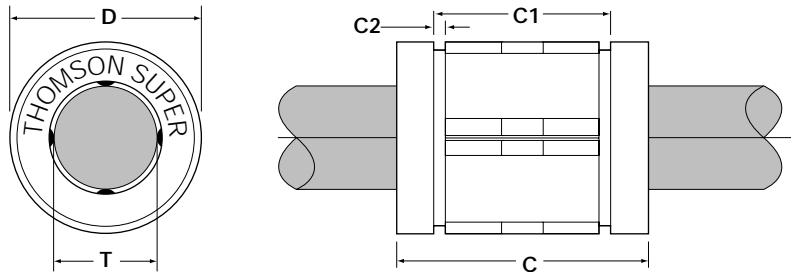


# Super Ball Bushing™ Bearings (Closed Type) for End-Supported Applications



Super Ball Bushing™ Bearings (Closed Type) (Dimensions in inches)						
Catalog Number	Nominal Diameter	Length C	Distance Between Retaining Ring Grooves C1	Retaining Ring Groove Min. C2	Number of Ball Circuits	Ball Bushing Bearing Mass lb
TSUPER-3	.188	.562/.547	—	—	4	.003
TSUPER-4	.250	.750/.735	.511/.501	.039		.01
TSUPER-6	.375	.875/.860	.699/.689	.039		.02
TSUPER-8	.500	1.250/1.230	1.032/1.012	.050		.04
TSUPER-10	.625	1.500/1.480	1.105/1.095	.056	5	.10
TSUPER-12	.750	1.625/1.605	1.270/1.250	.056	6	.14
TSUPER-16	1.000	2.250/2.230	1.884/1.864	.070		.25
TSUPER-20	1.250	2.625/2.600	2.004/1.984	.068		.45
TSUPER-24	1.500	3.000/2.970	2.410/2.390	.086		.85
TSUPER-32	2.000	4.000/3.960	3.193/3.163	.105		1.45

Catalog Number	Working Bore Diameter T	Recommended Housing Bore Diameter		Ball Bushing Bearing/LinearRace Fit Up		Dynamic <sup>Δ</sup> Load Capacity lbf
		Fixed D	Adjustable D	Fixed Dia.* Housing	Adjustable Dia.* Housing (Before Adjustment)	
TSUPER-3	.1875/.1870	.3755/.3750	.3760/.3750	.0015C/.0000	.002C/.0000	35
TSUPER-4	.2500/.2495	.5005/.5000	.5010/.5000	.0015C/.0000	.002C/.0000	60
TSUPER-6	.3750/.3745	.6255/.6250	.6260/.6250	.0015C/.0000	.002C/.0000	100
TSUPER-8	.5000/.4995	.8755/.8750	.8760/.8750	.0015C/.0000	.002C/.0000	255
TSUPER-10	.6250/.6245	1.1255/1.1250	1.1260/1.1250	.0015C/.0000	.002C/.0000	450
TSUPER-12	.7500/.7495	1.2505/1.2500	1.2510/1.2500	.0015C/.0000	.002C/.0000	600
TSUPER-16	1.0000/.9995	1.5630/1.5625	1.5635/1.5625	.0015C/.0000	.002C/.0000	1050
TSUPER-20	1.2500/1.2494	2.0008/2.0000	2.0010/2.0000	.0018C/.0001P	.002C/.0000	1500
TSUPER-24	1.5000/1.4994	2.3760/2.3750	2.3760/2.3750	.0021C/.0000	.0021C/.0000	2000
TSUPER-32	2.0000/1.9992	3.0010/3.0000	3.0010/3.0000	.0023C/.0002P	.0023C/.0002P	3000

