



SELECTION

Type E-Xtra, Type K, DOUBLE-INTERLOCK, TAF and EXL Tapered Roller Bearings

DODGE Type E-Xtra, K, DI, TAF and EXL Double Row Tapered Roller Bearings have the capacity to carry heavy radial loads and combined radial and thrust loads. The maximum recommended load which can be applied is limited by various components in the system such as bearing, housing, shaft, shaft attachment, speed and life requirements as listed in this catalog. DODGE tapered roller bearings have been applied successfully even when these limits have been exceeded under controlled operating conditions. Contact DODGE Application Engineering (864) 284-5700 for applications which exceed the recommendations of this catalog.

L₁₀ Hours Life --- The life which may be expected from at least 90% of a given group of bearings operating under identical conditions.

$$L_{10} = \left(\frac{C_{90}}{P} \right)^{10/3} \times \frac{1,500,000}{\text{RPM}}$$

Where: C₉₀ = Dynamic Capacity (Table 1, pg. B10-13), lbs.
P = Equivalent Radial Load, lbs.

GENERAL

Heavy Service --- For heavy shock loads, frequent shock loads, or severe vibrations, add up to 50% (according to severity of conditions) to the Equivalent Radial Load. Consult DODGE Application Engineering for additional selection assistance.

Thrust load values shown in the table below are recommended as a guide for general applications that will give adequate L₁₀ life for pillow blocks. The maximum thrust load should not exceed values shown on Table 3. Where substantial radial load is also present, it is advisable to calculate actual L₁₀ life to assure that it meets the requirements. The effectiveness of the shaft attachment to carry thrust load depends on proper tightening of the setscrews, shaft tolerance and shaft deflections. Therefore,

it is advisable to use auxiliary thrust carrying devices such as shaft shoulder, snap ring or a thrust collar to locate the bearing under thrust loads heavier than shown below, or where extreme reliability is desired.

RPM Range	20-200	201 - 2000	Over 2000
Recommended Thrust Load	E, DI, TAF	C ₉₀ /4	C ₉₀ /8
	K	C ₉₀ /5	C ₉₀ /12

The shaft tolerances recommended below are adequate for normal radial and radial/thrust load applications. The radial load is limited by the attachment to the shaft (see Table 1). Where the applied radial load (F_R) exceeds this limit (maximum allowable slip fit radial load), a snug-to-light press fit of the shaft is required. Since the allowable load, especially at a low speed, is very large, the shaft should be checked to assure adequate shaft strength.

The magnitude and direction of both the thrust and radial load must be taken into account when selecting a housing. **When pillow blocks are utilized, heavy loads should be directed through the base. Where uplift loads are involved, see Tables 6, 7, and, pg. B10-19 for maximum values.** Where a load pulls the housing away from the mounting base, both the hold-down bolts and housing must be of adequate strength. Auxiliary load carrying devices such as shear bars are advisable for side or end loading of pillow blocks and radial load for flange units.

Shaft Size	Tolerance, Inches
UP TO 1-1/2"	+ .0000 - .0005"
1-5/8 TO 4"	+ .000 - .001"
4-7/16 TO 6"	+ .000 - .0015"
6-7/16 - 8"	+ .000 - .002"

NOTE: The L₁₀ life calculated using the above formula is subject to life adjustment factors in accordance with ABMA standards described on page B16-9.

NOTE: Instruction manuals for Dodge bearings are available on www.dodge-pt.com

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SELECTION

Bearing Reference Guide

E-Family Roller Bearings

Specialty Tapered Products

S-2000

UNISPHERE II

IMPERIAL

UNIFIED SAF

Type E-Xtra, Type K, DOUBLE-INTERLOCK, TAF and EXL Tapered Roller Bearings

SELECTING BEARINGS SUPPORTING RADIAL LOADS ONLY

1. Define L_{10} Life Hours desired.
2. Establish bearing radial load, F_R ($F_R = P$ for Pure Radial Load Conditions). The DODGE program BEST™* can be used to find application loads.
3. Establish RPM.

