



# IMPERIAL-HD & S2000-HD STEEL HOUSED BEARINGS

SUPPLEMENT TO  
BEARING ENGINEERING CATALOG







For Additional information about DODGE Bearing Products,  
DODGE Gearing Products or DODGE PT Components:

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Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

Type E

SAFS

## FEATURE/BENEFITS



### Dodge Imperial-HD and S2000-HD

Dodge Imperial-HD & S2000-HD mounted bearings feature proven Imperial & S2000 technology deployed in steel housings designed specifically for harsh applications that demand superior housing strength. Major features include choice of adapter or set screw mounting systems, high capacity cast steel housings with industry common dimensions, as well as high capacity, double row spherical inserts that are protected with either one of two effective sealing systems plus both closed & shaft through end covers.

In addition, Imperial-HD & S2000-HD feature single piece, sealed inserts that can be easily replaced in the field, without the time & trouble of a bearing tear down & rebuild. Field conversion between Non-Expansion & Expansion (fixed & float) can also be accomplished in the field with the repositioning of a single snap ring.

Housing configurations include two and four bolt base pillow blocks, four bolt flanges, piloted flanges, and narrow piloted "Edger" flanges.



# FEATURES/BENEFITS

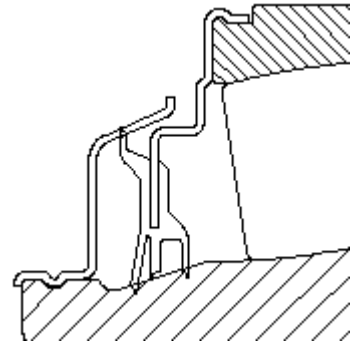


## IMPERIAL-HD & S2000-HD

Patented Sealing Systems Maximize Bearing Life

TRIDENT™ seals for low to medium speed

- Face rubbing triple lip seal
- Flinger to shield seal and bearing from contamination/damage
- Seal/land positive contact up to  $\pm 1$  degree of misalignment
- Patented design

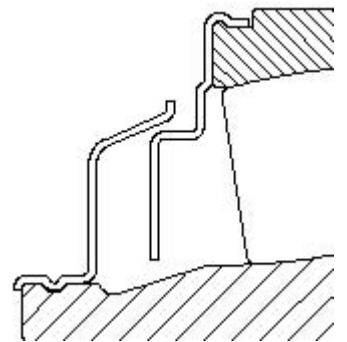


Imperial-HD and S2000-HD

Imperial-HD

Labyrinth seals for higher speeds or high temperatures

- High speed for relatively clean or hot environments
- 15% increase in maximum speed over standard SAF adapter mounted sphericals of the same shaft size
- Flinger to shield seal and bearing from contamination/damage
- Seal operates up to  $\pm 1$  degree of misalignment
- Patented design



S2000-HD

Type E

SAFS

# HOW TO ORDER



## IMPERIAL-HD & S2000-HD

There are two ways to specify DODGE Bearings. Most of the product offerings have part numbers with listings shown throughout this catalog. Use of part numbers ensures accurate order processing.

When part numbers are not shown, the product may be specified by description or part name. This method is used when ordering units that include modifications or options. To order by description, use the nomenclature key shown on page 5 and add any special instructions to the end of the description for options not covered by the nomenclature.

DODGE Spherical Bearings are factory adjusted and pre-lubricated. For applications where extreme ambient temperatures, high speeds, or high loads are expected, a variety of specialty lubricants are available. Standard

lubricant provided is a lithium complex based grease. High temperature greases available include Mobil HTS #2 and Mobilith SHC460. Other special lubricants are available upon request. Special lubricant options usually involve set-up charges, minimum quantities and list price premiums. To order, specify type of lubricant required at the end of the product name or after the standard part number.

Example: 071792 or 071650 except with Mobil Grease HTS #2 grease

or

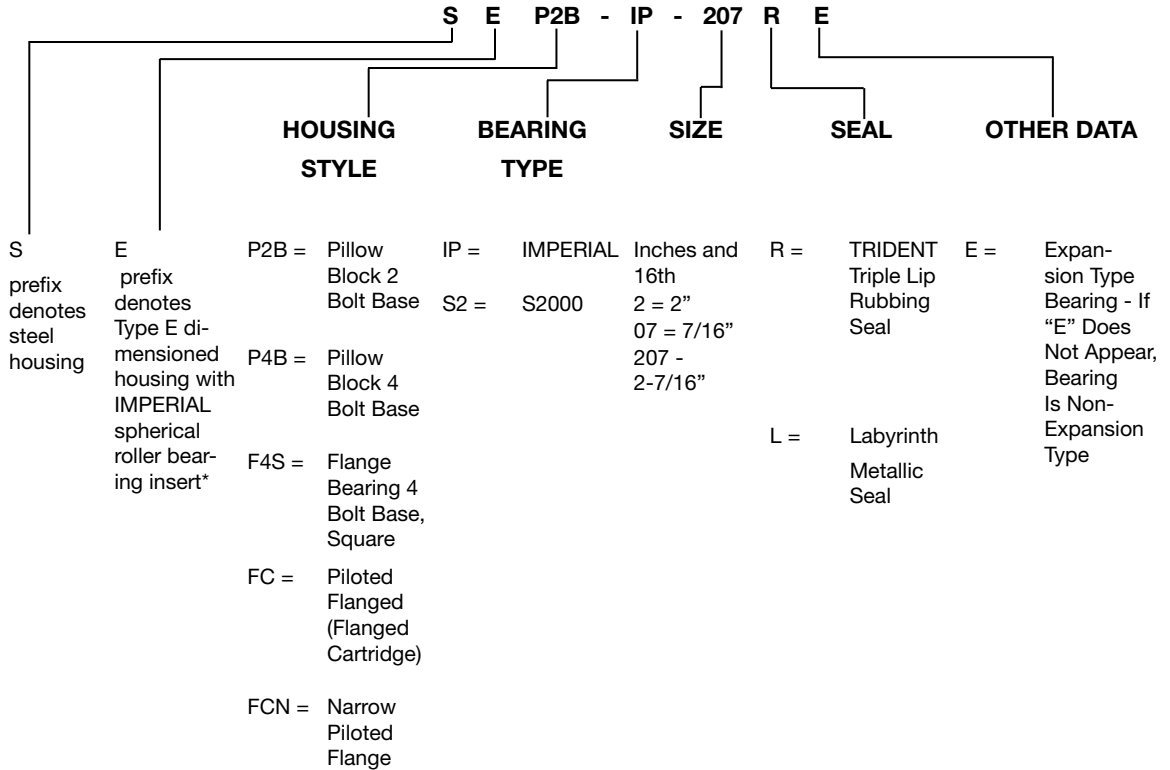
SP2BIP108R except with Mobil Grease HTS #2 grease

For applications requiring modifications not listed, we encourage you to contact our Application Engineering Department for Bearings at 864-284-5700.

# NOMENCLATURE



## IMPERIAL-HD & S2000-HD



Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

Type E

SAFS



# FEATURES/BENEFITS



## Dodge Imperial-HD

Dodge Imperial-HD mounted bearings feature proven Dodge Imperial bearing insert technology deployed in steel housings designed specifically for harsh applications that demand superior housing strength. Major features include...

- Imperial patented push-pull adapter mounting system
- High capacity cast steel housing
- Same dimensions as cast iron Imperial products
- Also available in popular "Type E" dimensioned housings
- Proven, high capacity spherical rollers
- Effective sealing systems for tough applications
- Closed & shaft through end covers
- Sealed inserts that can be easily replaced in the field
- Field convertible between Expansion & Non-Expansion

Four bolt square flange – 1-1/8 to 4"

Piloted flange – 1-1/8 to 5"

Narrow piloted "Edger" flange – 1-7/16 to 4-7/16"

### "E" Dimensioned Imperial-HD

Two bolt pillow blocks – 1-3/8 to 3-1/2"

Four bolt pillow blocks – 2-1/4 to 5"

Four bolt square flange – 1-3/8 to 4-1/2"

## Imperial-HD

Two bolt pillow blocks – 1-1/8 to 4"

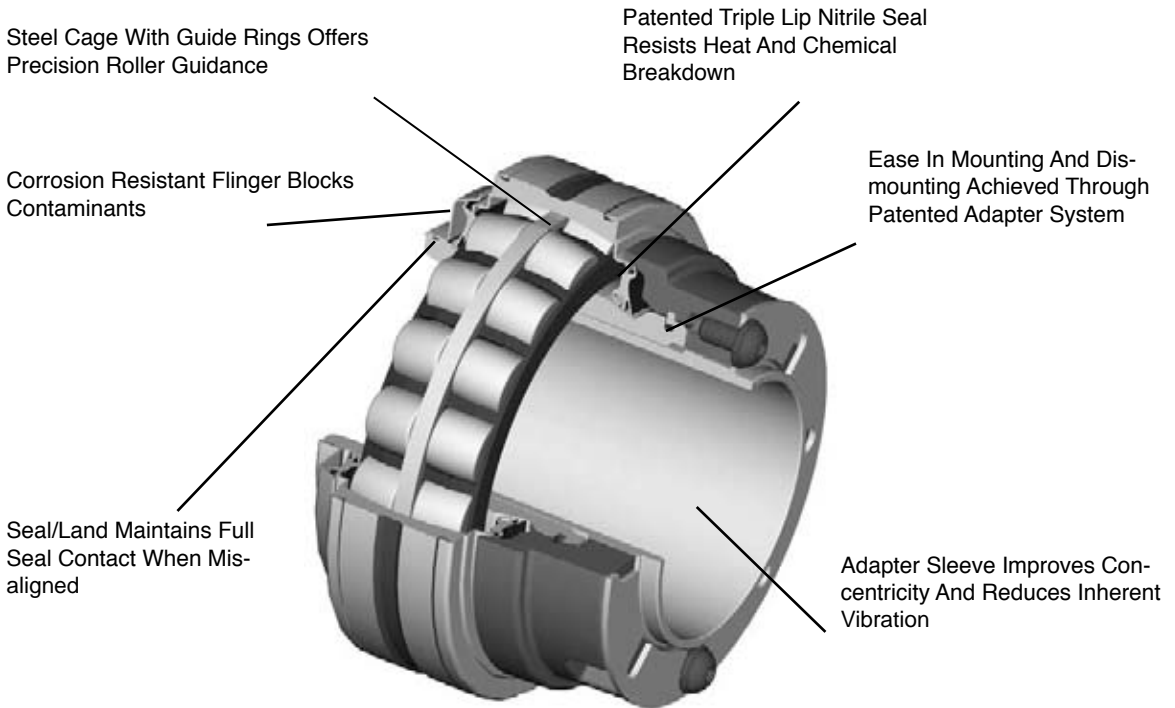
Four bolt pillow blocks – 2-3/8 to 5"



## Dodge Imperial-HD

### Patented Adapter System Offers Quick Installation And Removal

The DODGE IMPERIAL bearing uses a thin wall push-pull adapter system that achieves clearance setting without the use of feeler gauges. The IMPERIAL bearing is installed by turning the locknut clockwise and removed by a counterclockwise rotation.



### Installation And Removal Savings . . . . .

- Factory lubed, sealed and adjusted, ready to slip onto the shaft
- IMPERIAL adapter sleeve concentricity virtually eliminates fretting corrosion
- Field convertible from non-expansion to expansion and expansion to non-expansion
- Elongated pillow block bolt holes to facilitate mounting

# SPECIFICATION



## IMPERIAL-HD INCH

DODGE Spherical Bearings, including IMPERIAL bearings, are general-purpose, high-capacity, double-row spherical roller bearings. All IMPERIAL bearings are mounted in single-piece, precision-machined housings. Bearings are mounted to shafts by means of a patented adapter system that improves concentricity and reduces inherent vibration.

ASTMA A-27 Grade 70-36 Class 1 steel is the standard material used in steel IMPERIAL HD housings. Housing designs are available for survival in extremely harsh environments, through the use of special finishes and stainless hardware.

Housings are available in a variety of standard configurations, including pillow blocks, flanges, piloted flanges and take-up bearings. TRIDENT triple lip contact seals and Labyrinth seals are available on IMPERIAL bearings.



## IMPERIAL-HD Spherical Roller Bearing

DODGE Spherical 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 spherical 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.

**L<sub>10</sub> Hours Life** - The life which may be expected from at least 90% of a given group of bearings operating under identical conditions.

$$L_{10} \text{ Life, Hours} = \left( \frac{C}{P} \right)^{10/3} \times \left( \frac{16667}{\text{RPM}} \right)$$

Where:

C = Dynamic Capacity (Table 1 on page 12 for IMPERIAL), 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 to obtain a Modified 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 L<sub>10</sub> life. Spherical bearings require a radial load at least equal to the thrust load for proper operation. If the thrust load exceeds this limit, consult Application Engineering. Where substantial radial load is also present, it is advisable to calculate actual L<sub>10</sub> life to assure that it meets the requirements. The effectiveness

of the shaft attachment to carry thrust load depends on proper tightening of the bearing to the shaft. 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	20-200	201-2000	Over 2000
RECOMMENDED THRUST LOAD	C/20	C/40	C/60

The shaft tolerances recommended below are adequate for normal radial and radial/thrust load applications. 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 cap loads are involved, see Table 3 on page 15 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 loads for flange units.

### SHAFT TOLERANCES

SHAFT SIZE	TOLERANCE, inches
Up To 1-1/2"	+ .000 - .002"
1-9/16 to 2-1/2"	+ .000 - .003"
2-5/8 to 4"	+ .000 - .004"
4-3/16 to 6"	+ .000 - .005"
6-7/16" and above	+ .000 - .006"

# SELECTION



## IMPERIAL-HD Spherical Roller Bearing BEARING 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 2 on page 13 for IMPERIAL, find, under the RPM column, the equivalent radial load that equals or is slightly 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 = 4000 lbs.
  3. RPM = 1,000

At the intersection of the 1,000 RPM column and the 30,000 hours  $L_{10}$  life row, the equivalent radial load of 4116 lbs. exceeds the 4000 lbs. radial load for shaft size 2-3/8" to 2-1/2". A bearing with bore ranging from 2-3/8" to 2-1/2", or larger, may be used for this application.

### ALTERNATE METHOD A - SELECTING A BEARING FOR AN $L_{10}$ LIFE VALUE NOT SHOWN IN THE EASY SELECTION CHART.

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

$$C = \left( \frac{L_{10} \times \text{RPM}}{16667} \right)^{0.3} \times P$$

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

Since the  $L_{10}$ , RPM and  $P$  are known, solve for  $C$ . Select from the dynamic capacity column on Table 1 on page

12 the  $C$  value equal to or greater than the  $C$  value just calculated. The bore size on the far left represents the proper bore size selection. Check that the application RPM does not exceed the MAX. RPM from Table 1. 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 1 converts the applied thrust load and radial load 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 1 for allowable slip fit maximum load)
- $F_A$  = Thrust (axial) load, lbs.
- $e$  = Thrust load to radial load factor (Table 1)
- $X$  = Radial load factor (Table 1)
- $Y$  = Thrust load factor (Table 1)

★ 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](http://www.ptwizard.com) under the Product Selection area.

## IMPERIAL-HD Spherical Roller Bearing

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 1 on page 12 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 on page 13.

### SELECTING BEARINGS SUPPORTING ONLY THRUST LOADS

Spherical Roller Bearings generally are not recommended for pure thrust load applications. However, they will perform satisfactorily under very light pure thrust loads. Consult DODGE Application Engineering (864-284-5700).

### SELECTING LUBRICATION

IMPERIAL spherical roller bearings are lubricated at the factory with Exxon Ronex MP grease for sizes up to 5". Above 5", Mobilux EP #2 is used. Exxon Ronex MP is a superior industrial grease with a lithium complex thickener and highly refined base oil. Mobilux EP#2 is a superior industrial grease using a lithium hydroxystearate thickener and highly refined base oil. This grease will adequately handle low and medium speeds with

low and medium loads at normal temperatures on Table 3 on page 15. For very low and high speeds, for heavy loads, and for low and high temperatures, special greases may 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 Spherical roller bearings is periodic relubrication at regular intervals as outlined in the appropriate instruction manuals.

### MISALIGNMENT CONSIDERATIONS

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 Unitized Spherical Roller Bearings. IMPERIAL bearings are designed to allow a maximum of  $\pm 1^\circ$  of static and dynamic misalignment. To ensure good alignment, mounting surfaces must be checked for flatness and must lie in the same plane. When tightening base 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.

# SELECTION



## IMPERIAL-HD Spherical Roller Bearing

Table 1: IMPERIAL Spherical Roller Bearing

Shaft Size Inches	Basic Bearing Description	e	FA/FR<e		FA/FR>e		Adapter Maximum Thrust Load Pounds	Dynamic Capacity (C) Pounds	Static Capacity (Co) Pounds	Maximum Speed*		Maximum ISAF Expansion Capability Inches
			X	Y	X	Y				Labyrinth RPM	TRIDENT RPM	
1-1/8 1-3/16 1-1/4 1-3/8 1-7/16 1-1/2	22208	0.28	1.0	2.4	0.67	3.6	620	20,800	21,000	6,000	3,975	7/32
1-1/2 ** 1-5/8 1-11/16 1-3/4	22209	0.26	1.0	2.6	0.67	3.9	700	20,800	22,000	5,600	3,725	7/32
1-3/4 ** 1-7/8 1-15/16 2	22210	0.24	1.0	2.8	0.67	4.2	775	22,000	24,000	5,300	3,520	17/64
2-3/16 2-1/4	22211	0.23	1.0	2.9	0.67	4.3	930	27,000	29,000	4,500	3,000	7/32
2-1/4 ** 2-3/8 2-7/16 2-1/2	22213	0.24	1.0	2.8	0.67	4.2	1,360	39,000	47,500	3,800	2,400	5/16
2-11/16 2-3/4 2-15/16 3	22215	0.22	1.0	3.1	0.67	4.6	1,570	41,500	53,000	3,400	2,250	15/64
3-3/16 3-1/4 3-7/16 3-1/2	22218	0.23	1.0	2.9	0.67	4.3	2,430	65,500	81,500	2,600	1,825	3/8
3-11/16 3-15/16 4	22220	0.24	1.0	2.8	0.67	4.2	3,100	83,000	104,000	2,200	1,530	3/8
4-7/16 4-1/2	22222	0.25	1.0	2.7	0.67	4.0	3,930	104,000	132,000	2,000	1,325	3/8
4-15/16 5	22226	0.26	1.0	2.6	0.67	3.9	5,610	146,000	196,000	1,800	1,175	3/8

\* Maximum grease speed is dependent on load and ambient conditions, consult Dodge Engineering

\*\* IMPERIAL - Type E Dimensional Housing

## IMPERIAL-HD Spherical Roller Bearing

Table 2: Allowable Equivalent Radial Load Rating (lbs) at Various Revolutions per Minute

