			
Bucket – Uniform Load	—	1.00	1.25
Bucket – Heavy Load	—	1.25	1.50
Centrifugal Discharge	—	1.25	1.50
Freight	—	1.25	1.50
Gravity Discharge	—	1.00	1.25
FANS			
Centrifugal – Light (Small Diam.)	—	1.00	1.25
Large Industrial	—	1.25	1.50
FEEDERS			
Apron – Belt – Screw	—	1.25	1.50
Disc	—	1.00	1.25
Reciprocating	—	1.75	2.00
FOOD INDUSTRY			
Beet Slicer	—	1.25	1.50
Cereal Cooker	—	1.00	1.25
Dough Mixer – Meat Grinder	—	1.25	1.50
GENERATORS (NOT WELDING)	—	1.00	1.25
HAMMER MILLS	—	1.75	2.00
HOISTS			
Heavy Duty	—	1.75	2.00
Medium Duty and Skip Type	—	1.25	1.50
LAUNDRY TUMBLERS	—	1.25	1.50
LINE SHAFTS			
Uniform Load	—	1.00	1.25
Heavy Load	—	1.25	1.50
MACHINE TOOLS			
Auxiliary Drive	—	1.00	1.25
Main Drive – Uniform Load	—	1.25	1.50
Main Drive – Heavy Duty	—	1.75	2.00
METAL MILLS			
Draw Bench Carriers & Main Drive	—	1.25	1.50
SLITTERS	—	1.25	1.50
TABLE CONVEYORS — NON REVERSING			
Group Drives	—	1.25	1.50
Individual Drives	—	1.75	2.00
Wiring Drawing, Flattening or Winding	—	1.25	1.50
MILLS ROTARY TYPE BALL AND ROD			
Spur Ring Gear and Direct Connected	—	—	2.00
Cement Kilns, Pebble	—	—	1.50
Dryers and Coolers	—	—	1.50
Plain and Wedge Bar	—	—	1.50
Tumbling Barrels	—	—	2.00

APPLICATION CLASSIFICATION FOR VARIOUS LOADS (Continued)

Type of Machine To Be Driven	Chart I For All Drives – Service Factor Loading		
	Not More Than 15 Mins. in 2 Hrs.	Not More Than 10 Hrs. per Day	More Than 10 Hrs. Per Day
MIXERS			
Concrete – Continuous	—	1.25	1.50
Concrete – Intermittent	—	1.25	1.50
Constant Density	—	1.00	1.25
Semi-Liquid	—	1.25	1.50
OIL INDUSTRY			
Oil Well Pumping	—	—	*
Chillers, Paraffin Filter Press	—	1.25	1.50
Rotary Kilns	—	1.25	1.50
PAPER MILLS			
Agitator (Mixer)	—	1.25	1.50
Agitator – Pure Liquids	—	1.00	1.25
Barking Drums – Mechanical			
Barkers	—	1.75	2.00
Bleacher	—	1.00	1.25
Beater	—	1.25	1.50
Calender Heavy Duty	—	—	2.00
Calender Anti-Friction Brgs.	—	1.00	1.25
Cylinders	—	1.25	1.50
Chipper	—	—	2.00
Chip Feeder	—	1.25	1.50
Coating Rolls – Couch Rolls	—	1.00	1.25
Conveyors – Chips – Bark – Chemical	—	1.00	1.25
Conveyors – Log and Slab	—	—	2.00
Cutter	—	—	2.00
Cylinder Molds, Dryers (Anti-Friction Brg.)	—	—	1.25
Felt Stretcher	—	1.25	1.50
Screens – Chip and Rotary	—	1.25	1.50
Thickener (AC)	—	1.25	1.50
Washer (AC)	—	1.25	1.50
Winder – Surface Type	—	—	1.25
PLASTICS INDUSTRY			
Intensive Internal Mixers			
Batch Type	—	—	1.75
Continuous Type	—	—	2.00
Batch Drop Mill – 2 Rolls	—	—	1.25
Compounding Mills	—	—	1.25
Calenders	—	—	1.50
Extruder – Variable Speed	—	—	1.50
Extruder – Fixed Speed	—	—	1.75
PULLERS			
Barge Haul	—	—	2.00