Using the easy selection Table 3, pg B10-15 find, under the RPM column, the equivalent radial load that equals or is higher than the application radial load for the desired life. The shaft size on the far left will be the minimum shaft size that you can use for your application. If the desired life is different than the values shown on the chart, use alternate Method A shown below.

- Example: 1. L_{10} Life = 30,000 Hours
 2. Radial load = 4200 lbs.
 3. RPM = 1,200

At the intersection of the 1,200 RPM column and the 30,000 hours L_{10} life row, the equivalent radial load of 4286 lbs. exceeds the 4200 lbs. radial load for shaft sizes 2-11/16 - 3". A bearing with bore ranging from 2-11/16" to 3" may be used for this application.

ALTERNATE METHOD A --- SELECTING A BEARING FOR AN L10 LIFE VALUE NOT SHOWN IN THE EASY SELECTION CHART.

The L_{10} life equation can be rearranged so that the bearing dynamic capacity C_{90} is identified in terms of L_{10} , RPM and P.

$$C_{90} = \left(\frac{L_{10} \times \text{RPM}}{1,500,000} \right)^{0.3} \times P$$

($P = F_R$ for Pure Radial Load Conditions)

Since the L_{10} , RPM, and P are known, solve for C_{90} . Select from the dynamic capacity column on Table 2, pg B10-14. The C_{90} value equal to or greater than the C_{90} value just calculated.

The bore size on the far left represents the bore size selection. Check that the application RPM does not exceed the MAX. RPM on Table 2. Also check that the radial load does not exceed the Maximum Allowable Slip Fit Radial Load shown on Table 2. If it does, a line to line to light press fit of shaft is required. When selecting an L_{10} life of less than 30,000 hours, particular attention must be paid to shaft deflection and proper lubricant selection.

SELECTING BEARINGS SUPPORTING COMBINATION RADIAL AND THRUST LOADS

When a bearing supports both a radial load and a thrust load, the loading on the two rows is shared unequally depending on the ratio of thrust to radial load. The use of the X (radial factor) and Y (thrust factor) from Table 2 converts the applied thrust load and radial loads to an equivalent radial load having the same effect on the life of the bearing as a radial load of this magnitude.

The equivalent radial load $P = XF_R + YF_A$

Where: P= Equivalent radial load, lbs.

F_R = Radial load, lbs. (see Table 2 for allowable slip fit maximum)

F_A = Thrust (axial) load, lbs.

e = Thrust load to radial load factor (Table 2)

X = Radial load factor (Table 2)

Y= Thrust load factor (Table 2)

To find X and Y, calculate F_A/F_R and compare to e for the selected bore size. Determine X and Y from Table 2, pg. B10-14 depending on whether F_A/F_R is equal to or less than e , or F_A/F_R is greater than e . Substitute all known values into the equivalent radial load equation. P (equivalent radial load) can be used in the life formula to determine L_{10} , or it can be compared to the allowable equivalent radial load ratings for the speed and hours life desired in the easy selection Table 3, pg B10-15.

*The DODGE Bearing Evaluation and Selection Technique (BEST) is a menu driven computer program that calculates bearing loads, fatigue life and operating temperature for a two bearing shaft system based on user supplied input parameters. This interactive program is available at www.ptwizard.com under the Product Selection area.

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SELECTION

Type E-Xtra, Type K, DOUBLE-INTERLOCK, TAF and EXL Tapered Roller Bearings

SELECTING BEARINGS SUPPORTING ONLY THRUST LOADS

Tapered Roller Bearings perform extremely well under pure thrust load applications. Use $P = YF_A$ for the equivalent radial load. The value of Y is obtained from Table 2, pg. B10-14 for $F_A/F_R > e$. Substitute Y and F_A into the equivalent load equation. P (equivalent radial load) can be used in the life formula to determine L10 or it can be compared to the allowable equivalent radial load ratings for the speed and hours life desired in the easy selection Table 3, pg. B10-15.