Size Inches	L10 Life Hours	Allowable Equivalent Radial Load Rating (lbs.) at Various Revolutions per Minute																					
		50	100	150	250	500	750	1,000	1,300	1,500	1,700	1,800	2,000	2,200	2,600	2,750	3,000	3,400	3,800	4,500	5,300	5600	6000
1-1/8 to 1-1/2	10,000	7498	6090	5393	4626	3758	3327	3052	2821	2703	2603	2559	2479	2409	2292	2253	2195	2114	2045	1944	1851	1820	1783
	30,000	5393	4380	3878	3327	2703	2393	2195	2029	1944	1872	1840	1783	1733	1648	1621	1579	1521	1471	1398	1331	1309	1282
	40,000	4947	4018	3558	3052	2479	2195	2014	1861	1783	1717	1688	1636	1590	1512	1487	1448	1395	1349	1282	1221	1201	1176
	60,000	4380	3558	3150	2703	2195	1944	1783	1648	1579	1521	1495	1448	1408	1339	1316	1282	1235	1195	1136	1081	1064	1042
100,000	3758	3052	2703	2319	1883	1668	1530	1414	1355	1305	1282	1243	1208	1149	1129	1100	1060	1025	974	928	912	894	
*1-1/2 to 1-11/16 to 1-3/4	10,000	7,498	6,090	5,393	4,626	3,758	3,327	3,052	2,821	2,703	2,603	2,559	2,479	2,409	2,292	2,253	2,195	2,114	2,045	1,944	1,851	1,820	
	30,000	5,393	4,380	3,878	3,327	2,703	2,393	2,195	2,029	1,944	1,872	1,840	1,783	1,733	1,648	1,621	1,579	1,521	1,471	1,398	1,331	1,309	
	40,000	4,947	4,018	3,558	3,052	2,479	2,195	2,014	1,861	1,783	1,717	1,688	1,636	1,590	1,512	1,487	1,448	1,395	1,349	1,282	1,221	1,201	
	60,000	4,380	3,558	3,150	2,703	2,195	1,944	1,783	1,648	1,579	1,521	1,495	1,448	1,407	1,339	1,316	1,282	1,235	1,195	1,136	1,081	1,063	
100,000	3,758	3,052	2,703	2,319	1,883	1,668	1,530	1,414	1,355	1,305	1,282	1,243	1,208	1,148	1,129	1,100	1,060	1,025	974	928	912		
*1-3/4 to 1-7/8 to 1-15/16 to 2	10,000	7,930	6,441	5,704	4,893	3,975	3,519	3,228	2,984	2,859	2,753	2,706	2,622	2,548	2,424	2,383	2,322	2,268	2,163	2,056	1,957		
	30,000	5,704	4,633	4,102	3,519	2,859	2,531	2,322	2,146	2,056	1,980	1,947	1,886	1,833	1,743	1,714	1,670	1,608	1,556	1,479	1,408		
	40,000	5,232	4,250	3,763	3,228	2,622	2,322	2,130	1,969	1,886	1,816	1,786	1,730	1,681	1,599	1,572	1,532	1,475	1,427	1,356	1,291		
	60,000	4,633	3,763	3,332	2,859	2,322	2,056	1,886	1,743	1,670	1,608	1,581	1,532	1,489	1,416	1,392	1,356	1,306	1,264	1,201	1,144		
100,000	3,975	3,228	2,859	2,452	1,992	1,764	1,618	1,496	1,433	1,380	1,356	1,314	1,277	1,215	1,194	1,164	1,121	1,084	1,030	981			
2-3/16 to 2-1/4	10,000	9,733	7,905	7,000	6,005	4,878	4,319	3,962	3,662	3,508	3,379	3,322	3,218	3,127	2,975	2,925	2,850	2,745	2,655	2,523			
	30,000	7,000	5,686	5,035	4,319	3,508	3,106	2,850	2,634	2,523	2,430	2,389	2,315	2,249	2,139	2,104	2,050	1,974	1,909	1,815			
	40,000	6,421	5,216	4,618	3,962	3,218	2,850	2,614	2,416	2,315	2,229	2,191	2,123	2,063	1,963	1,930	1,880	1,811	1,751	1,665			
	60,000	5,686	4,618	4,089	3,508	2,850	2,523	2,315	2,139	2,050	1,974	1,940	1,880	1,827	1,738	1,709	1,665	1,603	1,551	1,474			
100,000	4,878	3,962	3,508	3,010	2,445	2,165	1,986	1,835	1,758	1,694	1,665	1,613	1,567	1,491	1,466	1,428	1,376	1,330	1,265				
*2-1/4 to 2-3/8 to 2-7/16 to 2-1/2	10,000	14,058	11,419	10,111	8,674	7,046	6,239	5,723	5,290	5,068	4,881	4,798	4,649	4,518	4,297	4,225	4,116	3,964	3,834				
	30,000	10,111	8,213	7,272	6,239	5,068	4,487	4,116	3,805	3,645	3,510	3,451	3,343	3,249	3,090	3,039	2,960	2,851	2,758				
	40,000	9,275	7,534	6,671	5,723	4,649	4,116	3,776	3,490	3,343	3,220	3,165	3,067	2,980	2,835	2,787	2,716	2,616	2,530				
	60,000	8,213	6,671	5,907	5,068	4,116	3,645	3,343	3,090	2,960	2,851	2,803	2,716	2,639	2,510	2,468	2,405	2,316	2,240				
100,000	7,046	5,723	5,068	4,348	3,531	3,127	2,868	2,651	2,540	2,446	2,405	2,330	2,264	2,153	2,118	2,063	1,987	1,922					
2-11/16 to 3	10,000	14,959	12,151	10,759	9,230	7,497	6,639	6,090	5,629	5,392	5,194	5,105	4,946	4,815	4,572	4,496	4,380	4,219					
	30,000	10,759	8,739	7,738	6,639	5,392	4,775	4,380	4,048	3,878	3,735	3,672	3,558	3,457	3,288	3,233	3,150	3,034					
	40,000	9,870	8,017	7,098	6,090	4,946	4,380	4,018	3,714	3,558	3,427	3,368	3,263	3,171	3,016	2,966	2,890	2,783					
	60,000	8,739	7,098	6,285	5,392	4,380	3,878	3,558	3,288	3,150	3,034	2,982	2,890	2,808	2,671	2,626	2,559	2,464					
100,000	7,497	6,090	5,392	4,626	3,758	3,327	3,052	2,821	2,703	2,603	2,559	2,479	2,409	2,291	2,253	2,195	2,114						
3-3/16 to 3-1/2	10,000	23,611	19,178	16,981	14,569	11,833	10,478	9,612	8,884	8,511	8,197	7,995	7,807	7,587	7,216								
	30,000	16,981	13,793	12,213	10,478	8,511	7,536	6,913	6,390	6,121	5,896	5,795	5,615	5,457	5,190								
	40,000	15,577	12,653	11,203	9,612	7,807	6,913	6,341	5,861	5,615	5,408	5,316	5,151	5,006	4,761								
	60,000	13,793	11,203	9,920	8,511	6,913	6,121	5,615	5,190	4,972	4,789	4,707	4,561	4,432	4,216								
100,000	11,833	9,612	8,511	7,302	5,931	5,251	4,817	4,453	4,266	4,108	4,038	3,913	3,803	3,617									

Only the labyrinth seal (L seal) may be used to the right of the heavy line.

For applications in the dark shaded area, the maximum load for the specific speed is shown. The load does not correspond to the  $L_{10}$  shown at the left.

Applications in the light shaded area may require a high temperature lubrication, consult Dodge Engineering at (864) 284-5700

\* IMPERIAL - Type E Dimensional Housing

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

Type E

SAFS



## SELECTION



## IMPERIAL-HD Spherical Roller Bearing

Table 2: Allowable Equivalent Radial Load Rating (lbs) at Various Revolutions per Minute (continued)

Size Inches	L10 Life Hours	Allowable Equivalent Radial Load Rating (lbs.) at Various Revolutions per Minute																							
		50	100	150	250	500	750	1,000	1,300	1,500	1,700	1,800	2,000	2,200	2,600	2,750	3,000	3,400	3,800	4,500	5,300	5,600	6000		
3-11/16 to 4	10,000	29,919	24,302	21,518	18,461	14,995	13,278	12,180	11,258	7,757	10,387	10,211	9,893	9,614											
	30,000	21,518	17,478	15,476	13,278	10,785	9,549	8,760	8,097	7,757	7,471	7,344	7,115	6,915											
	40,000	19,739	16,033	14,197	12,180	9,893	8,760	8,036	7,427	7,115	6,853	6,737	6,527	6,343											
	60,000	17,478	14,197	12,571	10,785	8,760	7,757	7,115	6,577	6,300	6,068	5,965	5,779	5,616											
	100,000	14,995	12,180	10,785	9,252	7,515	6,655	6,104	5,642	5,405	5,206	5,117	4,958	4,818											
4-7/16 to 4-1/2	10,000	37,489	30,450	26,963	23,132	18,789	16,637	15,261	10,145	13,513	13,015	12,794	12,396												
	30,000	26,963	21,901	19,392	16,637	13,513	11,966	10,976	10,145	9,719	9,361	9,202	8,915												
	40,000	24,733	20,090	17,789	15,261	12,396	10,976	10,069	9,307	8,915	8,587	8,441	8,178												
	60,000	21,901	17,789	15,751	13,513	10,976	9,719	8,915	8,241	7,894	7,603	7,474	7,242												
	100,000	18,789	15,261	13,513	11,593	9,417	8,338	7,649	7,070	6,773	6,523	6,412	6,213												
4-15/16 to 5	10,000	52,628	42,747	37,851	32,473	26,377	23,356	15,409	19,803	18,971	18,272	17,961													
	30,000	37,851	30,745	27,224	23,356	18,971	16,798	15,409	14,243	13,644	13,141	12,918													
	40,000	34,722	28,203	24,973	21,424	17,402	15,409	14,135	13,065	12,516	12,055	11,850													
	60,000	30,745	24,973	22,112	18,971	15,409	13,644	12,516	11,569	11,082	10,674	10,493													
	100,000	26,377	21,424	18,971	16,275	13,220	11,706	10,738	9,925	9,508	9,157	9,002													

Only the labyrinth seal (L seal) may be used to the right of the heavy line.

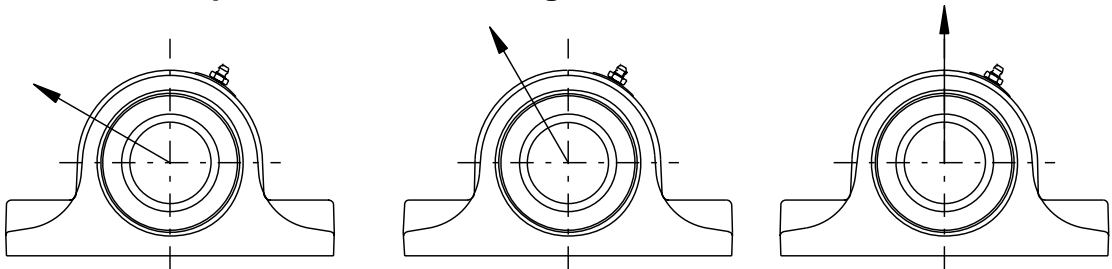
For applications in the dark shaded area, the maximum load for the specific speed is shown. The load does not correspond to the  $L_{10}$  shown at the left.

Applications in the light shaded area may require a high temperature lubrication, consult Dodge Engineering at (864) 284-5700.

### Definition Of Operating Conditions For Unitized Spherical Roller Bearings

LOW SPEED	UP TO 20% OF MAX. RPM (TABLE 1)
MEDIUM SPEED	OVER 20% TO 80% OF MAX. RPM
HIGH SPEED	MOVER 80% OF MAX. RPM
LIGHT LOAD	UP TO 8% OF C (TABLE 1)
NORMAL LOAD	OVER 8% TO 18% OF C
HEAVY LOAD	OVER 18% OF C
	<b>C</b> = DYNAMIC CAPACITY
LOW TEMPERATURE	-20 to -100°F
MEDIUM TEMPERATURE	OVER 20°F TO 200°F
HIGH TEMPERATURE	OVER 200°F TO 250°F

## IMPERIAL-HD Spherical Roller Bearings



**Table 3: Steel Housed S2000 & Imperial - Housing Ratings\***

Shaft Sizes	Basic Bearing Description	Maximum Recommended Housing Loads, lb	
		P2B	P4B
1-1/8 1-3/16 1-1/4 1-3/8 1-7/16 1-1/2	22208	24400	
1-1/2** 1-5/8 1-11/16 1-3/4	22209	26400	
1-3/4** 1-15/16 2	22210	30200	
2-3/16 2-1/4	22211	35400	
2-1/4** 2-3/8 2-7/16 2-1/2	22213	51300	52800
2-11/16 2-3/4 2-15/16 3	22215	59700	60000
3-3/16 3-1/4 3-7/16 3-1/2	22218	90700	95500
3-11/16 3-15/16 4	22220		115000
4-7/16 4-1/2	22222		152100
4-15/16 5	22226		188200

\* It is important to note that the values listed above are housing fracture loads from various applied directions. These loads may exceed bearing, mounting bolt and/or shaft capacities. Applications subject to heavy housing loads, particularly shock loads, must adhere to the following procedures:

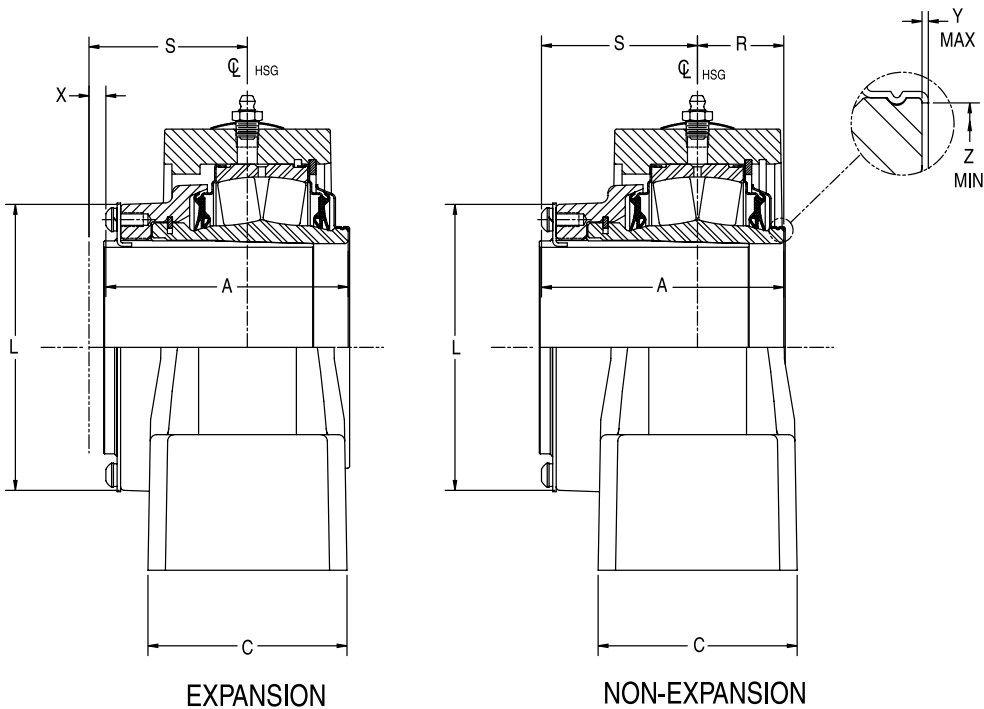
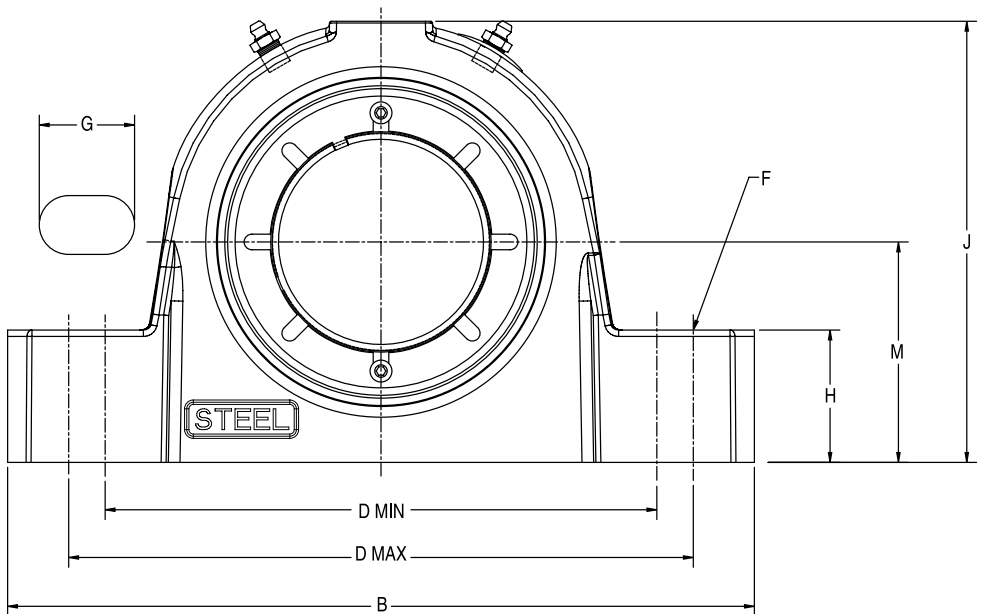
- (1) The pillow block base bolts must be of high strength (Grade 8) bolts and properly tightened to mounting structure.
- (2) Stop bars (shear strips) should be used against the plummer block where side loads are encountered.
- (3) In all cases where loads are heavy, the  $L_{10}$  life of the bearing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

\*\* Imperial - Type E Dimensional Housing

# DIMENSIONS



## Steel IMPERIAL-HD Pillow Block 2 Bolt



# DIMENSIONS



## Steel IMPERIAL-HD Pillow Block 2 Bolt

Shaft Size	Dodge Non-Expansion		Dodge Expansion	
	Part No.	Description	Part No.	Description
1-1/8	<b>071650</b>	SP2B-IP-102R	<b>071678</b>	SP2B-IP-102RE
1-3/16	<b>071651</b>	SP2B-IP-103R	<b>071679</b>	SP2B-IP-103RE
1-1/4	<b>071652</b>	SP2B-IP-104R	<b>071680</b>	SP2B-IP-104RE
1-3/8	<b>071653</b>	SP2B-IP-106R	<b>071681</b>	SP2B-IP-106RE
1-7/16	<b>071654</b>	SP2B-IP-107R	<b>071682</b>	SP2B-IP-107RE
1-1/2	<b>071655</b>	SP2B-IP-108R	<b>071683</b>	SP2B-IP-108RE
1-5/8	<b>071656</b>	SP2B-IP-110R	<b>071684</b>	SP2B-IP-110RE
1-11/16	<b>071657</b>	SP2B-IP-111R	<b>071685</b>	SP2B-IP-111RE
1-3/4	<b>071658</b>	SP2B-IP-112R	<b>071686</b>	SP2B-IP-112RE
1-7/8	<b>071659</b>	SP2B-IP-114R	<b>071687</b>	SP2B-IP-114RE
1-15/16	<b>071660</b>	SP2B-IP-115R	<b>071688</b>	SP2B-IP-115RE
2	<b>071661</b>	SP2B-IP-200R	<b>071689</b>	SP2B-IP-200RE
2-3/16	<b>071662</b>	SP2B-IP-203R	<b>071690</b>	SP2B-IP-203RE
2-1/4	<b>071663</b>	SP2B-IP-204R	<b>071691</b>	SP2B-IP-204RE
2-3/8	<b>071664</b>	SP2B-IP-206R	<b>071692</b>	SP2B-IP-206RE
2-7/16	<b>071665</b>	SP2B-IP-207R	<b>071693</b>	SP2B-IP-207RE
2-1/2	<b>071666</b>	SP2B-IP-208R	<b>071694</b>	SP2B-IP-208RE
2-11/16	<b>071667</b>	SP2B-IP-211R	<b>071695</b>	SP2B-IP-211RE
2-3/4	<b>071668</b>	SP2B-IP-212R	<b>071696</b>	SP2B-IP-212RE
2-15/16	<b>071669</b>	SP2B-IP-215R	<b>071697</b>	SP2B-IP-215RE
3	<b>071670</b>	SP2B-IP-300R	<b>071698</b>	SP2B-IP-300RE
3-3/16	<b>071671</b>	SP2B-IP-303R	<b>071699</b>	SP2B-IP-303RE
3-1/4	<b>071672</b>	SP2B-IP-304R	<b>071700</b>	SP2B-IP-304RE
3-7/16	<b>071673</b>	SP2B-IP-307R	<b>071701</b>	SP2B-IP-307RE
3-1/2	<b>071674</b>	SP2B-IP-308R	<b>071702</b>	SP2B-IP-308RE
3-11/16	<b>071675</b>	SP2B-IP-311R	<b>071703</b>	SP2B-IP-311RE
3-15/16	<b>071676</b>	SP2B-IP-315R	<b>071704</b>	SP2B-IP-315RE
4	<b>071677</b>	SP2B-IP-400R	<b>071705</b>	SP2B-IP-400RE