\*P=Preload, C=Clearance

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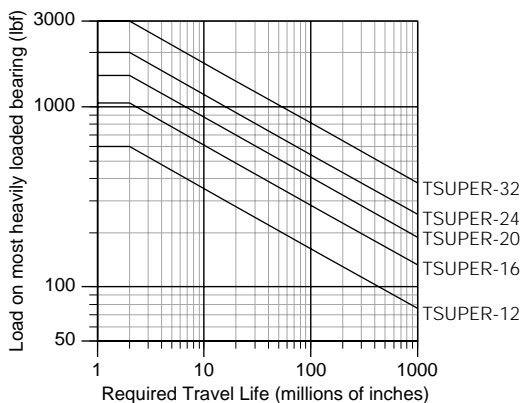
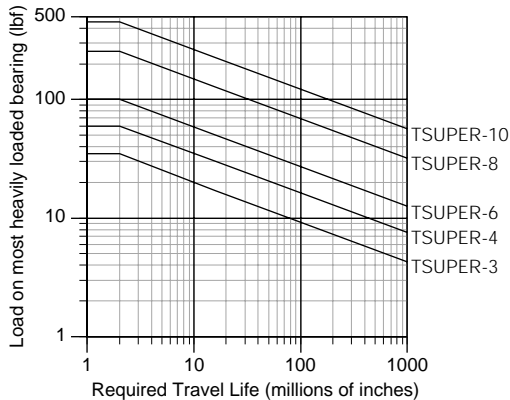
<sup>Δ</sup>See the chart on the bottom half of the next page.

**NOTE:** Catalog number is for a standard item.  
For other options add: **CR** Corrosion-Resistant, **NB** Nylon Balls, or **CM** Ceramic Balls to end of catalog number.



# Super Ball Bushing™ Bearings (Closed Type) for End-Supported Applications

Load/Life Graph (Lines indicate limiting load for given BALL BUSHING bearing)



### Determining BALL BUSHING Bearing Size

To determine the proper BALL BUSHING bearing size, enter the chart with the maximum load of the most heavily loaded bearing and the required travel life. Mark where the two lines intersect. All BALL BUSHING bearing sizes that pass through or above and to the right of this point may be suitable for this application.

**Note: For the purpose of using this chart:**

$$\text{Load on Most Heavily Loaded Bearing} = \frac{\text{Maximum Applied Load}}{K_0}$$

where:

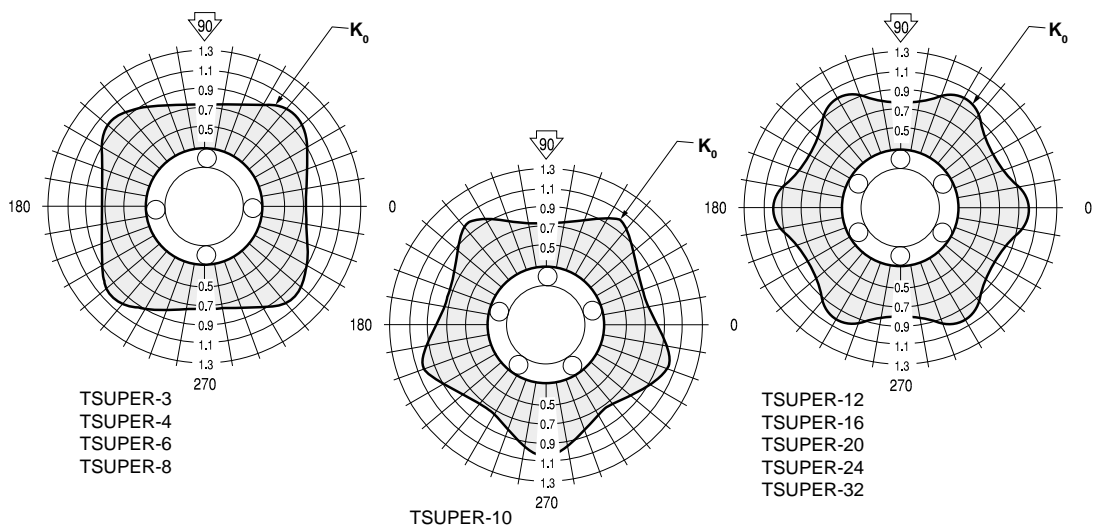
$K_0$  = the Load Correction Factor, which can be determined from the Polar Graph below.