LUBRICATION

DODGE E, K, DI, EXL, and TAF tapered roller bearings up to 5" bore are lubricated at the factory with Mobilgrease XHP222 grease. This grease will adequately handle low and medium speeds with low and medium loads at normal temperatures as defined on Table 6, pg. B10-18. For very low and high speeds, for heavy loads and for low and high temperatures, special greases must be used. Contact DODGE Application Engineering (864) 284-5700. DODGE engineers will recommend bearings and lubricants for the above unusual conditions. DODGE also has the expertise to custom design and build special bearings for your needs. The only maintenance requirement for DODGE Tapered Roller Bearings is periodic relubrication at regular intervals as outlined in the appropriate instruction manuals.

Relubrication Schedule

Hours Run per Day	Suggested Lubrication Period In Weeks							
	1 to 250 RPM	251 to 500 RPM	501 to 750 RPM	751 to 1000 RPM	1001 to 1500 RPM	1501 to 2000 RPM	2001 to 2500 RPM	2501 to 3000 RPM
8	12	12	10	7	5	4	3	2
16	12	7	5	4	2	2	2	1
24	10	5	3	2	1	1	1	1

High Speed Operation --- In the higher speed ranges too much grease will cause overheating. The amount of grease that the bearing will take for particular high speed application can only be determined by experience --- see "Operating Temperature" below. If excess grease in the bearing caused overheating, it will be necessary to remove grease fitting (also drain plug when furnished) to permit excess grease to escape. When establishing a relubrication schedule, note that a small amount of grease at frequent intervals is preferable to a large amount at infrequent intervals.

Operation in Presence of Dust, Water or Corrosive Vapors

--- Under these conditions the bearing should contain as much grease as speed will permit, since a full bearing with consequent slight leakage is the best protection against entrance of foreign material. In the higher speed ranges too much grease will cause overheating --- see "High Speed Operation". In the lower speed ranges, it is advisable to add extra grease to a new bearing before putting into operation. Bearings should be greased as

often as necessary (daily if required) to maintain a slight leakage at the seals.

INSTALLATION AND MAINTENANCE

In nearly all applications good design practice requires two bearings supporting the shaft. In cases where three or more bearings are installed, unless precautions are taken to line the bearings up, both vertically and horizontally, it is possible to induce heavy loads. In the case of two bearings, alignment is not as critical, especially with DODGE K, DI, TAF and EXL Tapered Roller Bearings. K, DI, and TAF bearings are designed to allow as much as 2° to 7° of static misalignment depending on bore size. To ensure good alignment, mounting surfaces must be checked for flatness and must lie in the same plane. When tightening base bolts and cap bolts, each bolt should be alternately tightened in incremental torque values until full torque is achieved to prevent the angular shifting of the pillow block that occurs when one bolt is tightened to its full torque. Shimming may be required to minimize misalignment..

Table 1 - Set Screw Torque Table

Shaft Size (Inches)	Set Screws Size	Tightening Torque
1-3/16 - 1-11/16	5/16 - 18	165 in-lbs
1-3/4 - 2-1/2	3/8 - 16	290 in-lbs
2-11/16 - 3-1/2	1/2 - 13	620 in-lbs
3-15/16 - 5	5/8 - 11	1325 in-lbs
5-7/16 - 6	3/4 - 10	2150 in-lbs
6-7/16 - 7	7/8 - 9	5130 in-lbs

Shaft Size (mm)	Set Screws Size	Tightening Torque
35 - 40mm	M8	17.8 NM
45 - 65mm	M10	35 NM
70 - 75mm	M12	57 NM
80 - 90mm	M12	57 NM
100 - 125mm	M16	126 NM