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

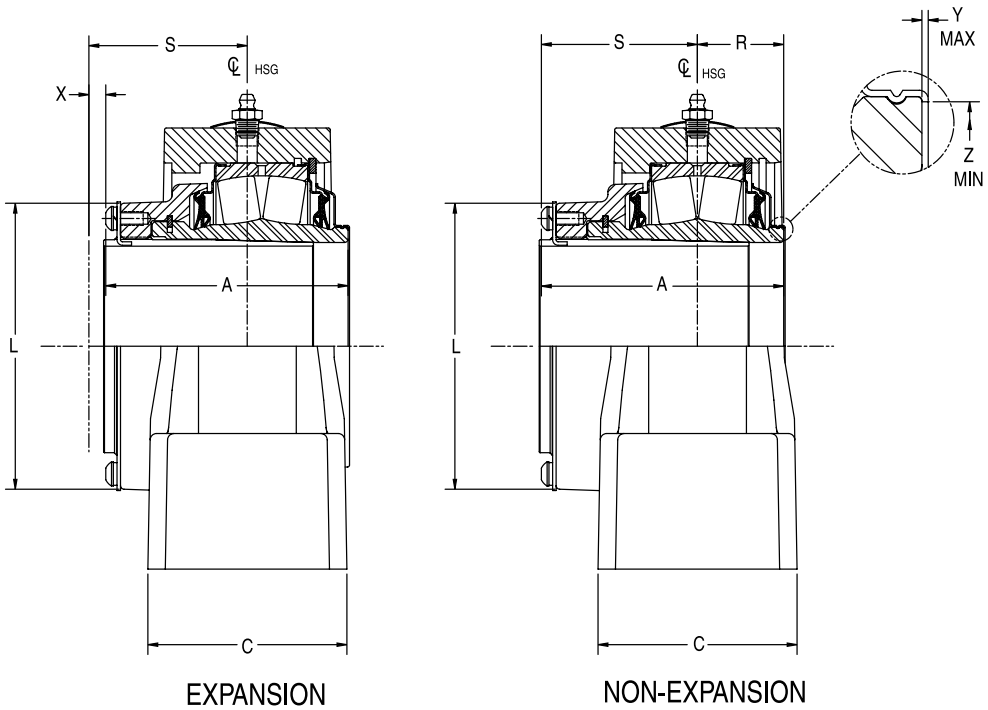
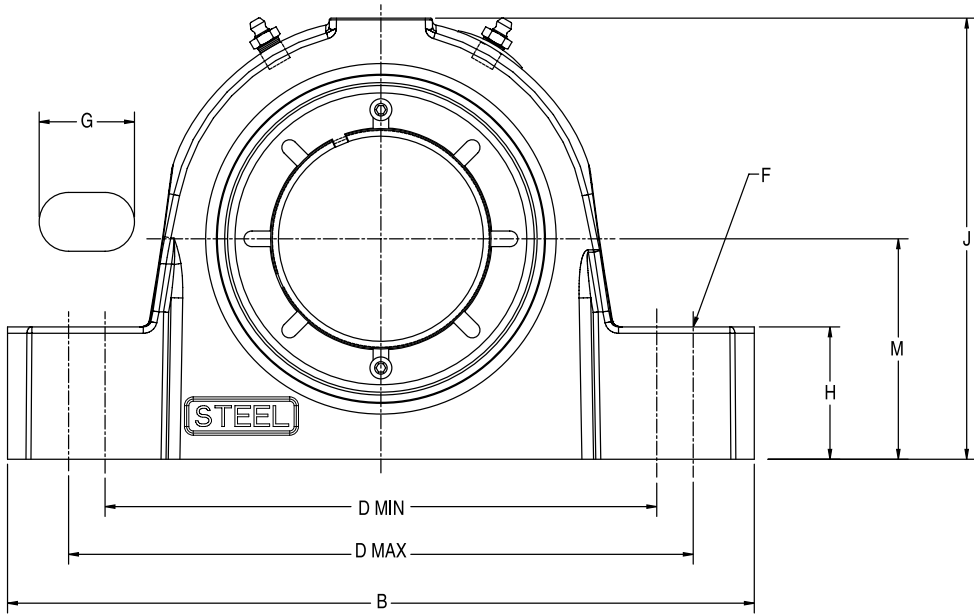
Type E

SAFS

# DIMENSIONS



## Steel IMPERIAL-HD Pillow Block 2 Bolt



# DIMENSIONS



## Steel IMPERIAL-HD Pillow Block 2 Bolt

SHAFT SIZE	A	B	C	D MIN	D MAX	F BOLT DIA.	G	H	J	L	M	R	S	X TOTAL EXP	Y	Z
1-1/8 1-3/16 1-1/4 1-3/8 1-7/16 1-1/2	2.63	6.88	2.25	4.69	6.00	1/2	1.28	1.13	3.88	2.72	1.875	0.86	1.77	3/16	0.020	1.80
1-5/8 1-11/16 1-3/4	2.81	7.13	2.37	5.25	5.75	1/2	0.88	1.25	4.27	3.00	2.125	0.92	1.89	1/4	0.020	2.08
1-7/8 1-15/16 2	2.86	8.38	2.44	5.93	6.36	5/8	0.97	1.31	4.56	3.28	2.25	0.90	1.96	1/4	0.020	2.30
2-3/16 2-1/4	3.03	8.88	2.50	6.50	7.06	5/8	1.04	1.50	5.00	3.50	2.50	0.99	2.04	1/4	0.025	2.59
2-3/8 2-7/16 2-1/2	3.42	9.25	2.90	6.81	7.43	5/8	1.07	1.63	5.60	3.88	2.75	1.17	2.25	1/4	0.025	2.94
2-11/16 2-3/4 2-15/16 3	3.50	10.44	2.91	7.70	8.40	3/4	1.23	1.88	6.38	4.28	3.25	1.12	2.37	1/4	0.025	3.47
3-3/16 3-1/4 3-7/16 3-1/2	4.17	13.00	3.41	9.25	10.75	7/8	1.75	2.25	7.50	5.00	3.75	1.53	2.63	1/4	0.025	4.05
3-11/16 3-15/16 4	4.70	14.25	3.89	10.04	12.60	1	2.40	2.44	8.37	5.56	4.25	1.70	3.00	5/16	0.025	4.50

"A" & "R" DIMENSIONS DO NOT INCLUDE "Y" DIMENSION

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

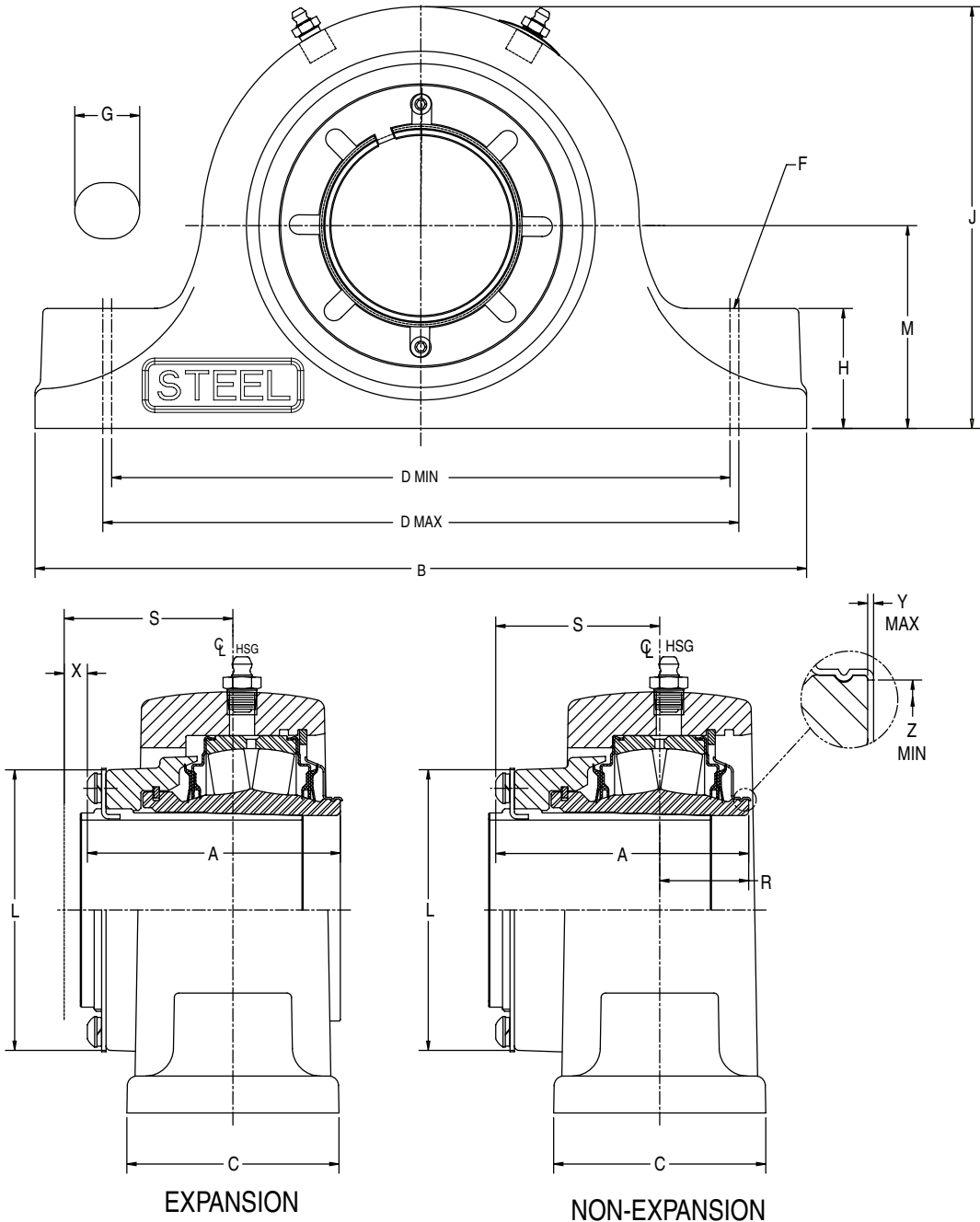
Type E

SAFS

# DIMENSIONS



## Steel IMPERIAL-HD Pillow Block 2 Bolt with Type E Dimensions



# DIMENSIONS



## Steel IMPERIAL-HD Pillow Block 2 Bolt with Type E Dimensions

Shaft Size	Dodge Non-Expansion		Dodge Expansion	
	Part No.	Description	Part No.	Description
1-3/8	<b>071864</b>	SEP2B-IP-106R	<b>071885</b>	SEP2B-IP-106RE
1-7/16	<b>071865</b>	SEP2B-IP-107R	<b>071886</b>	SEP2B-IP-107RE
1-1/2	<b>071866</b>	SEP2B-IP-108R	<b>071887</b>	SEP2B-IP-108RE
1-5/8	<b>071867</b>	SEP2B-IP-110R	<b>071888</b>	SEP2B-IP-110RE
1-11/16	<b>071868</b>	SEP2B-IP-111R	<b>071889</b>	SEP2B-IP-111RE
1-3/4	<b>071869</b>	SEP2B-IP-112R	<b>071890</b>	SEP2B-IP-112RE
1-7/8	<b>071870</b>	SEP2B-IP-114R	<b>071891</b>	SEP2B-IP-114RE
1-15/16	<b>071871</b>	SEP2B-IP-115R	<b>071892</b>	SEP2B-IP-115RE
2	<b>071872</b>	SEP2B-IP-200R	<b>071893</b>	SEP2B-IP-200RE
2-3/16	<b>071873</b>	SEP2B-IP-203R	<b>071894</b>	SEP2B-IP-203RE
2-1/4	<b>071874</b>	SEP2B-IP-204R	<b>071895</b>	SEP2B-IP-204RE
2-7/16	<b>071875</b>	SEP2B-IP-207R	<b>071896</b>	SEP2B-IP-207RE
2-1/2	<b>071876</b>	SEP2B-IP-208R	<b>071897</b>	SEP2B-IP-208RE
2-11/16	<b>071877</b>	SEP2B-IP-211R	<b>071898</b>	SEP2B-IP-211RE
2-3/4	<b>071878</b>	SEP2B-IP-212R	<b>071899</b>	SEP2B-IP-212RE
2-15/16	<b>071879</b>	SEP2B-IP-215R	<b>071900</b>	SEP2B-IP-215RE
3	<b>071880</b>	SEP2B-IP-300R	<b>071901</b>	SEP2B-IP-300RE
3-3/16	<b>071881</b>	SEP2B-IP-303R	<b>071902</b>	SEP2B-IP-303RE
3-1/4	<b>071882</b>	SEP2B-IP-304R	<b>071903</b>	SEP2B-IP-304RE
3-7/16	<b>071883</b>	SEP2B-IP-307R	<b>071904</b>	SEP2B-IP-307RE
3-1/2	<b>071884</b>	SEP2B-IP-308R	<b>071905</b>	SEP2B-IP-308RE

SHAFT SIZE	A	B#	C#	D		F BOLT DIA	G#	H#	J#	L	M	R	S	X TOTAL EXP	Y	Z
				MIN	MAX											
1-3/8	2.63	7.37	2.12	5.63	5.88	1/2	0.75	1.13	3.85	2.72	1.875	1.04	1.59	5/32	0.020	1.80
1-7/16																
1-1/2	2.81	7.88	2.38	6.13	6.38	1/2	0.75	1.25	4.25	3.00	2.125	0.96	1.83	3/16	0.020	2.08
1-5/8																
1-11/16																
1-3/4	2.86	8.87	2.49	6.88	7.12	5/8	0.88	1.31	4.47	3.28	2.250	1.10	1.76	7/32	0.020	2.30
1-7/8																
1-15/16																
2																
2-3/16	3.03	9.62	2.56	7.63	7.88	5/8	0.88	1.50	5.00	3.50	2.500	1.06	1.97	1/4	0.025	2.60
2-1/4																
2-7/16	3.42	10.50	2.87	8.38	8.62	5/8	0.88	1.63	5.71	3.88	2.750	1.20	2.22	1/4	0.025	2.95
2-1/2																
2-11/16																
2-3/4	3.50	12.00	2.99	9.31	9.69	3/4	1.07	1.88	6.32	4.28	3.125	1.35	2.15	1/4	0.025	3.47
2-15/16																
3																
3-3/16	4.17	14.00	3.49	10.81	11.19	7/8	1.19	2.25	7.69	5.00	3.750	1.51	2.66	1/4	0.025	4.05
3-1/4																
3-7/16																
3-1/2																

"A" & "R" DIMENSIONS DO NOT INCLUDE "Y" DIMENSION

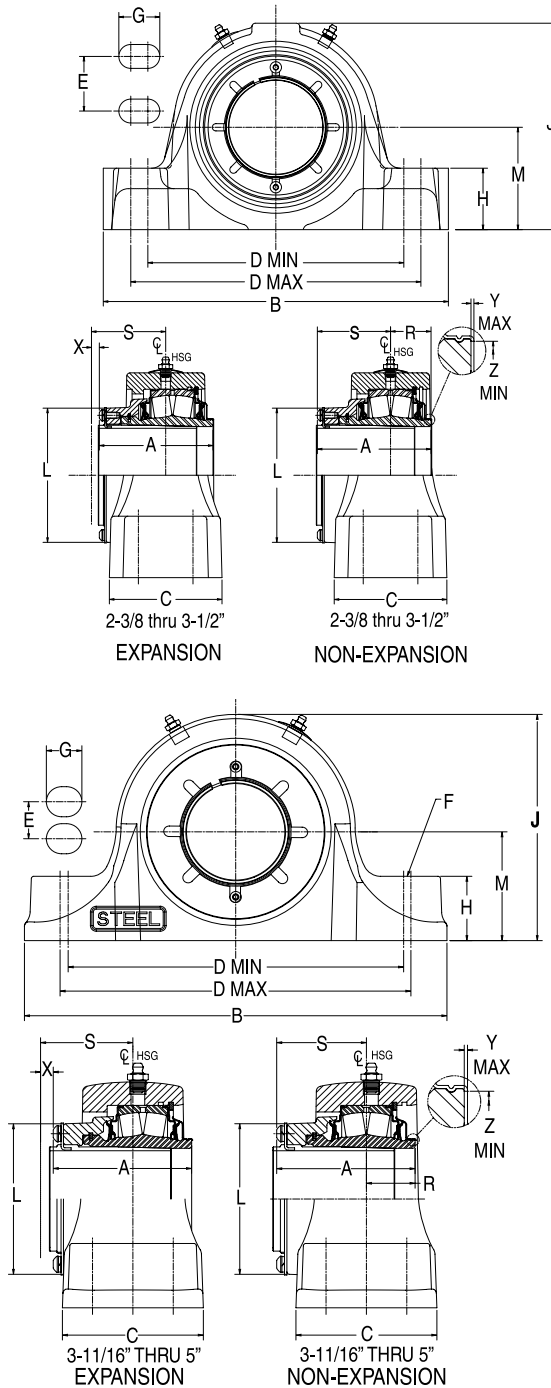
# REFERENCE DIMENSION ONLY



# DIMENSIONS



## Steel IMPERIAL-HD Pillow Block 4 Bolt



# DIMENSIONS



## Steel IMPERIAL-HD Pillow Block 4 Bolt

Shaft Size	Dodge Non-Expansion		Dodge Expansion	
	Dodge Part No.	Description	Dodge Part No.	Description
2-3/8	<b>071706</b>	SP4B-IP-206R	<b>071724</b>	SP4B-IP-206RE
2-7/16	<b>071707</b>	SP4B-IP-207R	<b>071725</b>	SP4B-IP-207RE
2-1/2	<b>071708</b>	SP4B-IP-208R	<b>071726</b>	SP4B-IP-208RE
2-11/16	<b>071709</b>	SP4B-IP-211R	<b>071727</b>	SP4B-IP-211RE
2-3/4	<b>071710</b>	SP4B-IP-212R	<b>071728</b>	SP4B-IP-212RE
2-15/16	<b>071711</b>	SP4B-IP-215R	<b>071729</b>	SP4B-IP-215RE
3	<b>071712</b>	SP4B-IP-300R	<b>071730</b>	SP4B-IP-300RE
3-3/16	<b>071713</b>	SP4B-IP-303R	<b>071731</b>	SP4B-IP-303RE
3-1/4	<b>071714</b>	SP4B-IP-304R	<b>071732</b>	SP4B-IP-304RE
3-7/16	<b>071715</b>	SP4B-IP-307R	<b>071733</b>	SP4B-IP-307RE
3-1/2	<b>071716</b>	SP4B-IP-308R	<b>071734</b>	SP4B-IP-308RE
3-11/16	<b>071717</b>	SP4B-IP-311R	<b>071735</b>	SP4B-IP-311RE
3-15/16	<b>071718</b>	SP4B-IP-315R	<b>071736</b>	SP4B-IP-315RE
4	<b>071719</b>	SP4B-IP-400R	<b>071737</b>	SP4B-IP-400RE
4-7/16	<b>071720</b>	SP4B-IP-407R	<b>071738</b>	SP4B-IP-407RE
4-1/2	<b>071721</b>	SP4B-IP-408R	<b>071739</b>	SP4B-IP-408RE
4-15/16	<b>071722</b>	SP4B-IP-415R	<b>071740</b>	SP4B-IP-415RE
5	<b>071723</b>	SP4B-IP-500R	<b>071741</b>	SP4B-IP-500RE