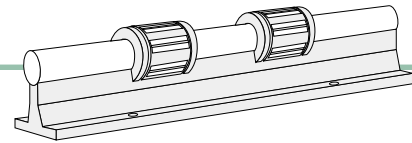
### Dynamic Load Capacity Correction Factor, $K_0$

The Dynamic Load Capacity is based on a rated travel life of 2 million inches. The actual Dynamic Load Capacity can be affected by the orientation of the bearing or the direction of the applied load. For dynamic load Correction Factors, see polar graphs below.

#### Polar Graphs

The actual Dynamic Load Capacity of a BALL BUSHING bearing is determined by the orientation of the bearing or direction of the applied load. The load Correction Factor  $K_0$  is found by knowing the direction of the applied load relative to the orientation of the bearing's ball tracks and referring to the polar graph. To determine the actual Dynamic Load Capacity, multiply the proper Correction Factor by the Dynamic Load Capacity listed in the product table on the previous page.

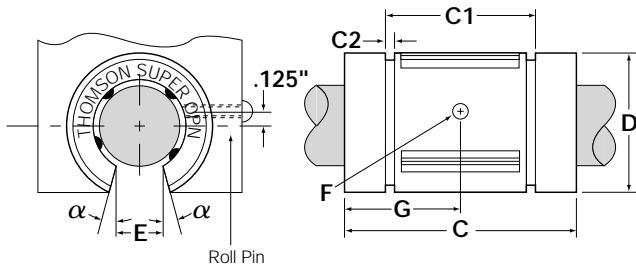




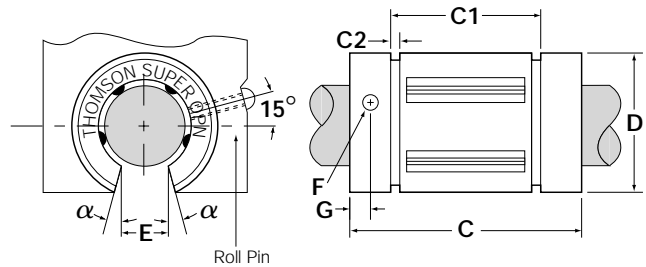
# Super Ball Bushing™ Bearings

(Open Type) for Continuously-Supported Applications

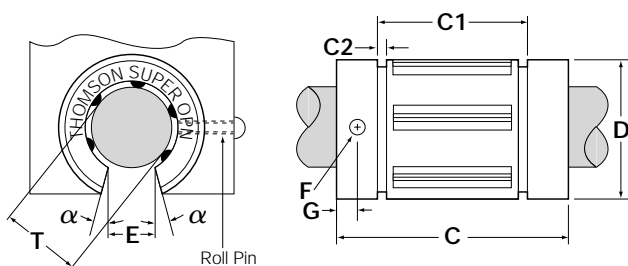
TSUPER-8-OPN



TSUPER-10-OPN



TSUPER-12-OPN thru TSUPER-32-OPN



**Super Ball Bushing™ Bearings (Open Type)**  
(Dimensions in inches)

Catalog Number	Nom. Dia.	Length C	Distance Between Retaining Rings C1	Ret. Ring Groove min. C2	Min. Slot Width E	Retention Hole		Angle deg α	Number of Ball Circuits	Ball Bushing Bearing Mass lb
						Dia. F	Loc. G			
TSUPER-8-OPN	.500	1.250/1.230	1.032/1.012	.050	.31	.14	.63	15	4	.04
TSUPER-10-OPN	.625	1.500/1.480	1.105/1.095	.056	.37	.11	.13			.08
TSUPER-12-OPN	.750	1.625/1.605	1.270/1.250	.056	.43	.14	.13		5	.12
TSUPER-16-OPN	1.000	2.250/2.230	1.884/1.864	.070	.56	.14	.13			.21
TSUPER-20-OPN	1.250	2.625/2.600	2.004/1.984	.068	.62	.20	.19			.38
TSUPER-24-OPN	1.500	3.000/2.970	2.410/2.390	.086	.75	.20	.19			.71
TSUPER-32-OPN	2.000	4.000/3.960	3.193/3.163	.105	1.00	.27	.31	1.20		