Type of Machine To Be Driven	Chart I For All Drives – Service Factor Loading		
	Not More Than 15 Mins. in 2 Hrs.	Not More Than 10 Hrs. per Day	More Than 10 Hrs. Per Day
PUMPS			
Centrifugal	—	—	1.25
Proportioning	—	—	1.50
Reciprocating			
Single Acting, 3 or more Cycles	—	1.25	1.50
Double Acting, 2 or more Cycles	—	1.25	1.50
Rotary – Gear or Lube	—	1.00	1.25
RUBBER INDUSTRY			
Batch Mixers	—	—	1.75
Continuous Mixers	—	—	1.50
Calenders	—	—	1.50
Extruders – Continuous	—	—	1.50
Extruders – Intermittent	—	—	1.75
Tire Building Machines	—	—	—
Tire & Tube Press Openers	—	—	—
SEWAGE DISPOSAL EQUIPMENT			
Bar Screens	—	1.00	1.25
Chemical Feeders	—	1.00	1.25
Collectors	—	1.00	1.25
Dewatering Screws	—	1.25	1.50
Scum Breakers	—	1.25	1.50
Slow or Rapid Mixers	—	1.25	1.50
Thickeners	—	1.25	1.50
Vacuum Filters	—	1.25	1.50
SCREENS			
Air Washing	—	1.00	1.25
Rotary – Stone or Gravel	—	1.25	1.50
Traveling Water Intake	—	1.00	1.25
SKIP HOISTS	—	—	—
SLAB PUSHERS	—	1.25	1.50
STOKERS	—	—	1.25
TEXTILE INDUSTRY			
Batchers or Calenders	—	1.25	1.50
Cards	—	1.25	1.50
Card Machines	—	1.75	2.00
Dry Cans and Dryers	—	1.25	1.50
Dyeing Machines	—	1.25	1.50
Looms	—	1.25	1.50
Mangles, Nappers and Pads	—	1.25	1.50
Soapers, Tenner Frames	—	1.25	1.50
Spinners, Washers, Winders	—	1.25	1.50
TUMBLING BARRELS	1.50	1.75	2.00
WINDLASS	—	1.25	1.50

TERMS AND CONDITIONS

ALL QUOTATIONS AND SALES BY BOSTON GEAR, THE CONTRACTING PARTY HERETO, A DIVISION OF ALTRA INDUSTRIAL MOTION. HEREAFTER CALLED "COMPANY" ARE MADE ON THE FOLLOWING TERMS AND CONDITIONS.

1. QUOTATIONS AND THEIR ACCEPTANCE

Unless otherwise specified, quotations on stock products are for immediate acceptance, subject to prior sales. Quotations on special products are made subject to acceptance within thirty (30) days from date thereof, but in asking such quotations, the Company reserves the right to change or cancel them at any time prior to the receipt of the customers' written acceptance. All quotations for special products are based upon supplying up to plus or minus 5% of quantity ordered unless otherwise stated in the quotation. All quotations are made F.O.B. shipping point.

2. PRICES

Prices are in accordance with current Company price lists, are based on quantity specified and are subject to minimum order requirements of the Company. In the event the Company consents to the cancellation or suspension of orders, it shall be entitled to charge for work done and material ordered or used up to the time of giving its written consent to such cancellation or suspension. When work is to be done on material specified being delivered by the customer at one time within a reasonable time after acceptance of order. Quotations will be made on special products of all types or on cutting only. Prices, specifications, and terms and conditions, as well as all statements appearing in the Company's catalogs and advertisements, and made elsewhere by the Company are subject to change without notice. Changes by the customer in specifications or delivery requirements will be subject to change in price. Whenever the net price of an order amounts to less than $25.00, a minimum charge of $25.00 will be made.

3. CREDIT TERMS

To obtain customers and prospective customers whose credit is satisfactory to the Company, terms are net thirty (30) days, from date of invoice, with the option of paying semi-monthly. The Company may at any time when, in its opinion, the financial condition of the customer or prospective customer warrants it, either alter or suspend credit, or discontinue deliveries, and render a charge covering the value of any partially finished special products which are then being manufactured for the customer. In those instances where credit is not established, and in cases where satisfactory references are not given, the terms are cash with order. For special products in those instances where credit is not established to the satisfaction of the Company, a deposit of at least 50% of total value of the order is required. Remittances should be made by check or money order, payable to the Boston Gear, Quincy, Massachusetts 02171, U.S.A. Delays in transportation shall not extend the terms of payment.

4. MATERIAL FURNISHED BY THE CUSTOMER

Unless otherwise specified, quotations are based on material furnished by the customer being of ordinary hardness, normal allowance for finish, uniform specification, and machine work being of ordinary commercial accuracy. If material furnished by the customer involves the Company in expense not contemplated by the contract, the customer will be charged for all such additional expense. If serious defects are found in the material furnished by the customer, the customer will be charged for the actual work done. The Company assumes no responsibility for, and will not be liable for loss of or damage to samples, blueprints, diagrams, and other material of any nature submitted or furnished by the customer or prospective customer, provided the Company has exercised reasonable care in the handling of the same. The Company does not assume transportation and insurance costs on any of the foregoing items. In all cases where the customer or prospective customer makes no statement in writing, concerning the disposition of any of the foregoing material when submitted, the Company reserves the right to dispose of such material according to its best judgement.