SHAFT SIZE	A	B	C	D		E	F BOLT DIA	G	H	J	L	M	R	S	X TOTAL EXP	Y	Z
				MIN	MAX												
2-3/8	3.42	9.25	3.00	6.88	7.63	1.75	1/2	1.06	1.63	5.61	3.88	2.75	1.17	2.25	1/4	0.025	2.94
2-7/16																	
2-1/2																	
2-11/16	3.50	10.44	3.13	7.60	9.10	1.88	5/8	1.43	1.88	6.44	4.28	3.25	1.12	2.37	1/4	0.025	3.47
2-3/4																	
2-15/16																	
3																	
3-3/16	4.17	12.30	3.75	8.88	10.88	2.00	3/4	1.88	2.25	7.56	5.00	3.75	1.53	2.63	1/4	0.025	4.05
3-1/4																	
3-7/16																	
3-1/2																	
3-11/16	4.70	14.88	4.31	10.88	13.38	2.25	3/4	2.13	2.44	8.70	5.56	4.25	1.70	3.00	5/16	0.025	4.50
3-15/16																	
4																	
4-7/16	5.23	16.13	4.75	11.88	14.50	2.50	3/4	2.19	2.75	9.67	6.44	4.75	1.53	3.70	3/8	0.036	5.00
4-1/2																	
4-15/16	5.98	17.50	5.03	15.13	15.88	2.75	7/8	1.38	3.00	11.12	7.63	5.50	2.22	3.77	3/8	0.036	5.84
5																	

"A" & "R" DIMENSIONS DO NOT INCLUDE "Y" DIMENSION

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

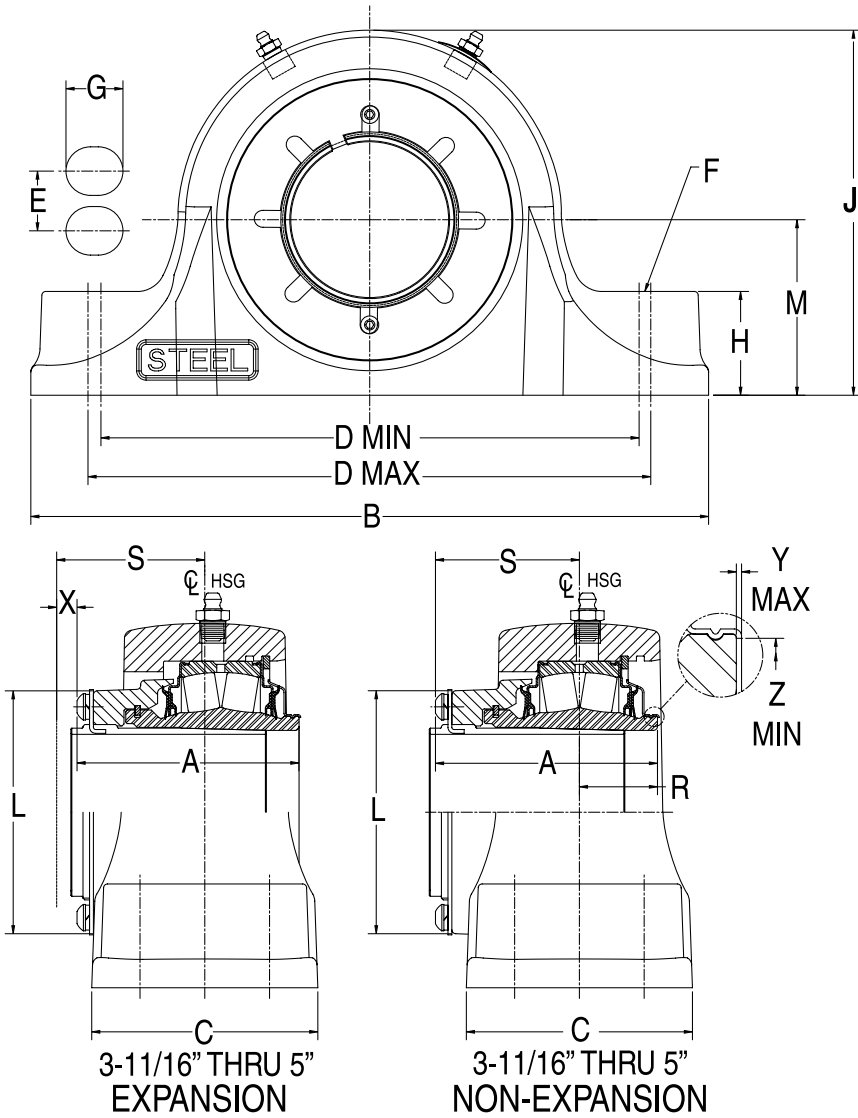
Type E

SAFS

# DIMENSIONS



## Steel IMPERIAL-HD Pillow Block 4 Bolt with Type E Dimensions



# DIMENSIONS



## Steel IMPERIAL-HD Pillow Block 4 Bolt with Type E Dimensions

Shaft Size	Dodge Non-Expansion		Dodge Expansion	
	Dodge Part No.	Description	Dodge Part No.	Description
2-1/4	<b>071906</b>	SEP4B-IP-204R	<b>071923</b>	SEP4B-IP-204RE
2-7/16	<b>071907</b>	SEP4B-IP-207R	<b>071924</b>	SEP4B-IP-207RE
2-1/2	<b>071908</b>	SEP4B-IP-208R	<b>071925</b>	SEP4B-IP-208RE
2-11/16	<b>071909</b>	SEP4B-IP-211R	<b>071926</b>	SEP4B-IP-211RE
2-3/4	<b>071910</b>	SEP4B-IP-212R	<b>071927</b>	SEP4B-IP-212RE
2-15/16	<b>071911</b>	SEP4B-IP-215R	<b>071928</b>	SEP4B-IP-215RE
3	<b>071912</b>	SEP4B-IP-300R	<b>071929</b>	SEP4B-IP-300RE
3-3/16	<b>071913</b>	SEP4B-IP-303R	<b>071930</b>	SEP4B-IP-303RE
3-1/4	<b>071914</b>	SEP4B-IP-304R	<b>071931</b>	SEP4B-IP-304RE
3-7/16	<b>071915</b>	SEP4B-IP-307R	<b>071932</b>	SEP4B-IP-307RE
3-1/2	<b>071916</b>	SEP4B-IP-308R	<b>071933</b>	SEP4B-IP-308RE
3-15/16	<b>071917</b>	SEP4B-IP-315R	<b>071934</b>	SEP4B-IP-315RE
4	<b>071918</b>	SEP4B-IP-400R	<b>071935</b>	SEP4B-IP-400RE
4-7/16	<b>071919</b>	SEP4B-IP-407R	<b>071936</b>	SEP4B-IP-407RE
4-1/2	<b>071920</b>	SEP4B-IP-408R	<b>071937</b>	SEP4B-IP-408RE
4-15/16	<b>071921</b>	SEP4B-IP-415R	<b>071938</b>	SEP4B-IP-415RE
5	<b>071922</b>	SEP4B-IP-500R	<b>071939</b>	SEP4B-IP-500RE

SHAFT SIZE	A	B#	C#	D		E	F BOLT DIA.	G#	H#	J#	L	M	R	S	X TOTAL EXP	Y	Z
				MIN	MAX												
2-1/4																	
2-7/16	3.42	10.50	3.49	8.31	8.69	1.87	5/8	0.87	1.63	5.72	3.88	2.750	1.21	2.21	1/4	0.025	2.94
2-1/2																	
2-11/16																	
2-3/4	3.50	12.00	4.00	9.18	9.82	2.13	5/8	1.00	1.88	6.33	4.28	3.125	1.35	2.15	1/4	0.025	3.47
2-15/16																	
3																	
3-3/16																	
3-1/4	4.17	13.50	4.49	10.75	11.25	2.37	3/4	1.13	2.25	7.69	5.00	3.750	1.54	2.63	1/4	0.025	4.05
3-7/16																	
3-1/2																	
3-15/16	4.70	15.25	4.50	12.25	12.75	2.25	3/4	1.13	2.44	8.70	5.56	4.250	1.34	3.35	5/16	0.025	4.50
4																	
4-7/16	5.23	16.63	4.63	13.25	13.75	2.50	3/4	1.13	2.75	9.67	6.44	4.750	1.82	3.41	3/8	0.038	5.00
4-1/2																	
4-15/16	5.98	18.50	5.13	15.25	15.75	2.87	7/8	1.25	3.00	11.16	7.63	5.500	1.93	4.05	3/8	0.038	5.84
5																	

"A" & "R" DIMENSIONS DO NOT INCLUDE "Y" DIMENSION

# REFERENCE DIMENSION ONLY

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

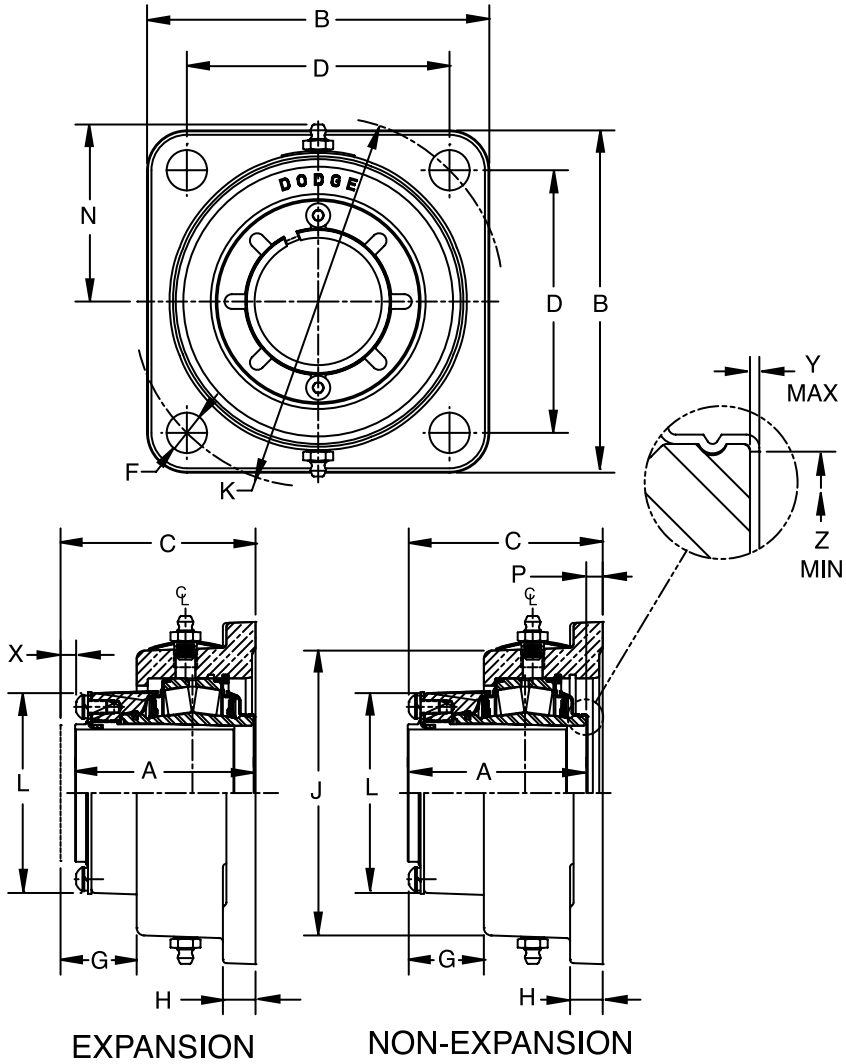
Type E

SAFS

# DIMENSIONS



## Steel IMPERIAL-HD Flange - 4 Bolt



# DIMENSIONS



## Steel IMPERIAL-HD Flange - 4 Bolt

Shaft Size	Dodge Non-Expansion		Dodge Expansion	
	Dodge Part No.	Description	Dodge Part No.	Description
1-1/8	<b>072170</b>	SF4S-IP-102R	<b>072198</b>	SF4S-IP-102RE
1-3/16	<b>072171</b>	SF4S-IP-103R	<b>072199</b>	SF4S-IP-103RE
1-1/4	<b>072172</b>	SF4S-IP-104R	<b>072200</b>	SF4S-IP-104RE
1-3/8	<b>072173</b>	SF4S-IP-106R	<b>072201</b>	SF4S-IP-106RE
1-7/16	<b>072174</b>	SF4S-IP-107R	<b>072202</b>	SF4S-IP-107RE
1-1/2	<b>072175</b>	SF4S-IP-108R	<b>072203</b>	SF4S-IP-108RE
1-5/8	<b>072176</b>	SF4S-IP-110R	<b>072204</b>	SF4S-IP-110RE
1-11/16	<b>072177</b>	SF4S-IP-111R	<b>072205</b>	SF4S-IP-111RE
1-3/4	<b>072178</b>	SF4S-IP-112R	<b>072206</b>	SF4S-IP-112RE
1-7/8	<b>072179</b>	SF4S-IP-114R	<b>072207</b>	SF4S-IP-114RE
1-15/16	<b>072180</b>	SF4S-IP-115R	<b>072208</b>	SF4S-IP-115RE
2	<b>072181</b>	SF4S-IP-200R	<b>072209</b>	SF4S-IP-200RE
2-3/16	<b>072182</b>	SF4S-IP-203R	<b>072210</b>	SF4S-IP-203RE
2-1/4	<b>072183</b>	SF4S-IP-204R	<b>072211</b>	SF4S-IP-204RE

SHAFT SIZE	A	B#	C#	D	DD	F BOLT DIA	G	H#	J#	L	N	P	X TOTAL EXP	Y	Z
1-1/8															
1-3/16															
1-1/4	2.63	4.62	2.87	3.50	4.95	1/2	0.84	0.88	3.70	2.72	2.25	0.24	3/16	0.02	1.80
1-3/8															
1-7/16															
1-1/2															
1-5/8															
1-11/16	2.81	5.37	3.01	4.13	5.84	1/2	0.91	0.88	4.41	3.00	2.62	0.20	7/32	0.02	2.08
1-3/4															
1-7/8															
1-15/16	2.86	5.49	3.15	4.38	6.19	1/2	0.91	0.88	4.75	3.28	2.75	0.29	7/32	0.02	2.30
2															
2-3/16	3.03	6.18	3.26	4.87	6.89	5/8	0.93	1.00	5.03	3.50	2.93	0.23	1/4	0.02	2.60
2-1/4															

"P" DIMENSION IS FOR NON-EXPANSION ONLY

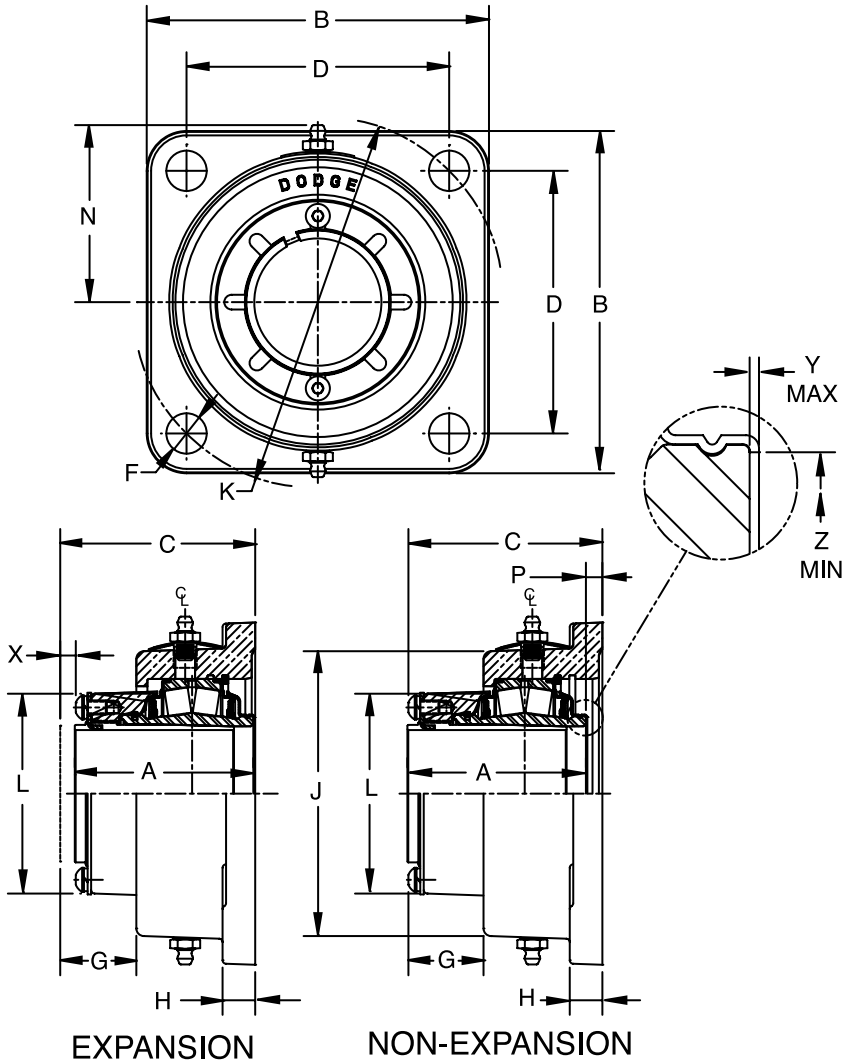
"A" & "P" DIMENSIONS DO NOT INCLUDE "Y" DIMENSION