Catalog Number	Working Bore Diameter T	Recommended Housing Bore Diameter		Ball Bushing Bearing/LinearRace Fit Up		Dynamic Load Capacity lbf
		Fixed D	Adjustable D	Fixed Diameter Housing*	Adjustable Diameter Housing* (Before Adjustment)	
TSUPER-8-OPN	.5000/.4995	.8755/.8750	.8760/.8750	.0015C/.0000	.0020C/.0000	230
TSUPER-10-OPN	.6250/.6245	1.1255/1.1250	1.1260/1.1250			320
TSUPER-12-OPN	.7500/.7495	1.2505/1.2500	1.2510/1.2500			470
TSUPER-16-OPN	1.000/.9995	1.5630/1.5625	1.5635/1.5625			780
TSUPER-20-OPN	1.2500/1.2494	2.0008/2.0000	2.0010/2.0000	.0018C/.0001P	.0020C/.0001P	1170
TSUPER-24-OPN	1.5000/1.4994	2.3760/2.3750	2.3760/2.3750	.0021C/.0000	.0021C/.0000	1560
TSUPER-32-OPN	2.0000/1.9992	3.0010/3.0000	3.0010/3.0000	.0023C/.0002P	.0023C/.0002P	2350

\*P=Preload, C=Clearance

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Δ See the chart on the bottom half of the next page.

**NOTE:** Catalog number is for a standard item.

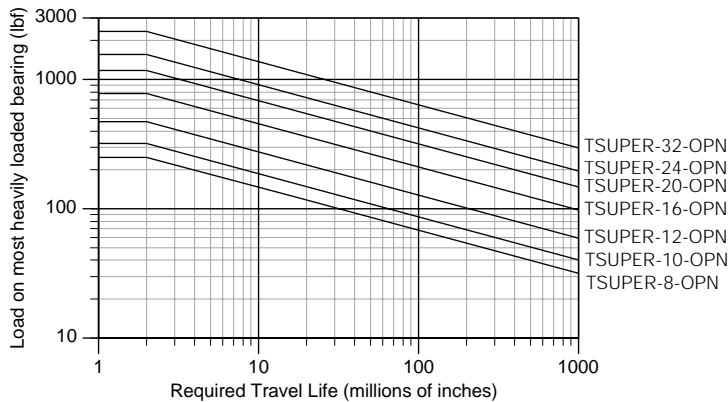
For other options, add: **CR** Corrosion-Resistant, **DD** Integral Seals, **NB** Nylon Balls or **DP** Dry Packed to end of catalog number.



# Super Ball Bushing™ Bearings

(Open Type) for Continuously-Supported Applications

Load/Life Graph (Lines indicate limiting load for given BALL BUSHING Pillow Block)



### Determining BALL BUSHING Bearing Size

To determine the proper BALL BUSHING bearing size, enter the chart with the maximum load of the most heavily loaded bearing and the required travel life. Mark where the two lines intersect. All BALL BUSHING bearing sizes that pass through or above and to the right of this point may be suitable for this application.

**Note: For the purpose of using this chart:**

$$\text{Load on Most Heavily Loaded Bearing} = \frac{\text{Maximum Applied Load}}{K_0}$$

where:

$K_0$  = the Load Correction Factor, which can be determined from the Polar Graph below.

### Dynamic Load Capacity Correction Factor, $K_0$

The Dynamic Load Capacity is based on a rated travel life of 2 million inches. The actual Dynamic Load Capacity can be affected by the orientation of the bearing or the direction of the applied load. For dynamic load Correction Factors, see polar graphs below.

#### Polar Graphs

The actual Dynamic Load Capacity of a BALL BUSHING bearing is determined by the orientation of the bearing or direction of the applied load. The load Correction Factor  $K_0$  is found by knowing the direction of the applied load relative to the orientation of the bearing's ball tracks and referring to the polar graph. To determine the actual Dynamic Load Capacity, multiply the proper Correction Factor by the Dynamic Load Capacity listed in the product table on the previous page.