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SELECTION

Type E-Xtra, Type K, DOUBLE-INTERLOCK, TAF and EXL

Table 2 - E, K, DI, TAF and EXL Tapered Roller Bearing Radial And Thrust Factors

Shaft Size	e	F _A /F _R <e		F _A /F _R >e		Dynamic Capacity C ₉₀	Static Capacity C ₀	Maximum RPM	Maximum RPM	Maximum Allowable Slip Fit Radial Load, F _R **, Lbs	
		X	Y	X	Y	Lbs.	Lbs.	XTS-SEAL	E-TECT	E, DI, EXL & TAF	K
1-3/16 1-1/4	0.49	0.87	1.77	0.70	2.14	3,450	15,760	4,490	3,100	3,100	2,100
1-3/8 1-7/16	0.46	0.87	1.89	0.70	2.28	5,500	26,000	3,820	2,675	5,000	3,300
1-1/2 1-5/8 1-11/16	0.44	0.87	1.96	0.70	2.37	7,070	33,000	3,320	2,325	6,400	4,300
1-3/4 1-7/8 1-15/16 2	0.33	0.87	2.64	0.70	3.18	9,300	43,000	3,050	2,135	8,400	5,600
2-3/16	0.36	0.87	2.38	0.70	2.87	9,850	48,200	2,730	1,900	8,900	5,900
2-1/4 2-7/16 2-1/2	0.40	0.87	2.17	0.70	2.63	10,600	54,000	2,420	1,700	9,500	6,300
2-11/16 2-3/4 2-15/16 3	0.46	0.87	1.87	0.70	2.26	11,120	61,200	2,060	1,440	10,000	6,700
3-3/16 3-1/4 3-7/16 3-1/2	0.50	0.87	1.71	0.70	2.07	17,750	108,600	1,640	1,145	16,000	10,500
3-15/16 4	0.49	0.87	1.77	0.70	2.14	24,400	154,000	1,530	1,070	22,000	14,600
4-7/16 4-1/2	0.53	0.87	1.63	0.70	1.97	30,000	188,400	1,360	950	27,000	----
4-15/16 5	0.47	0.87	1.83	0.70	2.21	41,310	266,000	1,200	840	35,000	----
5-7/16 5-15/16 6	0.49	0.87	1.76	0.70	2.12	40,700	354,000	915	640	42,400	----
6-7/16 6-1/2 6-15/16 7	0.54	0.87	1.61	0.70	1.95	69,200	574,000	790	550	72,000	----

Comparing Spherical To Taper Roller Bearings: The dynamic capacity C (spherical) and C₉₀ (taper) are not to the same base. To compare basic dynamic capacities, multiply C x .259 and compare to C₉₀.

*C₉₀ - Dynamic capacity based on a rated life of 90 million revolutions or 3000 hours at 500 RPM.

** If load exceeds maximum allowable slip fit radial load, (F_R), line-to-line, to light press fit of shaft required. Application up to maximum slip fit radial load may be applied if recommended shaft tolerances are used.

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Type E-Xtra, Type K, DOUBLE-INTERLOCK, TAF and EXL