# REFERENCE DIMENSION ONLY

# DIMENSIONS



## Steel IMPERIAL-HD Flange - 4 Bolt



# DIMENSIONS



## Steel IMPERIAL-HD Flange - 4 Bolt

Shaft Size	Dodge Non-Expansion		Dodge Expansion	
	Dodge Part No.	Description	Dodge Part No.	Description
2-3/8	<b>072184</b>	SF4S-IP-206R	<b>072212</b>	SF4S-IP-206RE
2-7/16	<b>072185</b>	SF4S-IP-207R	<b>072213</b>	SF4S-IP-207RE
2-1/2	<b>072186</b>	SF4S-IP-208R	<b>072214</b>	SF4S-IP-208RE
2-11/16	<b>072187</b>	SF4S-IP-211R	<b>072215</b>	SF4S-IP-211RE
2-3/4	<b>072188</b>	SF4S-IP-212R	<b>072216</b>	SF4S-IP-212RE
2-15/16	<b>072189</b>	SF4S-IP-215R	<b>072217</b>	SF4S-IP-215RE
3	<b>072190</b>	SF4S-IP-300R	<b>072218</b>	SF4S-IP-300RE
3-3/16	<b>072191</b>	SF4S-IP-303R	<b>072219</b>	SF4S-IP-303RE
3-1/4	<b>072192</b>	SF4S-IP-304R	<b>072220</b>	SF4S-IP-304RE
3-7/16	<b>072193</b>	SF4S-IP-307R	<b>072221</b>	SF4S-IP-307RE
3-1/2	<b>072194</b>	SF4S-IP-308R	<b>072222</b>	SF4S-IP-308RE
3-11/16	<b>072195</b>	SF4S-IP-311R	<b>072223</b>	SF4S-IP-311RE
3-15/16	<b>072196</b>	SF4S-IP-315R	<b>072224</b>	SF4S-IP-315RE
4	<b>072197</b>	SF4S-IP-400R	<b>072225</b>	SF4S-IP-400RE

SHAFT SIZE	A	B	C	D	F BOLT DIA.	G	H	J	K	L	N	P	X TOTAL EXP	Y	Z
2-3/8															
2-7/16	3.42	6.18	3.57	4.77	5/8	0.95	1.00	5.63	6.75	3.80	3.24	0.15	1/4	0.025	2.94
2-1/2															
2-11/16															
2-3/4	3.50	7.18	3.77	5.57	3/4	0.94	1.06	6.51	7.88	4.20	3.67	0.27	1/4	0.025	3.47
2-15/16															
3															
3-3/16															
3-1/4	4.17	8.37	4.27	6.72	3/4	0.94	1.28	7.49	9.50	5.00	4.16	0.10	1/4	0.025	4.50
3-7/16															
3-1/2															
3-11/16															
3-15/16	4.70	9.49	5.07	7.60	1	1.06	1.50	8.22	10.75	5.46	4.55	0.37	5/16	0.025	4.50
4															

NOTE: 'P' Dimension Is For Non-Expansion Only

NOTE: 'A' And 'P' Dimensions Do Not Include 'Y' Dimension

"A" & "P" DIMENSIONS DO NOT INCLUDE "Y" DIMENSION

# REFERENCE DIMENSION ONLY

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

Type E

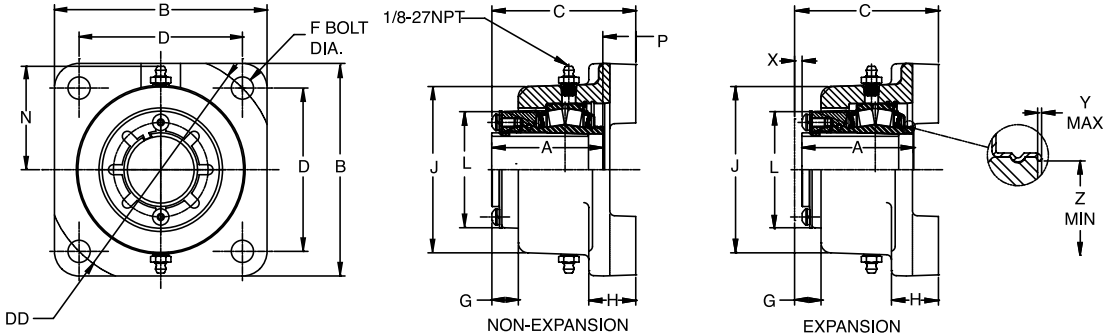
SAFS



# DIMENSIONS



## Steel IMPERIAL-HD Flange 4 Bolt With Type E Dimensions

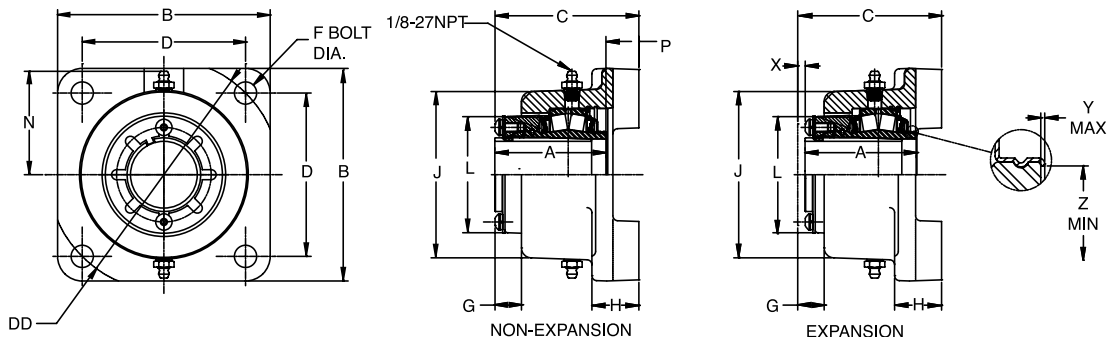


Shaft Size	Dodge Non-Expansion		Dodge Expansion	
	Dodge Part No.	Description	Dodge Part No.	Description
1-3/8	<b>072226</b>	SEF4B-IP-106R	<b>072251</b>	SEF4B-IP-106RE
1-7/16	<b>072227</b>	SEF4B-IP-107R	<b>072252</b>	SEF4B-IP-107RE
1-1/2	<b>072228</b>	SEF4B-IP-108R	<b>072253</b>	SEF4B-IP-108RE
1-5/8	<b>072229</b>	SEF4B-IP-110R	<b>072254</b>	SEF4B-IP-110RE
1-11/16	<b>072230</b>	SEF4B-IP-111R	<b>072255</b>	SEF4B-IP-111RE
1-3/4	<b>072231</b>	SEF4B-IP-112R	<b>072256</b>	SEF4B-IP-112RE
1-7/8	<b>072232</b>	SEF4B-IP-114R	<b>072257</b>	SEF4B-IP-114RE
1-15/16	<b>072233</b>	SEF4B-IP-115R	<b>072258</b>	SEF4B-IP-115RE
2	<b>072234</b>	SEF4B-IP-200R	<b>072259</b>	SEF4B-IP-200RE
2-3/16	<b>072235</b>	SEF4B-IP-203R	<b>072260</b>	SEF4B-IP-203RE
2-7/16	<b>072237</b>	SEF4B-IP-207R	<b>072262</b>	SEF4B-IP-207RE
2-1/2	<b>072238</b>	SEF4B-IP-208R	<b>072263</b>	SEF4B-IP-208RE
2-11/16	<b>072239</b>	SEF4B-IP-211R	<b>072264</b>	SEF4B-IP-211RE
2-3/4	<b>072240</b>	SEF4B-IP-212R	<b>072265</b>	SEF4B-IP-212RE
2-15/16	<b>072241</b>	SEF4B-IP-215R	<b>072266</b>	SEF4B-IP-215RE
3	<b>072242</b>	SEF4B-IP-300R	<b>072267</b>	SEF4B-IP-300RE
3-3/16	<b>072243</b>	SEF4B-IP-303R	<b>072268</b>	SEF4B-IP-303RE
3-1/4	<b>072244</b>	SEF4B-IP-304R	<b>072269</b>	SEF4B-IP-304RE
3-7/16	<b>072245</b>	SEF4B-IP-307R	<b>072270</b>	SEF4B-IP-307RE
3-1/2	<b>072246</b>	SEF4B-IP-308R	<b>072271</b>	SEF4B-IP-308RE
3-15/16	<b>072247</b>	SEF4B-IP-315R	<b>072272</b>	SEF4B-IP-315RE
4	<b>072248</b>	SEF4B-IP-400R	<b>072273</b>	SEF4B-IP-400RE
4-7/16	<b>072249</b>	SEF4B-IP-407R	<b>072274</b>	SEF4B-IP-407RE
4-1/2	<b>072250</b>	SEF4B-IP-408R	<b>072275</b>	SEF4B-IP-408RE

# DIMENSIONS



## Steel IMPERIAL-HD Flange 4 Bolt With Type E Dimensions



SHAFT SIZE	A	B#	C#	D	DD	F BOLT DIA.	G	H#	J#	L	N	P	X TOTAL EXP	Y	Z
1-3/8 1-7/16	2.63	4.620	2.87	3.50	4.95	1/2	0.84	0.88	3.7	2.72	2.25	0.24	3/16	0.020	1.80
1-1/2 1-5/8 1-11/16	2.81	5.37	3.01	4.13	5.84	1/2	0.91	0.88	4.41	3.00	2.62	0.20	7/32	0.020	2.08
1-3/4 1-7/8 1-15/16 2	2.86	5.49	3.15	4.38	6.19	1/2	0.91	0.88	4.75	3.28	2.75	0.29	7/32	0.020	2.30
2-3/16	3.03	6.18	3.26	4.87	6.89	5/8	0.93	1.00	5.03	3.50	2.93	0.23	1/4	0.020	2.60
2-7/16 2-1/2	3.42	6.62	3.57	5.37	7.60	5/8	0.95	1.00	5.63	3.80	3.23	0.15	1/4	0.025	2.95
2-11/16 2-3/4 2-15/16 3	3.50	7.43	3.77	6.00	8.49	3/4	0.94	1.06	6.66	4.20	3.75	0.27	1/4	0.025	3.47
3-3/16 3-1/4 3-7/16 3-1/2	4.17	8.62	4.27	7.01	9.91	3/4	0.96	1.31	7.49	5.00	4.17	0.10	1/4	0.025	4.05
3-15/16 4	4.70	9.96	5.04	7.75	10.96	7/8	1.06	1.50	8.22	5.44	4.68	0.34	5/16	0.025	4.50
4-7/16 4-1/2	5.23	10.87	5.59	8.75	12.38	7/8	1.38	1.50	8.76	6.35	4.80	0.36	3/8	0.036	5.00

"P" DIMENSION IS FOR NON-EXPANSION ONLY

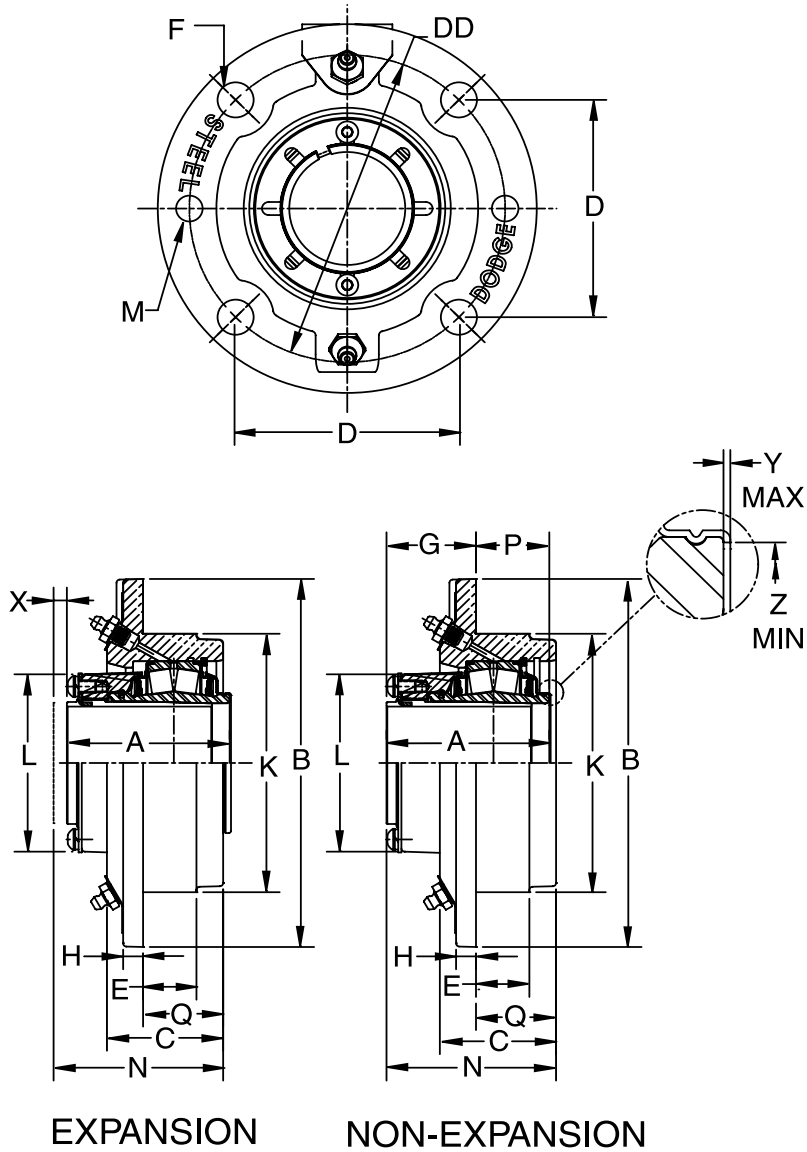
"A" & "P" DIMENSIONS DO NOT INCLUDE "Y" DIMENSION

# REFERENCE DIMENSION ONLY

# DIMENSIONS



## Steel IMPERIAL-HD Piloted Flange



# DIMENSIONS



## Steel IMPERIAL-HD Piloted Flange

Shaft Size	Dodge Non-Expansion		Dodge Expansion	
	Dodge Part No.	Description	Dodge Part No.	Description
1-1/8	<b>072276</b>	SFC-IP-102R	<b>072307</b>	SFC-IP-102RE
1-3/16	<b>072277</b>	SFC-IP-103R	<b>072308</b>	SFC-IP-103RE
1-1/4	<b>072278</b>	SFC-IP-104R	<b>072309</b>	SFC-IP-104RE
1-3/8	<b>072279</b>	SFC-IP-106R	<b>072310</b>	SFC-IP-106RE
1-7/16	<b>072280</b>	SFC-IP-107R	<b>072311</b>	SFC-IP-107RE
1-1/2	<b>072281</b>	SFC-IP-108R	<b>072312</b>	SFC-IP-108RE
1-5/8	<b>072282</b>	SFC-IP-110R	<b>072313</b>	SFC-IP-110RE
1-11/16	<b>072283</b>	SFC-IP-111R	<b>072314</b>	SFC-IP-111RE
1-3/4	<b>072284</b>	SFC-IP-112R	<b>072315</b>	SFC-IP-112RE
1-7/8	<b>072285</b>	SFC-IP-114R	<b>072316</b>	SFC-IP-114RE
1-15/16	<b>072286</b>	SFC-IP-115R	<b>072317</b>	SFC-IP-115RE
2	<b>072287</b>	SFC-IP-200R	<b>072318</b>	SFC-IP-200RE
2-3/16	<b>072288</b>	SFC-IP-203R	<b>072319</b>	SFC-IP-203RE
2-1/4	<b>072289</b>	SFC-IP-204R	<b>072320</b>	SFC-IP-204RE
2-7/16	<b>072290</b>	SFC-IP-207R	<b>072321</b>	SFC-IP-207RE
2-1/2	<b>072291</b>	SFC-IP-208R	<b>072322</b>	SFC-IP-208RE
2-11/16	<b>072292</b>	SFC-IP-211R	<b>072323</b>	SFC-IP-211RE
2-3/4	<b>072293</b>	SFC-IP-212R	<b>072324</b>	SFC-IP-212RE
2-15/16	<b>072294</b>	SFC-IP-215R	<b>072325</b>	SFC-IP-215RE
3	<b>072295</b>	SFC-IP-300R	<b>072326</b>	SFC-IP-300RE
3-3/16	<b>072296</b>	SFC-IP-303R	<b>072327</b>	SFC-IP-303RE
3-1/4	<b>072297</b>	SFC-IP-304R	<b>072328</b>	SFC-IP-304RE
3-7/16	<b>072298</b>	SFC-IP-307R	<b>072329</b>	SFC-IP-307RE
3-1/2	<b>072299</b>	SFC-IP-308R	<b>072330</b>	SFC-IP-308RE
3-11/16	<b>072300</b>	SFC-IP-311R	<b>072331</b>	SFC-IP-311RE
3-15/16	<b>072301</b>	SFC-IP-315R	<b>072332</b>	SFC-IP-315RE
4	<b>072302</b>	SFC-IP-400R	<b>072333</b>	SFC-IP-400RE
4-7/16	<b>072303</b>	SFC-IP-407R	<b>072334</b>	SFC-IP-407RE
4-1/2	<b>072304</b>	SFC-IP-408R	<b>072335</b>	SFC-IP-408RE
4-15/16	<b>072305</b>	SFC-IP-415R	<b>072336</b>	SFC-IP-415RE
5	<b>072306</b>	SFC-IP-500R	<b>072337</b>	SFC-IP-500RE