5. DIMENSIONS

When dimensions of rims, bores, and hubs are not clearly specified, quotations are based on ordinary dimensions. Before the customer's blanks are accepted by the Company for cutting, the diameter, holes, rims, and ends of holes must be finished; for bevel gears, hubs, must be of uniform length. There should also be an allowance of extra blanks to cover possible spoilage. Unless otherwise specified, dimensions are in inches.

6. SAMPLES

In no case are samples furnished free. If agreed to by the Company, a few products in advance of a regular quantity order will be furnished but only at an agreed upon price over the regular quantity price.

7. TAXES

If any tax is at any time levied or imposed by the federal or any state or local government, or any other taxing authority, upon the products covered hereby, or in respect of the production, processing, manufacture, storage, sale, use, or consumption thereof, or, in the case of goods delivered at the Company's expense, upon the transportation thereof, including freight charges thereon, the amount of such tax shall be added to the purchase price above specified and shall be borne by the customer. The Company will accept a valid exemption certificate from the customer if applicable; however, if any exemption certificate previously accepted is not recognized by the taxing authority involved and the Company is required to pay the tax covered by such exemption certificate, the customer shall be required to promptly reimburse the Company for the taxes so paid.

8. SHIPMENTS

All shipments are made F.O.B. shipping point (subject to freight allowance under conditions stated in separate price schedules). When ordering, the customer's desired method of shipment must be clearly stated. Where instructions for shipping do not appear on the order, shipment will be made according to the Company's best judgment. Full risk of loss (including transportation delays and losses) shall pass to the customer upon delivery of the products to F.O.B. point. Unless otherwise instructed, all Parcel Post shipments are insured at the customer's expense. Parcel Post shipments without insurance are at the customer's risk. Deliveries by Messenger Service to a terminal are made at the customer's risk and expense. Partial shipments shall be permitted and the Company may invoice each shipment separately.

9. REFUSAL OF SHIPMENT

In case of the refusal or inability of the customer to accept any shipment in accordance with the terms of the order, the customer shall be liable for freight, express, storage, extra cost of handling and all other expenses incurred by the Company as a result of such refusal or inability.

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10. DELAY OR NONPERFORMANCE

The Company shall not be liable for any delays or loss of any nature or failure in performance due to or caused by fire, flood, strike, or other differences with workmen, accidents, labor or material or transportation shortages, war (declared or undeclared), insurrection, riot, or by any governmental orders or regulations, legal interferences or prohibitions, defaults on the part of suppliers or other causes beyond the Company's reasonable control.

11. CLAIMS AND REJECTED MATERIAL

Any products which have been altered or damaged are not returnable except with the Company's written consent. To reject products on inspection as defective, customer must notify the Company in writing within ten (10) days from receipt of the products. Before allowing or rejecting a claim, the Company shall then have the option of reinspection at the customer's plant or its own. Defects that do not impair service shall not be a cause for rejection. The Company shall have the right to replace within a reasonable time any product or products which in its opinion do not conform to the order. No claim will be allowed for any products damaged by the customer or damaged in transit. Expenses incurred in connection with claims for which the Company is not liable will be charged to the customer. The Company will not be responsible for any work done to correct errors unless such work is authorized by the written consent of the Company. The Company assumes no liability for any claim for infringement of any foreign or domestic patent.

12. LIMITED WARRANTY

The Company warrants that products manufactured or sold by it shall be free from defects in material and workmanship. Any products which shall within two (2) years of delivery, be proved to the Company's satisfaction to have been defective at the time of delivery in these respects will be replaced or repaired by the Company at its option. Freight is the responsibility of the customer. The Company's liability under this limited warranty is limited to such replacement or repair and it shall not be held liable in any form of action for direct or consequential damages to property or person. THE FOREGOING LIMITED WARRANTY IS EXPRESSLY MADE IN LIEU OF ALL OTHER WARRANTIES WHATSOEVER, EXPRESS, IMPLIED AND STATUTORY AND INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.

No employee, agent, distributor, or other person is authorized to give additional warranties on behalf of Boston Gear, nor to assume for Boston Gear any other liability in connection with any of its products, except an officer of Boston Gear by a signed writing.

13. WAIVER OF BREACH

No waiver by the Company of any breach of these provisions shall constitute a waiver of any other breach.

14. CONSEQUENTIAL DAMAGES

The Company shall not be liable to the customer or others claiming through the customer for special or consequential charges for any reason whatsoever.

15. LAWS

To the best of the Company's knowledge and belief it is in compliance with all local, state and federal laws. All orders are subject to the condition that the Company's obligation under such local, state and federal laws and Executive Orders, Rules and Regulations issued thereunder, whether now if force or hereafter made effective, shall be no greater as a result of this agreement and no greater than required by such laws and the Company expressly disclaims assumptions of any of the customer's obligations under such laws.