Table 3 - Easy Selection for Type E-Xtra, Type K, TAF and EXL

Shaft Size	L10 hours	Allowable Equivalent Radial Load (Lbs.) at various Revolutions Per Minute																			
		50	100	150	250	500	790	915	1200	1360	1530	1640	1750	2060	2420	2730	3050	3320	3600	3820	4490
1-3/8" 1-1/4"	10000	4797	3896	3450	2960	2404	2096	2005	1849	1781	1719	1683	1651	1572	1498	1445	1398	1362	1330	1306	1244
	30000	3450	2802	2481	2129	1729	1507	1442	1330	1281	1236	1211	1187	1131	1077	1039	1005	980	956	939	895
	40000	3165	2571	2276	1953	1586	1383	1323	1220	1175	1134	1111	1089	1037	988	953	922	899	877	862	821
	60000	2802	2276	2015	1729	1404	1224	1172	1080	1040	1004	983	964	918	875	844	816	796	777	763	727
	100000	2404	1953	1729	1483	1205	1050	1005	927	892	861	844	827	788	751	724	700	683	666	655	624
1-3/8" 1-7/16"	10000	7647	6211	5500	4719	3833	3341	3197	2947	2839	2740	2684	2632	2506	2388	2303	2228	2172	2120	2082	
	30000	5500	4467	3956	3394	2757	2403	2299	2120	2042	1971	1930	1893	1803	1718	1657	1602	1562	1525	1498	
	40000	5045	4098	3629	3113	2529	2204	2109	1945	1873	1808	1771	1736	1654	1576	1520	1470	1433	1399	1374	
	60000	4467	3629	3213	2757	2239	1952	1868	1722	1658	1601	1568	1538	1464	1395	1346	1302	1269	1238	1217	
	100000	3833	3113	2757	2365	1921	1675	1602	1477	1423	1373	1345	1319	1256	1197	1154	1117	1089	1062	1044	
1-1/2" 1-5/8" 1-11/16"	10000	9830	7984	7070	6065	4927	4295	4110	3789	3649	3522	3450	3383	3222	3070	2961	2864	2792			
	30000	7070	5743	5085	4362	3543	3089	2956	2725	2625	2533	2481	2433	2317	2208	2129	2060	2008			
	40000	6485	5268	4664	4002	3250	2834	2711	2500	2408	2324	2276	2232	2126	2025	1953	1889	1842			
	60000	5743	4664	4130	3543	2878	2509	2401	2213	2132	2058	2015	1976	1882	1793	1730	1673	1631			
	100000	4927	4002	3543	3040	2469	2153	2060	1899	1829	1765	1729	1696	1615	1539	1484	1435	1399			
1-3/4" 1-7/8" 1-15/16" 2"	10000	12931	10503	9300	7979	6481	5650	5406	4984	4800	4633	4538	4450	4238	4038	3895	3767				
	30000	9300	7554	6689	5738	4661	4063	3888	3584	3452	3332	3264	3201	3048	2904	2801	2709				
	40000	8531	6929	6136	5264	4276	3727	3567	3288	3167	3057	2994	2936	2796	2664	2569	2485				
	60000	7554	6136	5433	4661	3786	3300	3158	2911	2804	2707	2651	2600	2476	2359	2275	2201				
	100000	6481	5264	4661	3999	3248	2832	2709	2498	2406	2322	2274	2230	2124	2024	1952	1888				
2-3/16"	10000	13695	11124	9850	8450	6864	5984	5726	5278	5084	4907	4806	4714	4489	4277	4125					
	30000	9850	8001	7084	6078	4937	4304	4118	3796	3656	3530	3457	3390	3228	3076	2967					
	40000	9036	7339	6499	5575	4529	3948	3778	3483	3354	3238	3171	3110	2961	2822	2721					
	60000	8001	6499	5754	4937	4010	3496	3345	3084	2970	2867	2808	2754	2622	2498	2410					
	100000	6864	5575	4937	4235	3440	2999	2870	2646	2548	2460	2409	2362	2250	2143	2067					
2-1/4" 2-7/16" 2-1/2"	10000	14738	11971	10600	9094	7387	6439	6162	5680	5471	5281	5172	5072	4830	4602						
	30000	10600	8610	7624	6541	5313	4631	4432	4085	3935	3798	3720	3648	3474	3310						
	40000	9724	7898	6993	6000	4873	4248	4065	3748	3610	3484	3412	3347	3187	3036						
	60000	8610	6993	6192	5313	4315	3762	3600	3318	3196	3085	3022	2963	2822	2689						
	100000	7387	6000	5313	4558	3702	3227	3088	2847	2742	2647	2592	2542	2421	2307						
2-11/16" 2-3/4" 2-15/16" 3"	10000	15461	12558	11120	9540	7749	6755	6464	5959	5739	5540	5426	5321	5067							
	30000	11120	9032	7998	6861	5573	4859	4649	4286	4128	3985	3902	3827	3644							
	40000	10201	8285	7336	6294	5112	4457	4265	3932	3787	3655	3580	3511	3343							
	60000	9032	7336	6496	5573	4527	3946	3776	3481	3353	3237	3170	3109	2960							
	100000	7749	6294	5573	4781	3884	3386	3240	2987	2877	2777	2719	2667	2540							
3-3/16" 3-1/4" 3-7/16" 3-1/2"	10000	24679	20046	17750	15228	12369	10783	10318	9512	9161	8843	8661									
	30000	17750	14417	12766	10952	8896	7755	7421	6841	6589	6360	6229									
	40000	16282	13225	11711	10047	8160	7114	6807	6276	6044	5834	5714									
	60000	14417	11711	10369	8896	7226	6299	6028	5557	5352	5166	5060									
	100000	12369	10047	8896	7632	6199	5404	5171	4767	4592	4432	4341									
3-15/16" 4"	10000	33925	27556	24400	20933	17003	14823	14184	13076	12594	12157										
	30000	24400	19819	17549	15056	12229	10661	10201	9404	9058	8743										
	40000	22382	18180	16098	13811	11218	9779	9358	8627	8309	8020										
	60000	19819	16098	14254	12229	9933	8659	8286	7639	7357	7102										
	100000	17003	13811	12229	10491	8522	7429	7109	6553	6312	6093										