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

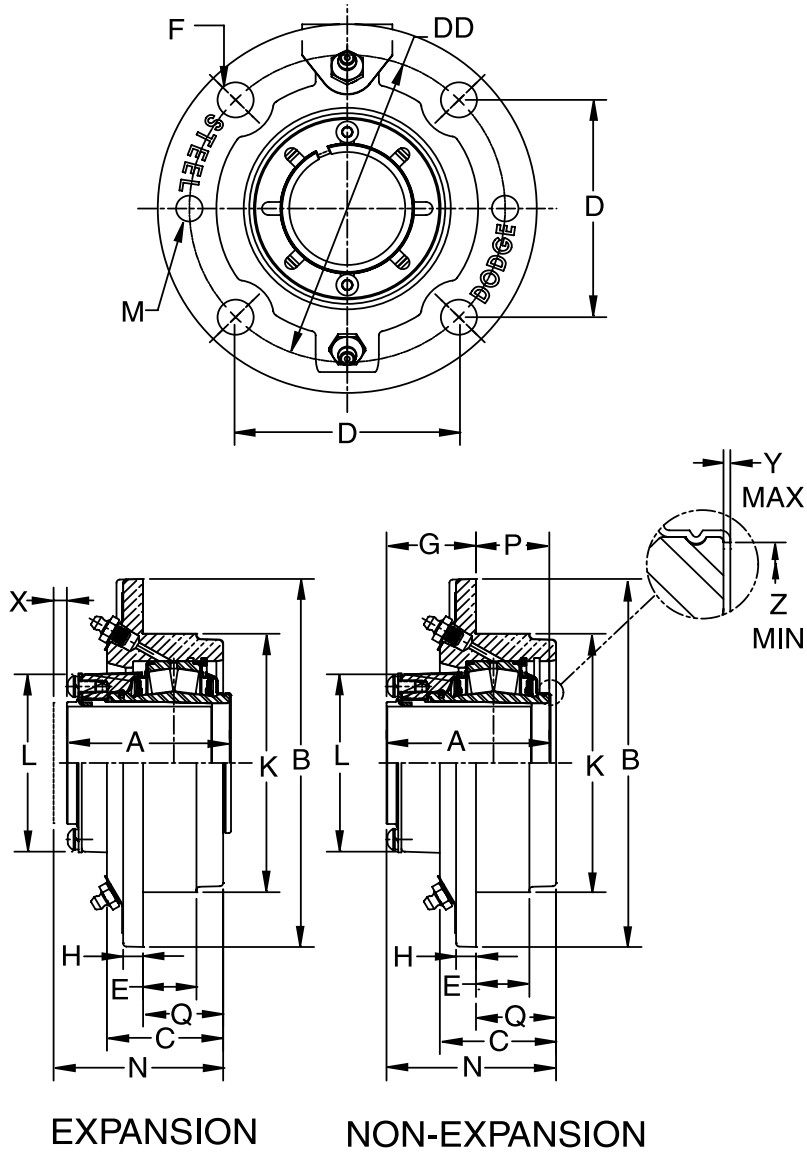
Type E

SAFS

# DIMENSIONS



## Steel IMPERIAL-HD Piloted Flange



# DIMENSIONS



## Steel IMPERIAL-HD Piloted Flange

SHAFT SIZE	A	B	C	D	DD	E	F BOLT DIA	G	H	K*	L	M	N	P	Q	X TOTAL EXP	Y	Z
1-1/8 1-3/16 1-1/4 1-3/8 1-7/16 1-1/2	2.63	5.25	1.94	3.09	4.38	—	7/16	1.61	0.50	3.625	2.72	7/16-14	2.78	1.02	1.17	3/16	0.020	1.80
1-5/8 1-11/16 1-3/4 1-7/8	2.81	6.13	2.19	3.63	5.13	1.33	7/16	1.44	0.31	4.250	3.00	7/16-14	3.05	1.37	1.61	1/4	0.020	2.08
1-15/16 2	2.86	6.38	2.15	3.80	5.38	1.03	7/16	1.63	0.50	4.500	3.28	7/16-14	3.05	1.23	1.42	1/4	0.020	2.30
2-3/16 2-1/4	3.03	7.13	2.42	4.25	6.00	1.02	1/2	1.80	0.56	5.000	3.50	1/2-13	3.34	1.23	1.55	1/4	0.025	2.59
2-7/16 2-1/2	3.43	7.63	2.66	4.60	6.50	1.25	1/2	1.86	0.50	5.500	3.80	1/2-13	3.61	1.55	1.75	1/4	0.025	2.94
2-11/16 2-3/4 2-15/16 3	3.50	8.75	2.83	5.30	7.50	1.44	5/8	1.89	0.63	6.375	4.20	5/8-11	3.77	1.62	1.88	1/4	0.025	3.47
3-3/16 3-1/4 3-7/16 3-1/2	4.17	10.25	3.31	6.10	8.63	1.34	3/4	2.46	0.88	7.375	5.00	3/4-10	4.34	1.71	1.88	1/4	0.025	4.05
3-11/16 3-15/16 4	4.70	10.88	3.73	6.63	9.375	2.25	3/4	2.58	1.00	8.125	5.44	3/4-10	4.83	2.89	2.25	5/16	0.025	4.50
4-7/16 4-1/2	5.23	13.50	4.31	5.86	11.75	1.90	3/4**	3.01	1.00	10.250	6.34	3/4-10	5.70	2.53	2.70	3/8	0.036	5.00
4-15/16 5	5.98	14.75	4.64	6.38	12.75	2.06	7/8**	2.98	1.03	11.000	7.54	7/8-9	6.08	2.88	3.10	3/8	0.036	5.84

'P' & 'G' ARE FOR NON-EXPANSION ONLY

'A' & 'P' DIMENSIONS DO NOT INCLUDE 'Y' DIMENSION

\* +0.000 / -0.002

\*\* 6 holes, equally spaced

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

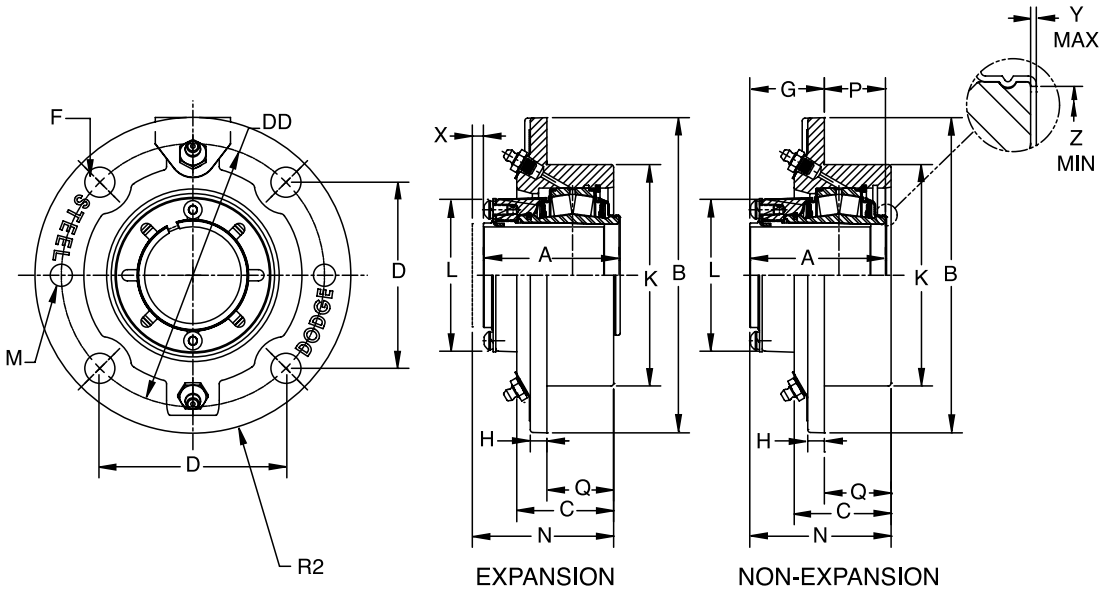
Type E

SAFS

# DIMENSIONS



## Steel IMPERIAL-HD Narrow Piloted Flange

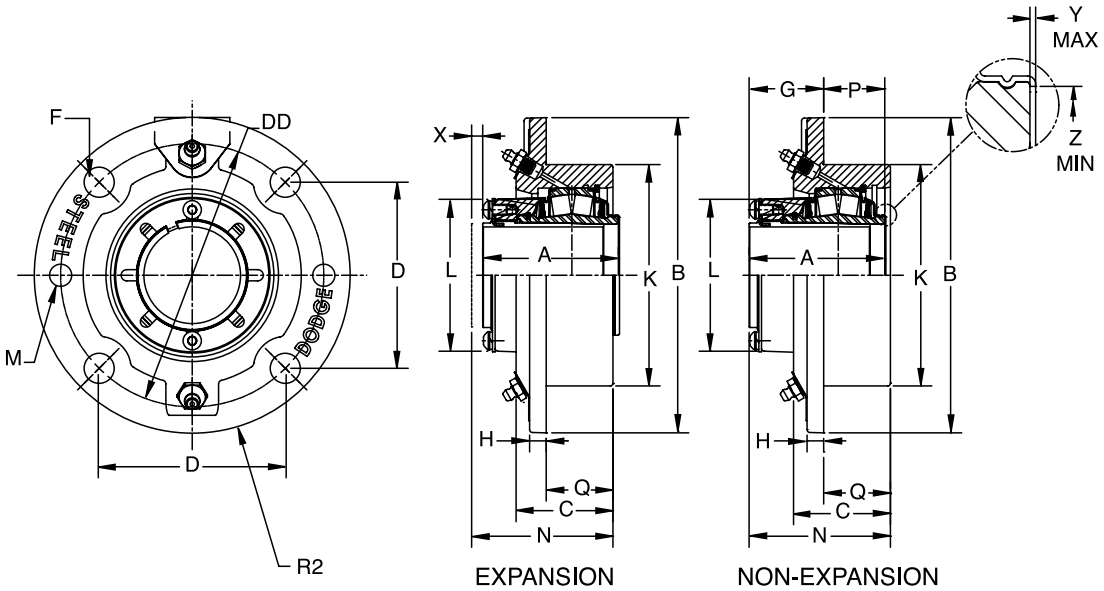


Shaft Size	Dodge Non-Expansion		Dodge Expansion	
	Dodge Part No.	Description	Dodge Part No.	Description
1-7/16	<b>072338</b>	SFCN-IP-107R	<b>072362</b>	SFCN-IP-107RE
1-1/2	<b>072339</b>	SFCN-IP-108R	<b>072363</b>	SFCN-IP-108RE
1-11/16	<b>072340</b>	SFCN-IP-111R	<b>072364</b>	SFCN-IP-111RE
1-3/4	<b>072341</b>	SFCN-IP-112R	<b>072365</b>	SFCN-IP-112RE
1-15/16	<b>072342</b>	SFCN-IP-115R	<b>072366</b>	SFCN-IP-115RE
2	<b>072343</b>	SFCN-IP-200R	<b>072367</b>	SFCN-IP-200RE
2-3/16	<b>072344</b>	SFCN-IP-203R	<b>072368</b>	SFCN-IP-203RE
2-1/4	<b>072345</b>	SFCN-IP-204R	<b>072369</b>	SFCN-IP-204RE
2-7/16	<b>072346</b>	SFCN-IP-207R	<b>072370</b>	SFCN-IP-207RE
2-1/2	<b>072347</b>	SFCN-IP-208R	<b>072371</b>	SFCN-IP-208RE
2-11/16	<b>072348</b>	SFCN-IP-211R	<b>072372</b>	SFCN-IP-211RE
2-3/4	<b>072349</b>	SFCN-IP-212R	<b>072373</b>	SFCN-IP-212RE
2-15/16	<b>072350</b>	SFCN-IP-215R	<b>072374</b>	SFCN-IP-215RE
3	<b>072351</b>	SFCN-IP-300R	<b>072375</b>	SFCN-IP-300RE
3-3/16	<b>072352</b>	SFCN-IP-303R	<b>072376</b>	SFCN-IP-303RE
3-1/4	<b>072353</b>	SFCN-IP-304R	<b>072377</b>	SFCN-IP-304RE
3-7/16	<b>072354</b>	SFCN-IP-307R	<b>072378</b>	SFCN-IP-307RE
3-1/2	<b>072355</b>	SFCN-IP-308R	<b>072379</b>	SFCN-IP-308RE
3-11/16	<b>072356</b>	SFCN-IP-311R	<b>072380</b>	SFCN-IP-311RE
3-15/16	<b>072358</b>	SFCN-IP-315R	<b>072382</b>	SFCN-IP-315RE
4	<b>072359</b>	SFCN-IP-400R	<b>072383</b>	SFCN-IP-400RE
4-7/16	<b>072360</b>	SFCN-IP-407R	<b>072384</b>	SFCN-IP-407RE
4-1/2	<b>072361</b>	SFCN-IP-408R	<b>072385</b>	SFCN-IP-408RE

# DIMENSIONS



## Steel IMPERIAL-HD Narrow Piloted Flange



SHAFT SIZE	A	B	C	D	DD	F BOLT DTA.	G	H	K*	L	M	N	P	O	X TOTAL EXP	Y	Z
1-7/16 1-1/2	2.63	5.25	1.93	3.09	4.38	7/16	1.84	0.50	3.625	2.72	7/16 - 14	2.78	1.69	.94	3/16	0.020	1.80
1-11/16 1-3/4	2.81	6.13	1.95	3.62	5.13	7/16	2.09	0.50	4.250	3.00	7/16 - 14	2.97	1.93	.88	1/4	0.020	2.08
1-15/16 2	2.86	6.38	2.10	3.80	5.38	7/16	1.99	0.63	4.500	3.28	7/16 - 14	3.05	1.80	1.06	1/4	0.020	2.30
2-3/16 2-1/4	3.03	7.30	2.22	4.24	6.00	1/2	2.06	0.58	5.000	3.50	1/2 - 13	3.19	1.90	1.13	1/4	0.020	2.59
2-7/16 2-1/2	3.42	7.63	2.35	4.60	6.50	1/2	2.40	0.70	5.500	3.80	1/2 - 13	3.53	2.30	1.13	1/4	0.025	2.94
2-11/16 2-3/4 2-15/16 3	3.50	8.75	2.47	5.30	7.50	5/8	2.35	0.81	6.375	4.20	5/8 - 11	3.60	1.15	1.25	1/4	0.025	3.47
3-3/16 3-1/4 3-7/16 3-1/2	4.17	10.34	2.79	6.10	8.63	3/4	2.88	1.00	7.375	5.00	3/4 - 10	4.19	2.53	1.31	1/4	0.025	4.05
3-11/16 3-15/16 4	4.70	10.88	3.61	6.63	9.38	3/4	2.82	1.01	8.125	5.45	3/4 - 10	4.95	2.57	2.13	5/16	0.025	4.50
4-7/16 4-1/2	5.23	13.50	3.80	5.89	11.75	3/4**	3.51	1.01	10.250	6.34	3/4 - 10	5.41	1.72	1.90	3/8	0.036	5.00

'P' & 'G' ARE FOR NON-EXPANSION ONLY

'A' & 'P' DIMENSIONS DO NOT INCLUDE 'Y' DIMENSION

\* +0.000 / -0.002

\*\* 6 holes, equally spaced

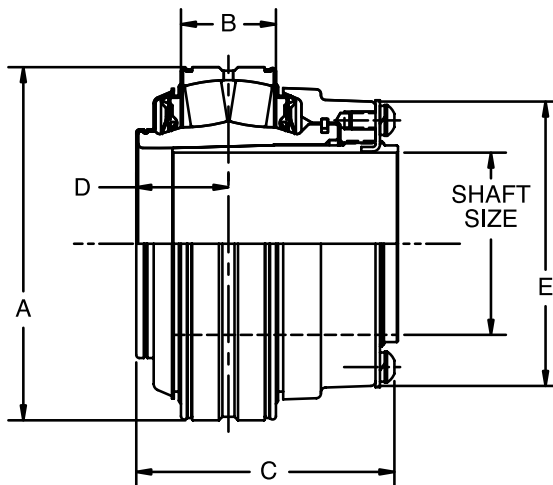


# DIMENSIONS

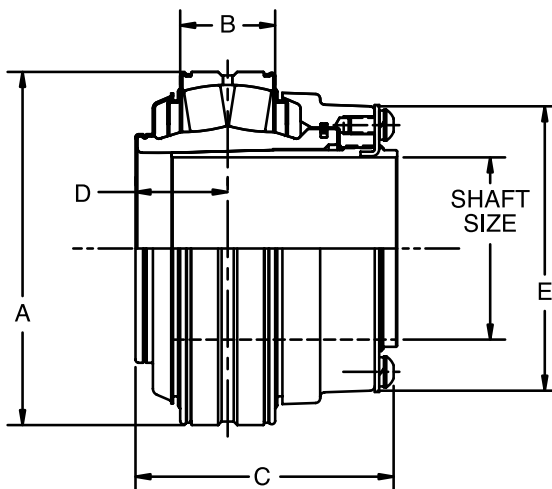


## IMPERIAL Bearing Insert - For IP and IP-E Housings 1-1/8 THRU 2-1/4 INCH

### TRIDENT SEAL



### LABYRINTH SEAL



# DIMENSIONS



## IMPERIAL Bearing Insert - For IP and IP-E Housings 1-1/8 THRU 2-1/4 INCH

Bearing Series	Shaft Size - Inch	TRIDENT Seal		Labyrinth Seal	
		Part Number	Part Name	Part Number	Part Name
22208	1-1/8	<b>070880</b>	INS-IP-102R	<b>070912</b>	INS-IP-102L
	1-3/16	<b>070881</b>	INS-IP-103R	<b>070913</b>	INS-IP-103L
	1-1/4	<b>070882</b>	INS-IP-104R	<b>070914</b>	INS-IP-104L
	1-3/8	<b>070883</b>	INS-IP-106R	<b>070915</b>	INS-IP-106L
	1-7/16	<b>070884</b>	INS-IP-107R	<b>070916</b>	INS-IP-107L
	1-1/2	<b>070885</b>	INS-IP-108R	<b>070917</b>	INS-IP-108L
22209	1-1/2 *	<b>071590</b>	INS-IPE-108R	<b>071593</b>	INS-IPE-108L
	1-5/8	<b>070886</b>	INS-IP-110R	<b>070918</b>	INS-IP-110L
	1-11/16	<b>070887</b>	INS-IP-111R	<b>070919</b>	INS-IP-111L
	1-3/4	<b>070888</b>	INS-IP-112R	<b>070920</b>	INS-IP-112L
22210	1-3/4 *	<b>071591</b>	INS-IPE-112R	<b>071594</b>	INS-IPE-112L
	1-7/8	<b>070889</b>	INS-IP-114R	<b>070921</b>	INS-IP-114L
	1-15/16	<b>070890</b>	INS-IP-115R	<b>070922</b>	INS-IP-115L
	2	<b>070891</b>	INS-IP-200R	<b>070923</b>	INS-IP-200L
22211	2-3/16	<b>070892</b>	INS-IP-203R	<b>070924</b>	INS-IP-203L
	2-1/4	<b>070893</b>	INS-IP-204R	<b>070925</b>	INS-IP-204L

\* Inserts for IMPERIAL-Type E dimensioned housings only  
Metric shaft sizes available upon request

SHAFT SIZE	A	B	C	D	E
1-1/8	3.1496	61/64	2-5/8	0.970	2-23/32
1-3/16					
1-1/4					
1-3/8					
1-7/16					
1-1/2					
1-1/2 *	3.3465	61/64	2-13/16	0.954	3
1-5/8					
1-11/16					
1-3/4					
1-3/4 *	3.5433	61/64	2-55/64	0.977	3-9/32
1-7/8					
1-15/16					
2					
2-3/16	3.9370	1-3/64	3-1/32	1.050	3-1/2
2-1/4					

\* Inserts for IMPERIAL-Type E dimensioned housings only

Imperial+HD and S2000+HD

Imperial+HD

S2000+HD

Type E

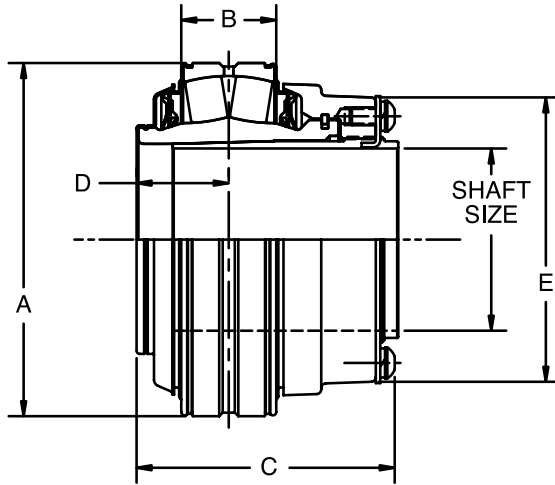
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# DIMENSIONS