16. GENERAL

Any terms and conditions of a customer's order which are inconsistent with or additional to the terms and conditions hereof shall not be binding on the Company and shall not be considered applicable to any sale or shipment of the Company's products. All such terms and conditions are hereby expressly rejected. No waiver, alteration or modification of any of the Company's terms and conditions shall be binding on the Company unless made in writing and agreed to by a duly authorized official of the Company.

17. PRINTERS, STENOGRAPHIC, AND CLERICAL ERRORS

The company is not responsible for printers' errors made in any of its publications and other forms of printed matter, or for any stenographic and clerical errors. All such errors are subject to correction.

18. REDUCER EXPRESS

A) Quantities of reducers covered as part of this program are a maximum of:
   6 pieces for any 710-726, 221-231, or 832-843
   2 pieces for any 732-760, 239-247, or 862-873
B) Bost-Kleen, Stainless Bost-Kleen, and modified reducers are not included as part of this program.
C) Boston Gear will utilize any major courier to handle air shipments.
D) Consult Boston Gear for details.

19. GUARANTEED SAME DAY SHIPMENT

- Products must be available from stock.
- Does not apply to WOG or scheduled release shipments.
- Same day shipment available Monday through Friday excluding U.S. holidays. For emergency service, please call 704-688-7350.
- In the event your freight carrier is unable to meet your requirements, we reserve the right to substitute a carrier of equivalent quality.
- If a shipment is missed and Boston Gear pays the freight, we'll pay for the freight charges as they were originally specified on the order.
- Brokerage and export fees still apply to shipments outside the U.S.
- For those distributors in Eastern or Central time zones, after 5 p.m. local time, please call 562-802-3834 or fax 562-802-0153 to place your order.
- Video Terminal Orders entered up to 8 p.m. ET will be shipped the same day.

INDEX TO CATALOG NUMBERS

*Initial number, larger numbers arranged according to size.

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NOTES

NOTES

PLAIN BEARINGS

Boston Gear's line of plain bearings can be used on any application where the load-carrying capacity required falls within the capabilities of the material. BOST-BRONZ bearings operate efficiently under heavy loads at low speds because of the oil impregnation built into every BOST-BRONZ bearing. BEAR-N-BRONZ is a high grade leaded-tin bronze, having good hardness, strength, wear-resistance, and exceptional anti-friction qualities. Boston's BOStonE glass filled material is completely self-lubricating with outstanding wear and corrosion resistance properties.

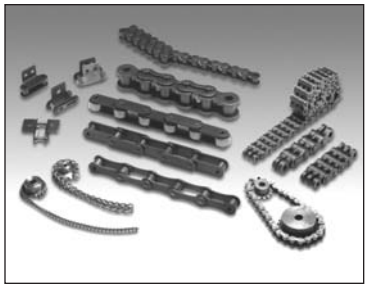
ANTI-FRICTION & SELF-ALIGNING BEARINGS

Boston's line of unmounted, inch size ball bearings, rod ends, spherical and linear bearings, give the designer freedom to choose from a wide range of quality bearing products that will resolve numerous application problems.

Boston Gear's inch size ball bearings are offered in Precision Ground, Semi- and Unground Radial and Thrust bearings. Our rod end and linear bearings are offered in Precision and Commercial Series.

MOUNTED BEARINGS

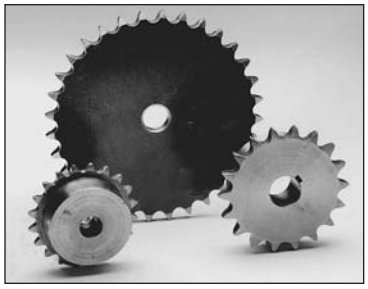
Mounted Bearings offer a simple, convenient method of providing load support. The Boston Gear Mounted Bearing line is one of the most comprehensive available to industry. Ranging from light duty, plain bearing blocks to precision, double-row tapered roller bearing units. They all feature Boston Gear's tradition of design excellence and precision manufacture.



CHAIN

Boston Roller chain's are quality designed and built to ANSI specifications, for superior fatigue resistance and long operational life in a host of industrial and process applications.

All roller chain is available in standard lengths or as complete units of any length. Multiple strand, chain offers greatly increased power transmission capacity. Double pitch chain is economical for long center distances moderate loads and slower speeds.



SPROCKETS

Boston Gear sprockets are quality designed and built to ANSI specifications, for superior fatigue resistance and long operation life in a host of industrial and process applications. Sprockets are available in a wide range of materials and pitches, with or without hubs.

NOTES