For maximum RPM see Table 2 on page B10-14

In the shaded area, E, DI, EXL, and TAF mounted units require a line-to-line to light press fit of shaft

In the boxed area, Type K mounted units require a line-to-line to light press fit of shaft.

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SELECTION

Type E-Xtra, Type K, DOUBLE-INTERLOCK, TAF and EXL

Table 3 - Easy Selection for Type E-Xtra, Type K, TAF and EXL

Shaft Size	L10 hours	Allowable Equivalent Radial Load (Lbs.) at various Revolutions Per Minute																					
		50	100	150	250	500	790	915	1200	1360	1530	1640	1750	2060	2420	2730	3050	3320	3600	3820	4490		
4-7/16" 4-1/2"	10000	41712	33880	30000	25738	20905	18225	17439	16077	15484													
	30000	30000	24368	21577	18511	15036	13108	12543	11563	11137													
	40000	27519	22353	19793	16980	13792	12024	11505	10607	10216													
	60000	24368	19793	17526	15036	12213	10647	10188	9392	9046													
	100000	20905	16980	15036	12899	10477	9134	8740	8057	7760													
4-15/16" 5"	10000	57437	46653	41310	35441	28787	25095	24014	22137														
	30000	41310	33554	29711	25490	20704	18049	17271	15922														
	40000	37894	30780	27254	23382	18992	16557	15843	14605														
	60000	33554	27254	24133	20704	16817	14661	14028	12933														
	100000	28787	23382	20704	17762	14428	12578	12035	11095														
5-7/16 5-15/16 6	10000	56589	45964	40700	34917	28362	24725	23659															
	30000	40700	33059	29272	25113	20398	17783	17016															
	40000	37335	30325	26852	23037	18712	16312	15609															
	60000	33059	26852	23777	20398	16569	14444	13821															
	100000	28362	23037	20398	17500	14214	12392	11858															
6-7/16 6-1/2 6-15/16 7	10000	96215	78151	69200	59368	48222	42038																
	30000	69200	56208	49770	42699	34682	30235																
	40000	63478	51560	45655	39168	31814	27735																
	60000	56208	45655	40426	34682	28171	24558																
	100000	48222	39168	34682	29754	24168	21069																

For maximum RPM see Table 2 on page B10-14

In the shaded area, E, DI, EXL, and TAF mounted units require a line-to-line to light press fit of shaft

In the boxed area, Type K mounted units require a line-to-line to light press fit of shaft.

SELECTION



Type E-Xtra, DOUBLE-INTERLOCK, TAF and EXL

Table 4 - Permissible Thrust Load, Lbs.*

Shaft Size Inches	*E		*K/DI, TAF, EXL	
	2-Bolt	4-Bolt	2-Bolt	4-Bolt
1-3/16	2000		1400	
1-1/4	2000		1400	
1-3/8	2590		2590	
1-7/16	2590		2590	
1-1/2	2590		2590	
1-5/8	2590		2590	
1-11/16	2590		2590	
1-3/4	3454		3454	
1-7/8	3454		3454	
1-15/16	3454		3454	
2	3454		3454	
2-3/16	3454		3454	
2-1/4	3454	3454	3454	3454
2-7/16	3454	3454	3454	3454
2-1/2	3454	3454	3454	3454
2-11/16	5181	5181	5181	5181
2-3/4	5181	5181	5181	5181
2-15/16	5181	5181	5181	5181
3	5181	5181	5181	5181
3-3/16	5181	5181	4300	5181
3-1/4	5181	5181	4300	5181
3-7/16	5181	5181	4300	5181
3-1/2	5181	5181	4300	5181
3-15/16		6908		6908
4		6908		6908
4-7/16		6908		6908
4-1/2		6908		6908
4-15/16		6908		6908
5		6908		6908
5-7/16		8635		8635
5-15/16		8635		8635
6		8635		8635
6-7/16		12282		12282
6-1/2		12282		12282
6-15/16		12282		12282
7		12282		12282