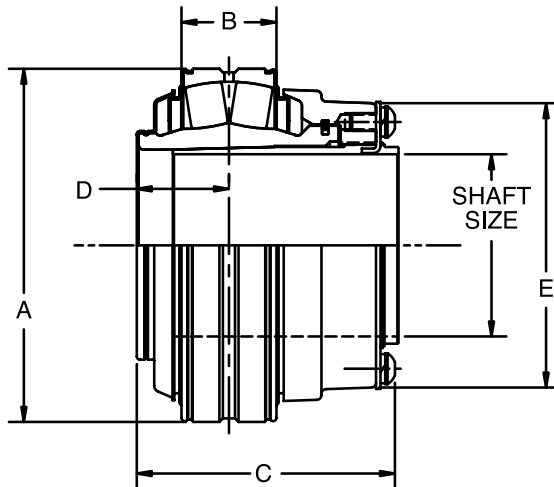


## IMPERIAL Bearing Insert - For IP and IP-E Housings 2-3/8 THRU 5 INCH

TRIDENT SEAL



LABYRINTH SEAL



# DIMENSIONS



## IMPERIAL Bearing Insert - For IP and IP-E Housings 2-3/8 THRU 5 INCH

Bearing Series	Shaft Size	TRIDENT Seal		Labyrinth Seal	
		Part Number	Part Name	Part Number	Part Name
22213	2-1/4 *	<b>071592</b>	INS-IPE-204R	<b>071595</b>	INS-IPE-204L
	2-3/8	<b>070894</b>	INS-IP-206R	<b>070926</b>	INS-IP-206L
	2-7/16	<b>070895</b>	INS-IP-207R	<b>070927</b>	INS-IP-207L
	2-1/2	<b>070896</b>	INS-IP-208R	<b>070928</b>	INS-IP-208L
22215	2-11/16	<b>070897</b>	INS-IP-211R	<b>070929</b>	INS-IP-211L
	2-3/4	<b>070898</b>	INS-IP-212R	<b>070930</b>	INS-IP-212L
	2-15/16	<b>070899</b>	INS-IP-215R	<b>070931</b>	INS-IP-215L
	3	<b>070900</b>	INS-IP-300R	<b>070932</b>	INS-IP-300L
22218	3-3/16	<b>070901</b>	INS-IP-303R	<b>070933</b>	INS-IP-303L
	3-1/4	<b>070902</b>	INS-IP-304R	<b>070934</b>	INS-IP-304L
	3-7/16	<b>070903</b>	INS-IP-307R	<b>070935</b>	INS-IP-307L
	3-1/2	<b>070904</b>	INS-IP-308R	<b>070936</b>	INS-IP-308L
22220	3-11/16	<b>070905</b>	INS-IP-311R	<b>070937</b>	INS-IP-311L
	3-15/16	<b>070906</b>	INS-IP-315R	<b>070938</b>	INS-IP-315L
	4	<b>070907</b>	INS-IP-400R	<b>070939</b>	INS-IP-400L
22222	4-7/16	<b>070908</b>	INS-IP-407R	<b>070940</b>	INS-IP-407L
	4-1/2	<b>070909</b>	INS-IP-408R	<b>070941</b>	INS-IP-408L
22226	4-15/16	<b>070910</b>	INS-IP-415R	<b>070942</b>	INS-IP-415L
	5	<b>070911</b>	INS-IP-500R	<b>070943</b>	INS-IP-500L

\* Insert for IMPERIAL-Type E dimensioned housings only  
Metric shaft sizes available upon request

SHAFT SIZE	A	B	C	D	E
2-1/4 *					
2-3/8	4.7241	1-9/32	3-27/64	1.208	3-7/8
2-7/16					
2-1/2					
2-11/16					
2-3/4	5.1181	1-9/32	3-1/2	1.219	4-9/32
2-15/16					
3					
3-3/16					
3-1/4	6.2992	1-5/8	4-11/64	1.483	5
3-7/16					
3-1/2					
3-11/16					
3-15/16	7.0866	1-7/8	4-45/64	1.646	5-9/16
4					
4-7/16					
4-1/2	7.8740	2-5/32	5-15/64	1.935	6-7/16
4-15/16					
5	9.0551	2-19/32	5-63/64	2.107	7-5/8

\* Insert for IMPERIAL-Type E dimensioned housings only

# DIMENSIONS



## Steel IMPERIAL Open End Covers



Shaft Size	Front End				Backside			
	IMPERIAL		E-IMPERIAL		IMPERIAL		E-IMPERIAL	
	Dodge Part No.	Description	Dodge Part No.	Description	Dodge Part No.	Description	Dodge Part No.	Description
1-1/8	<b>070160</b>	IPECO-08-102	<b>070160</b>	IPECO-08-102	<b>072500</b>	S2IPBECO-08-102	<b>072500</b>	S2IPBECO-08-102
1-3/16	<b>070161</b>	IPECO-08-103	<b>070161</b>	IPECO-08-103	<b>072501</b>	S2IPBECO-08-103	<b>072501</b>	S2IPBECO-08-103
1-1/4	<b>070162</b>	IPECO-08-104	<b>070162</b>	IPECO-08-104	<b>072502</b>	S2IPBECO-08-104	<b>072502</b>	S2IPBECO-08-104
1-3/8	<b>070163</b>	IPECO-08-106	<b>070163</b>	IPECO-08-106	<b>072503</b>	S2IPBECO-08-106	<b>072503</b>	S2IPBECO-08-106
1-7/16	<b>070164</b>	IPECO-08-107	<b>070164</b>	IPECO-08-107	<b>072504</b>	S2IPBECO-08-107	<b>072504</b>	S2IPBECO-08-107
1-1/2	<b>070165</b>	IPECO-08-108	<b>070166</b>	IPECO-09-108	<b>072505</b>	S2IPBECO-08-108	<b>072506</b>	S2IPBECO-09-108
1-5/8	<b>070167</b>	IPECO-09-110	<b>070167</b>	IPECO-09-110	<b>072507</b>	S2IPBECO-09-110	<b>072507</b>	S2IPBECO-09-110
1-11/16	<b>070168</b>	IPECO-09-111	<b>070168</b>	IPECO-09-111	<b>072508</b>	S2IPBECO-09-111	<b>072508</b>	S2IPBECO-09-111
1-3/4	<b>070169</b>	IPECO-09-112	<b>070170</b>	IPECO-10-112	<b>072509</b>	S2IPBECO-09-112	<b>072510</b>	S2IPBECO-10-112
1-7/8	<b>070171</b>	IPECO-10-114	<b>070171</b>	IPECO-10-114	<b>072511</b>	S2IPBECO-10-114	<b>072511</b>	S2IPBECO-10-114
1-15/16	<b>070172</b>	IPECO-10-115	<b>070172</b>	IPECO-10-115	<b>072512</b>	S2IPBECO-10-115	<b>072512</b>	S2IPBECO-10-115
2	<b>070173</b>	IPECO-10-200	<b>070173</b>	IPECO-10-200	<b>072513</b>	S2IPBECO-10-200	<b>072513</b>	S2IPBECO-10-200
2-3/16	<b>070174</b>	IPECO-11-203	<b>070174</b>	IPECO-11-203	<b>072514</b>	S2IPBECO-11-203	<b>072514</b>	S2IPBECO-11-203
2-1/4	<b>070175</b>	IPECO-11-204	<b>070176</b>	S2IPECO-13-204	<b>072515</b>	S2IPBECO-11-204	<b>072516</b>	S2IPBECO-13-204
2-3/8	<b>070177</b>	S2IPECO-13-206	<b>070177</b>	S2IPECO-13-206	<b>072517</b>	S2IPBECO-13-206	<b>072517</b>	S2IPBECO-13-206
2-7/16	<b>070178</b>	S2IPECO-13-207	<b>070178</b>	S2IPECO-13-207	<b>072518</b>	S2IPBECO-13-207	<b>072518</b>	S2IPBECO-13-207
2-1/2	<b>070179</b>	S2IPECO-13-208	<b>070179</b>	S2IPECO-13-208	<b>072519</b>	S2IPBECO-13-208	<b>072519</b>	S2IPBECO-13-208
2-11/16	<b>070180</b>	IPECO-15-211	<b>070180</b>	IPECO-15-211	<b>072520</b>	S2IPBECO-15-211	<b>072520</b>	S2IPBECO-15-211
2-3/4	<b>070181</b>	IPECO-15-212	<b>070181</b>	IPECO-15-212	<b>072521</b>	S2IPBECO-15-212	<b>072521</b>	S2IPBECO-15-212
2-15/16	<b>070182</b>	IPECO-15-215	<b>070182</b>	IPECO-15-215	<b>072522</b>	S2IPBECO-15-215	<b>072522</b>	S2IPBECO-15-215
3	<b>070183</b>	IPECO-15-300	<b>070183</b>	IPECO-15-300	<b>072523</b>	S2IPBECO-15-300	<b>072523</b>	S2IPBECO-15-300
3-3/16	<b>070184</b>	S2IPECO-18-303	<b>070184</b>	S2IPECO-18-303	<b>072524</b>	S2IPBECO-18-303	<b>072524</b>	S2IPBECO-18-303
3-1/4	<b>070185</b>	S2IPECO-18-304	<b>070185</b>	S2IPECO-18-304	<b>072525</b>	S2IPBECO-18-304	<b>072525</b>	S2IPBECO-18-304
3-7/16	<b>070186</b>	S2IPECO-18-307	<b>070186</b>	S2IPECO-18-307	<b>072526</b>	S2IPBECO-18-307	<b>072526</b>	S2IPBECO-18-307
3-1/2	<b>070187</b>	S2IPECO-18-308	<b>070187</b>	S2IPECO-18-308	<b>072527</b>	S2IPBECO-18-308	<b>072527</b>	S2IPBECO-18-308
3-11/16	<b>070188</b>	S2IPECO-20-311	<b>070188</b>	S2IPECO-20-311	<b>072528</b>	S2IPBECO-20-311	<b>072528</b>	S2IPBECO-20-311
3-15/16	<b>070189</b>	S2IPECO-20-315	<b>070189</b>	S2IPECO-20-315	<b>072529</b>	S2IPBECO-20-315	<b>072529</b>	S2IPBECO-20-315
4	<b>070190</b>	S2IPECO-20-400	<b>070190</b>	S2IPECO-20-400	<b>072530</b>	S2IPBECO-20-400	<b>072530</b>	S2IPBECO-20-400
4-7/16	<b>070191</b>	S2IPECO-22-407	<b>070191</b>	S2IPECO-22-407	<b>072531</b>	IPBECO-22-407	<b>072531</b>	IPBECO-22-407
4-1/2	<b>070192</b>	S2IPECO-22-408	<b>070192</b>	S2IPECO-22-408	<b>072533</b>	IPBECO-22-408	<b>072533</b>	IPBECO-22-408
4-15/16	<b>070193</b>	S2IPECO-26-415	<b>070193</b>	S2IPECO-26-415	<b>072534</b>	IPBECO-26-415	<b>072534</b>	IPBECO-26-415
5	<b>070194</b>	S2IPECO-26-500	<b>070194</b>	S2IPECO-26-500	<b>072536</b>	IPBECO-26-500	<b>072536</b>	IPBECO-26-500

# DIMENSIONS



## Steel IMPERIAL Closed End Covers



Shaft Size	IMPERIAL		E-IMPERIAL	
	Dodge Part No.	Description	Dodge Part No.	Description
1-1/8 to 1-7/16	069960	IPEC08	069960	IPEC08
1-1/2	069960	IPEC08	069961	IPEC09
1-5/8 to 1-11/16	069961	IPEC09	069961	IPEC09
1-3/4	069961	IPEC09	069962	IPEC10
1-7/8 to 2	069962	IPEC10	069962	IPEC10
2-3/16	069963	IPEC11	069963	IPEC11
2-1/4	069963	IPEC11	069964	IPEC13
2-3/8 to 2-1/2	069964	IPEC13	069964	IPEC13
2-11/16 to 3	069965	IPEC15	069965	IPEC15
3-3/16 to 3-1/2	069966	IPEC18	069966	IPEC18
3-11/16 to 4	069967	S2IPEC20	069967	S2IPEC20
4-7/16 to 4-1/2	069968	S2IPEC22	069968	S2IPEC22
4-15/16 to 5	069969	S2IPEC26	069969	S2IPEC26

Imperial+HD and S2000+HD

Imperial+HD

S2000+HD

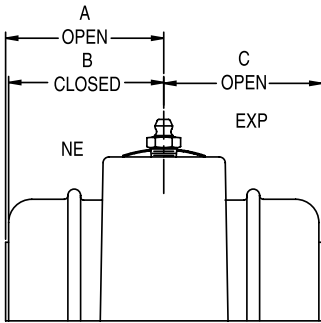
Type E

SAFS

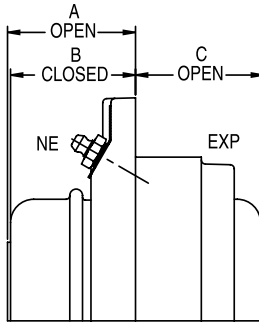
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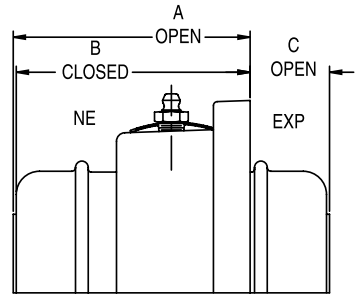
## IP End Cover



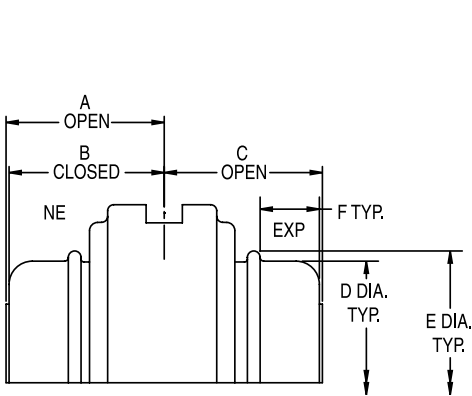
PILLOW BLOCK



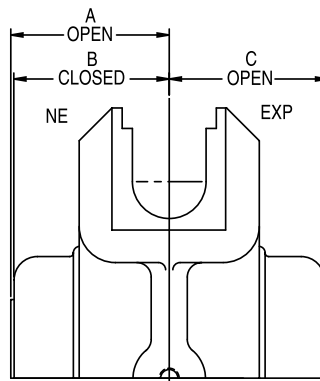
PILOTED FLANGE



FLANGE



WS TAKE-UP



TPHU TAKE-UP

# DIMENSIONS



## IP End Cover

	SHAFT SIZE	IP PILLOW BLOCK (2 BOLT)	IP PILLOW BLOCK (4 BOLT)	IP PILOTED FLANGE	IP ROUND FLANGE	IP SQUARE FLANGE	WIDE SLOT TAKE-UP
A OPEN	1-1/8	2.03		1.67	3.12	3.45	2.06
B CLOSED	THRU	1.97	N/A	1.61	3.06	3.39	2.00
C OPEN	1-1/2	2.10		2.46	0.99	0.99	2.10
A OPEN	1-5/8	2.22		1.83	3.33	4.07	2.19
B CLOSED	1-11/16	2.16	N/A	1.77	3.27	4.01	2.13
C OPEN	1-3/4	2.25		2.60	1.10	1.10	2.25
A OPEN	1-7/8	2.31		1.92	3.47	3.95	2.25
B CLOSED	1-15/16	2.25	N/A	1.86	3.41	3.89	2.19
C OPEN	2	2.45		2.83	1.28	1.28	2.45
A OPEN	2-3/16	2.47		2.00	3.69	4.53	2.42
B CLOSED	2-1/4	2.41	N/A	1.94	3.63	4.47	2.36
C OPEN		2.54		3.00	1.32	1.32	2.54
A OPEN	2-3/8	2.53	2.53	2.18	4.04	4.72	2.53
B CLOSED	2-7/16	2.44	2.44	2.09	3.95	4.63	2.44
C OPEN	2-1/2	2.77	2.77	3.24	1.37	1.37	2.77
A OPEN	2-11/16	2.65	2.65	2.29	4.18	5.06	2.70
B CLOSED	THRU	2.56	2.56	2.20	4.09	4.97	2.61
C OPEN	3	3.06	3.06	3.54	1.66	1.66	3.06
A OPEN	3-3/16	3.07	3.07	2.91		5.78	3.07
B CLOSED	THRU	2.94	2.94	2.78	N/A	5.65	2.94
C OPEN	3-1/2	3.31	3.31	3.59		1.63	3.31
A OPEN	3-11/16	3.49	3.49	3.32		7.17	3.52
B CLOSED	THRU	3.36	3.36	3.19	N/A	7.04	3.39
C OPEN	4	3.80	3.80	4.13		1.94	3.80
A OPEN	4-7/16		3.96	4.02			
B CLOSED	4-1/2	N/A	3.83	3.89	N/A	N/A	N/A
C OPEN			4.23	4.16			
A OPEN	4-15/16		4.49	4.24			
B CLOSED	5	N/A	4.36	4.11	N/A	N/A	N/A
C OPEN			4.69	4.91			

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

Type E

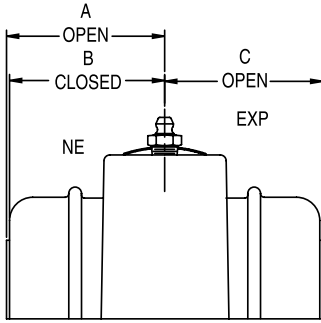
SAFS



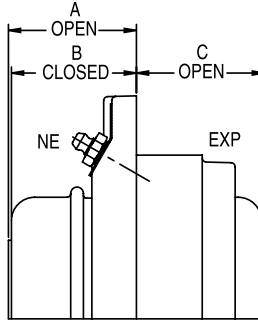
# DIMENSIONS



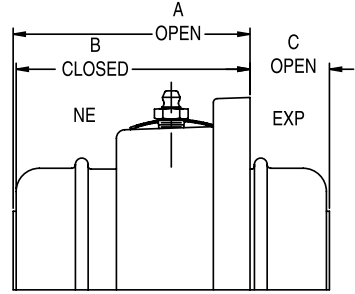
## IP End Cover



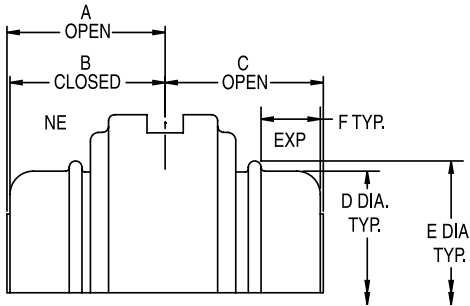
PILLOW BLOCK



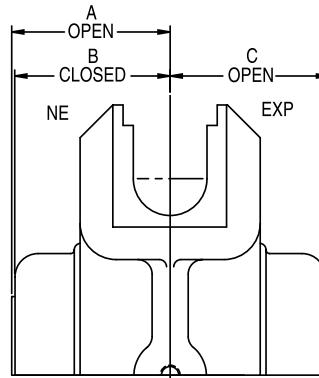
PILOTTED FLANGE



FLANGE



WS TAKE-UP



TPHU TAKE-UP

# DIMENSIONS



## IP - End Covers

	SHAFT SIZE	E-IP PILLOW BLOCK (2 BOLT)	E-IP PILLOW BLOCK (4 BOLT)	E-IP PILOTTED FLANGE	E-IP SQUARE FLANGE	D	E	F		SHAFT SIZE	ISAF PILLOW BLOCK (2 BOLT)	ISAF PILLOW BLOCK (4 BOLT)
A OPEN	1-3/8	2.03		1.67	3.45						2.04	
B CLOSED	THRU	1.97	N/A	1.61	3.39	2-15/16	3-3/16	3/4	A OPEN	1-7/16	1.98	N/A
C OPEN	1-7/16	2.07		2.46	1.20				B CLOSED		2.05	
A OPEN	1-1/2	2.22		1.83	4.07				C OPEN		2.20	
B CLOSED	1-5/8	2.16	N/A	1.77	4.01	3-17/64	3-25/64	7/8	A OPEN	1-11/16	2.14	N/A
C OPEN	1-11/16	2.22		2.60	1.20				B CLOSED		2.18	
A OPEN	1-3/4	2.31		1.92	3.95				C OPEN		2.35	
B CLOSED	THRU	2.25	N/A	1.86	3.89	3-33/64	3-39/64	1-1/64	A OPEN	1-15/16	2.29	N/A
C OPEN	2	2.45		2.83	1.38				B CLOSED		2.37	
A OPEN		2.47		2.00	4.53				C OPEN		2.46	
B CLOSED	2-3/16	2.41	N/A	1.94	4.47	3-49/64	3-61/64	1-1/32	A OPEN	2-3/16	2.40	N/A
C OPEN		2.54		3.00	1.43				B CLOSED		2.44	
A OPEN	2-1/4	2.53	2.53	2.18	4.72				C OPEN		2.74	2.74
B CLOSED	2-7/16	2.44	2.44	2.09	4.63	4-13/32	4-41/64	1	A OPEN	2-7/16	2.65	2.65
C OPEN	2-1/2	2.77	2.77	3.24	1.69				B CLOSED		2.69	2.69
A OPEN	2-11/16	2.65	2.63	2.29	5.06				C OPEN		2.83	2.83
B CLOSED	THRU	2.56	2.54	2.20	4.97	4-59/64	5-1/16	1-7/32	A OPEN	2-11/16	2.74	2.74
C OPEN	3	3.06	3.06	3.54	1.62				B CLOSED		2.94	2.94
A OPEN	3-3/16	3.07	3.04	2.91	5.78				C OPEN		2.83	2.83
B CLOSED	THRU	2.94	2.91	2.78	5.65	5-63/64	6-7/32	1-1/8	A OPEN	2-15/16	2.74	2.74
C OPEN	3-1/2	3.31	3.31	3.59	1.38				B CLOSED		2.98	2.98
A OPEN	3-15/16		3.80	3.31	7.17				C OPEN		3.31	3.31
B CLOSED	THRU	N/A	3.67	3.19	7.04	6-43/64	6-29/32	1-3/8	A OPEN	3-7/16	3.18	3.18
C OPEN	4		3.80	4.13	2.06				B CLOSED		3.26	3.26
A OPEN	4-7/16		3.91	3.85	7.62				C OPEN		3.70	3.70
B CLOSED	THRU	N/A	3.78	3.72	7.49	7-5/16	7-9/16	1-43/64	A OPEN	3-15/16	N/A	3.57
C OPEN	4-1/2		4.23	4.68	4.23				B CLOSED		3.68	3.68
A OPEN	4-15/16		4.46	4.08					C OPEN		4.05	4.05
B CLOSED	THRU	N/A	4.33	3.95	N/A	8-7/16	8-11/16	1-29/32	A OPEN	4-7/16	N/A	3.92
C OPEN	5		4.69	5.37					B CLOSED		4.42	4.42
									C OPEN	4-15/16	N/A	4.49