Note: The limits above apply to set screw shaft mounting or pillow block over turning force. Under heavy thrust loads it is always wise to use shear bars. At all times, the L_{10} life of the bearing should be checked for proper selection and life requirements. For thrust loads larger than listed or heavy thrust loading on other style housing, contact DODGE Engineering for recommendations.

* Does not include Piloted Flange
 Piloted Flange up to and including 3-1/2" and all sizes of Type K only have one setscrew locking collar and therefore the above listed permissible thrust load values must be decreased by 1/2.

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SELECTION

Type E-Xtra, Type K, DOUBLE-INTERLOCK, TAF and EXL

Table 5 - K, DI and TAF Maximum Axial Expansion (Inches)

Bore Size (Inches)	Type K DOUBLE-INTERLOCK		TAF	EXL
	Pillow Block	Flange		
1-3/16 - 1-1/4	0.252	--	--	.280
1-3/8 - 1-7/16	0.188	0.187	0.188	.280
1-1/2 - 1-11/16	0.188	0.187	0.188	.280
1-3/4 - 2	0.562	0.187	0.562	.280
2-3/16	0.562	0.187	0.562	.280
2-1/4 - 2-1/2	0.562	0.312	0.562	.280
2-11/16 - 3	0.562	0.312	0.562	.280
3-3/16 - 3-1/2	0.562	0.312	0.562	.280
3-15/16 - 4	0.674	0.312	0.674	.280
4-7/16 - 4-1/2	0.674	0.812	0.674	.280
4-15/16 - 5	0.674	0.812	0.674	.280
5-7/16 - 6	0.500	--	0.875	--
6-7/16 - 7	0.500	--	0.875	--

Table 6 - Definition Of Operating Conditions For Tapered Roller Bearings

LOW SPEED	UP TO 20% OF MAX. RPM (TABLE 1)
MEDIUM SPEED	OVER 20% TO 80% OF MAX. RPM
HIGH SPEED	OVER 80% OF MAX. RPM
LIGHT LOAD	UP TO 30% OF C ₉₀ (TABLE 1)
NORMAL LOAD	OVER 30% TO 70% OF C ₉₀
HEAVY LOAD	OVER 70% OF C ₉₀
LOW TEMPERATURE	-100°F TO 20°F
MEDIUM TEMPERATURE	OVER 20°F TO 200°F
HIGH TEMPERATURE	OVER 200°F TO 300°F
VERY HIGH TEMPERATURE	OVER 300°F TO 400°F



Type E-Xtra

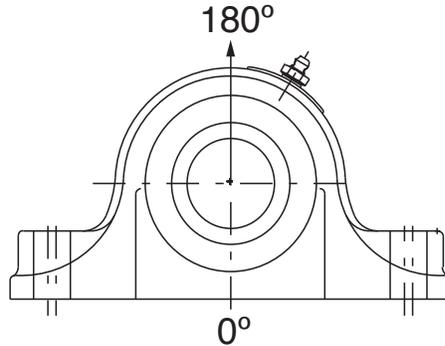


Table 7 - Housing Ratings - Type E-Xtra (Solid Housing)

Shaft Size (Inches)	Maximum Recommended Housing Cap Loads, Lbs. Gray Iron 180°
1-3/16 - 1-1/4	1,600
1-3/8 - 1-7/16	3,150
1-1/2 - 1-11/16	3,000
1-3/4 - 2	5,150
2-3/16	3,500
2-1/4 - 2-1/2	6,550
2-11/16 - 3	7,000
3-3/16 - 3-1/2	15,700
3-15/16 - 4	16,250
4-7/16 - 4-1/2	21,000
4-15/16 - 5	22,860
5-7/16 - 6	43,600
6-7/16 - 7	46,000

*When utilizing heavy cap loads on pillow block housings, the installation must adhere to the following procedures.

1. The pillow block base bolts must be of **Grade 8 strength with hardened washers and properly tightened** to the mounting structure.
2. The use of stop bars (shear strips) against pillow block where side loads are encountered
3. In all cases where loads are heavy, the L_{10} life of the bearing should be checked for proper selection and life requirements



SELECTION

Type K, DOUBLE-INTERLOCK, TAF and EXL

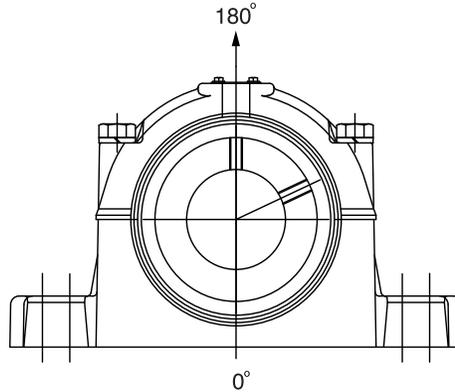


Table 8: Housing Ratings
Type K, DI, and EXL Housing (Split Housing)

Shaft Size (Inches)	Maximum Recommended Housing Cap Loads, Lbs. 180°
1-3/16 - 1-1/4	4,300
1-3/8 - 1-7/16	5,060
1-1/2 - 1-11/16	5,940
1-3/4 - 2	8,660
2-3/16	10,100
2-1/4 - 2-1/2	10,100
2-11/16 - 3	11,220
3-3/16 - 3-1/2	16,170
3-15/16 - 4	19,580
4-7/16 - 4-1/2	20,130
4-15/16 - 5	24,530
5-7/16 - 6	35,200
6-7/16 - 7	56,000

Table 9: Housing Ratings
TAF (Split Housing)

Shaft Size (Inches)	Maximum Recommended Housing Cap Loads, Lbs. 180°
1-7/16	4,600
1-11/16	5,400
1-15/16	7,875
2-3/16	9,200
2-7/16 - 2-1/2	9,220
2-15/16 - 3	10,200
3-7/16 - 3-1/2	14,700
3-15/16 - 4	17,800
4-7/16 - 4-1/2	18,300
4-15/16 - 5	22,300
5-7/16 - 6	30,000
6-7/16 - 6-1/2	30,000
6-15/16 - 7	48,000

*When utilizing heavy cap loads on pillow block housings, the installation must adhere to the following procedures.

1. The pillow block base bolts must be of **Grade 8 strength with hardened washers and properly tightened to the mounting structure.**
2. The use of stop bars (shear strips) against pillow block where side loads are encountered
3. In all cases where loads are heavy, the L₁₀ life of the bearing should be checked for proper selection and life requirements

SELECTION/DIMENSIONS



Type E-Xtra, Type K, DOUBLE-INTERLOCK, TAF and EXL



MOUNTED BEARINGS APPLICATION DATA SHEET

Instructions: Complete all applicable information and Fax to DODGE 864-281-2317 or e-mail brgpttechsupport@baldor.com

Company _____ DIST. USER OEM Date _____
Address _____
Name _____ Phone _____ Fax _____
Type of Equipment (sketch drive on separate sheet) _____

Service Conditions:

Shaft Speed: Normal _____ Maximum _____
Loads: Radial _____ Thrust _____ Shock (frequency) _____
Shaft Size: _____ Shaft Tolerance (specify if not commercial) _____
Duty Cycle: Hours/Day _____ Days/Week _____ Weeks/Year _____

Environment:

Ambient Temperature: Summer _____ °F Winter _____ °F
External Heat: Source of Heat _____
Temperature _____ °F Distance from Bearing _____
Air: Clean _____ Contaminated _____ Contamination Type _____
Gas: Clean _____ Contaminated _____ Contamination Type _____
Liquid: Type _____ Concentration _____
Other: (Including washdowns) _____

Experience: (If applicable)

Type of Bearing Currently Used: _____
Life Realized _____ Type of Failure _____

Other Pertinent Data

L-10 Hours Required: _____

Dimensional Restrictions: Centerline Height _____
Bolt Pattern _____
Other _____

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