Imperial+HD and S2000+HD

Imperial+HD

S2000+HD

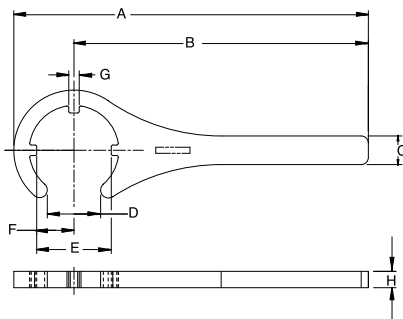
Type E

SAFS

# DIMENSIONS



## IMPERIAL SPANNER WRENCH

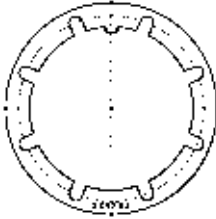


Shaft Size	Part Number	A	B	C	D	E	F	G	H
1-1/8 thru 1-1/2	<b>066629</b>	10.84	9.00	0.88	1.63	2.28	1.14	0.32	0.5
1-5/8 thru 1-3/4	<b>066630</b>	11.04	9.00	0.88	1.88	2.48	1.24	0.32	0.5
1-7/8 thru 2	<b>066631</b>	11.20	9.00	0.88	2.13	2.72	1.36	0.32	0.5
2-3/16 thru 2-1/4	<b>066632</b>	12.38	10.00	0.88	2.38	2.98	1.49	0.44	0.5
2-3/8 thru 2-1/2	<b>066633</b>	12.63	10.00	1.31	2.63	3.40	1.70	0.44	0.5
2-11/16 thru 3	<b>066634</b>	16.90	14.00	1.31	3.13	3.80	1.90	0.44	0.5
3-3/16 thru 3-1/2	<b>066635</b>	17.39	14.00	1.31	3.63	4.36	2.18	0.44	0.5
3-11/16 thru 4	<b>066636</b>	17.75	14.00	1.75	4.13	4.91	2.46	0.44	0.5
4-7/16 thru 4-1/2	<b>066637</b>	20.36	16.00	1.75	4.63	5.68	2.84	0.44	0.5
4-15/16 thru 5	<b>066638</b>	25.17	20.00	2.00	5.13	6.88	3.44	0.44	0.5
5-7/16 thru 5-1/2	<b>066642</b>	27.82	22.00	2.00	5.63	8.05	4.03	0.69	0.5
5-15/16 thru 6	<b>066643</b>	28.75	22.00	2.00	6.13	9.13	4.57	0.75	0.5
6-7/16 thru 7	<b>066644</b>	31.54	24.00	2.00	7.13	10.08	5.04	0.75	0.5

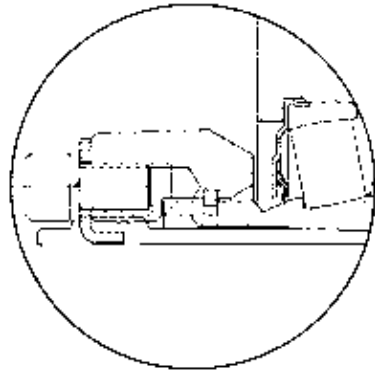
# DIMENSIONS



## IMPERIAL LOCKPLATE KIT



The Lockplate Kits consists of:  
Lockplate  
2 Socket Head Capscrews  
2 Lockwashers



Shaft Size Inch	Part Number
1-7/16	<b>048925</b>
1-11/16	<b>048926</b>
1-15/16 2 SM	<b>048927</b>
2 LG 2-3/16	<b>048928</b>
2-3/8 2-7/16	<b>048929</b>
2-11/16 2-3/4 2-15/16	<b>048930</b>
3-7/16	<b>048931</b>
3-15/16	<b>048932</b>
4-7/16	<b>048933</b>
4-15/16	<b>048934</b>

Imperial+HD and S2000+HD

Imperial+HD

S2000+HD

Type E

SAFS

## FEATURES/BENEFITS



### DODGE S2000-HD

DODGE S2000-HD mounted bearings feature proven DODGE S2000 insert technology deployed in steel housings designed specifically for harsh applications that demand superior housing strength. Major features include...

- S2000 set screw mounting system
- High capacity cast steel housing
- Same dimensions as cast iron S2000 products
- Also available in popular “Type E” dimensioned housings
- Proven, high capacity spherical rollers
- Effective sealing systems for tough applications
- Closed & shaft through end covers
- Sealed inserts that can be easily replaced in the field
- Field convertible between Expansion & Non-Expansion

#### S2000-HD

Two bolt pillow blocks – 1-3/8 to 3-7/16”

Four bolt pillow blocks – 2-7/16 to 4-15/16”

Four bolt square flange – 1-3/8 to 3-15/16”

#### “E” Dimensioned S2000-HD

Two bolt pillow blocks – 1-3/8 to 3-7/16”

Four bolt pillow blocks – 2-7/16 to 4-15/16”

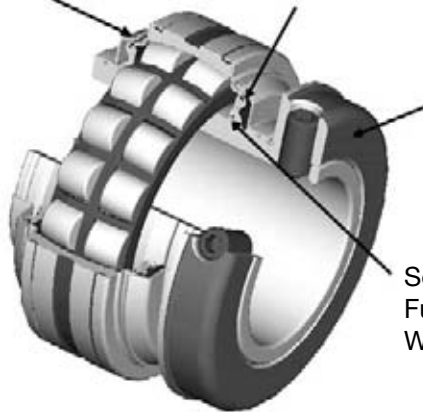
## S2000-HD

### Longer Bearing Life By Design . . .

High capacity double row spherical rollers offer up to 250% more  $L_{10}$  life than competitive brands

- Larger rollers
- More contact area
- Case-carburized inner rings resist cracking
- Static or dynamic misalignment up to  $\pm 1^\circ$
- Expansion capability up to 3/8" (9.5mm)

Corrosion Resistant  
Flinger Blocks  
Contaminants



Patented Triple Lip Nitrile  
Seal Resists Heat and  
Chemical Breakdown

Ease In Mounting  
And Dismounting  
Achieved Through  
Locking Collar

Seal/Land Maintains  
Full Seal Contact  
When Misaligned

### Installation Savings . . .

- Factory lubed, sealed and adjusted, ready to slip onto the shaft
- 65° Springlok collar mount for increased holding power versus 90° or 120°
- Field convertible from non-expansion to expansion and expansion to non-expansion
- Elongated pillow block bolt holes to facilitate mounting

# SPECIFICATIONS



## S2000-HD

### INCH

DODGE Spherical Bearings, including S2000 bearings, are general purpose, high-capacity, double-row spherical roller bearings. All are mounted in single piece precision machined housings. Bearings are mounted to shafts by means of set screw collars, with 65 degree set screw spacing for maximum clamping force.

Housings are available in a variety of standard configurations, including pillow blocks, flanges, and piloted flanges. TRIDENT triple lip contact seal and Labyrinth seals are available on S2000 bearings.

A-27 Grade 70-36 Class 1 Steel is the standard material used in Steel S2000 housings. Housing designs are available for survival in extreme harsh environments, through the use of special finishes and stainless hardware.



# SELECTION



## S2000-HD SPHERICAL ROLLER BEARINGS

DODGE Spherical 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 spherical 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.

**L<sub>10</sub> Hours Life** - The life which may be expected from at least 90% of a given group of bearings operating under identical conditions.

$$L_{10} \text{ Life, Hours} = \left( \frac{C}{P} \right)^{10/3} \times \left( \frac{16667}{\text{RPM}} \right)$$

Where: C = Dynamic Capacity  
(Table 1 on page 56) 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 to obtain a Modified 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 L<sub>10</sub> life. Spherical bearings require a radial load at least equal to the thrust load for proper operation. If the thrust load exceeds this limit, consult Application Engineering. Where substantial radial load is also present, it is advisable to calculate actual L<sub>10</sub>

life to assure that it meets the requirements. The effectiveness of the shaft attachment to carry thrust load depends on proper tightening of the set screws, 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	20-200	201 - 2000	Over 2000
RECOMMENDED THRUST LOAD	C/20	C/40	C/60

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 on page 56). Where the applied radial load (F<sub>R</sub>) 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 Table 3 on page 54 and 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 loads for flange units.

SHAFT TOLERANCES	
SHAFT SIZE	S2000
UP TO 1-1/2"	+.0000 -.0005"
1-9/16 TO 4"	+.000 -.001"
4-7/16 TO 5"	+.000 -.0015"

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

Type E

SAFS



# SELECTION



## S2000-HD

### BEARING 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 2 on page 57, find, under the RPM column, the equivalent radial load that equals or is slightly 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 = 4000 lbs.
  3. RPM = 1,000

At the intersection of the 1,020 RPM column and the 30,000 hours  $L_{10}$  life row, the equivalent radial load of 4092 lbs. exceeds the 4000 lbs. radial load for shaft size 2-7/16". A bearing with bore 2-7/16", or larger, may be used for this application.

### ALTERNATE METHOD A - SELECTING A BEARING FOR AN $L_{10}$ LIFE VALUE NOT SHOWN IN THE EASY SELECTION CHART.

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

$$C = \left( \frac{L_{10} \times \text{RPM}}{16667} \right)^{0.3} \times P$$

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

Since the  $L_{10}$ , RPM and  $P$  are known, solve for  $C$ . Select from the dynamic capacity column on Table 1 on page 56 the  $C$  value equal to or greater than the  $C$  value just calculated. The bore size on the far left represents the proper bore size selection. Check that the application RPM does not exceed the MAX. RPM from Table 1. Also check that the radial load does not exceed the Maximum Allowable Slip Fit Radial Load shown on Table 1 on page 56. If it does, a line-to-line 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 1 converts the applied thrust load and radial load 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 1 for allowable slip fit maximum load)
- $F_A$  = Thrust (axial) load, lbs.
- $e$  = Thrust load to radial load factor (Table 1)
- $X$  = Radial load factor (Table 1)
- $Y$  = Thrust load factor (Table 1)

★ 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](http://www.ptwizard.com) under the Product Selection area.



## S2000-HD

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 1 on page 52 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 2 on page 57.

### SELECTING BEARINGS SUPPORTING ONLY THRUST LOADS

Spherical Roller Bearings generally are not recommended for pure thrust load applications. However, they will perform satisfactorily under very light pure thrust loads. Consult DODGE Application Engineering (864-284-5700).

### SELECTING LUBRICATION

DODGE S2000 spherical roller bearings are lubricated at the factory with Exxon Ronex MP grease. Exxon Ronex MP grease is a superior industrial grease using a lithium complex thickener and highly refined base oil. This grease will adequately handle low and medium speeds with low and medium loads at normal temperatures as defined on Table 3 on page 59. 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 Unitized roller bearings is periodic relubrication at regular intervals as outlined in the appropriate instruction manuals.

### MISALIGNMENT CONSIDERATIONS

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 Unitized Spherical Roller Bearings. S2000 bearings are designed to allow a maximum of  $\pm 1^\circ$  of static and dynamic misalignment. To ensure good alignment, mounting surfaces must be checked for flatness and must lie in the same plane. When tightening base 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.

# SELECTION



## S2000-HD

Table 1: S2000-HD Spherical Roller Bearings

Shaft Size Inches	Basic Bearing Description	e	FA/FR < e		FA/FR > e		Max. Allowable Slip Fit Radial Load FR* Pounds	Dynamic Capacity (C) Pounds	Static Capacity Co	Maximum Speed **	
			X	Y	X	Y				Labyrinth RPM	TRIDENT Triple Lip RPM
1-3/8 1-7/16 1-1/2	22208	0.28	1.0	2.4	0.67	3.6	3,750	20,800	21,000	3,600	2,900
1-11/16 1-3/4	22209	0.26	1.0	2.6	0.67	3.9	3,750	20,800	22,000	3,360	2,460
1-15/16 2	22210	0.24	1.0	2.8	0.67	4.2	4,000	22,000	24,000	3,180	2,200
2-3/16	22211	0.23	1.0	2.9	0.67	4.3	4,860	27,000	29,000	2,700	1,950
2-7/16	22213	0.24	1.0	2.8	0.67	4.2	6,840	39,000	47,500	2,250	1,740
2-11/16 3	22215	0.22	1.0	3.1	0.67	4.6	7,500	41,500	53,000	2,040	1,490
3-7/16	22218	0.23	1.0	2.9	0.67	4.3	11,500	65,500	81,500	1,560	1,280
3-15/16	22220	0.24	1.0	2.8	0.67	4.2	14,400	83,000	104,000	1,320	1,075
4-7/16	22222	0.25	1.0	2.7	0.67	4.1	18,400	104,000	132,000	1,200	990
4-15/16	22226	0.26	1.0	2.6	0.67	3.9	25,700	146,000	196,000	1,020	870

\* If load exceeds the maximum allowable slip fit load, line- to-line to light press fit of shaft required. Maximum slip fit radial loads apply if recommended shaft sizes are used.

\*\* Maximum speed is dependent on load and ambient conditions, consult DODGE Engineering.



## S2000-HD

**Table 2: Easy Selection Table for S2000-HD Double Row Spherical Roller Bearings**

Shaft Size Inches	L10 Life Hours	Allowable Equivalent Radial Load Rating (lbs.) at Various Revolutions per Minute																
		50	100	150	250	500	870	1,020	1,200	1,320	1,560	1,750	2,040	2,250	2,700	3180	3360	3600
1-3/8 to 1-1/2	10,000	7,498	6,090	5,393	4,626	3,758	3,182	3,034	2,890	2,808	2,671	2,581	2,465	2,393	1,495	2,157	2,122	2,078
	30,000	5,393	4,380	3,878	3,327	2,703	2,289	2,182	2,078	2,020	1,921	1,856	1,773	1,721	1,495	1,552	1,526	1,495
	40,000	4,947	4,018	3,558	3,052	2,479	2,100	2,002	1,907	1,853	1,762	1,703	1,626	1,579	1,495	1,423	1,400	1,371
	60,000	4,380	3,558	3,150	2,703	2,195	1,859	1,773	1,688	1,641	1,560	1,508	1,440	1,398	1,324	1,260	1,240	1,214
	100,000	3,758	3,052	2,703	2,319	1,883	1,595	1,521	1,448	1,407	1,339	1,293	1,235	1,199	1,136	1,081	1,063	1,042
1-11/16 to 1-3/4	10,000	7,498	6,090	5,393	4,626	3,758	3,182	3,034	2,890	2,808	2,671	2,581	2,465	1,579	2,266	2,157	2,122	
	30,000	5,393	4,380	3,878	3,327	2,703	2,289	2,182	2,078	2,020	1,921	1,856	1,773	1,579	1,630	1,552	1,526	
	40,000	4,947	4,018	3,558	3,052	2,479	2,100	2,002	1,907	1,853	1,762	1,703	1,626	1,579	1,495	1,423	1,400	
	60,000	4,380	3,558	3,150	2,703	2,195	1,859	1,773	1,688	1,641	1,560	1,508	1,440	1,398	1,324	1,260	1,240	
	100,000	3,758	3,052	2,703	2,319	1,883	1,595	1,521	1,448	1,407	1,339	1,293	1,235	1,199	1,136	1,081	1,063	
1-15/16 to 2	10,000	7,930	6,441	5,704	4,893	3,975	3,366	3,209	3,057	2,970	2,825	2,729	1,720	2,531	2,396	2,282		
	30,000	5,704	4,633	4,102	3,519	2,859	2,421	2,308	2,198	2,136	2,032	1,963	1,720	1,820	1,724	1,641		
	40,000	5,232	4,250	3,763	3,228	2,622	2,221	2,117	2,017	1,960	1,864	1,801	1,720	1,670	1,581	1,505		
	60,000	4,633	3,763	3,332	2,859	2,322	1,966	1,875	1,786	1,735	1,650	1,594	1,523	1,479	1,400	1,333		
	100,000	3,975	3,228	2,859	2,452	1,992	1,687	1,608	1,532	1,489	1,416	1,368	1,306	1,269	1,201	1,144		
2-3/16	10,000	9,733	7,905	7,000	6,005	4,878	4,131	3,939	3,751	3,645	3,467	2,210	3,199	3,106	2,941			
	30,000	7,000	5,686	5,035	4,319	3,508	2,971	2,833	2,698	2,622	2,494	2,210	2,301	2,234	2,115			
	40,000	6,421	5,216	4,618	3,962	3,218	2,726	2,599	2,475	2,405	2,288	2,210	2,111	2,050	1,940			
	60,000	5,686	4,618	4,089	3,508	2,850	2,413	2,301	2,191	2,130	2,026	1,957	1,869	1,815	1,718			
	100,000	4,878	3,962	3,508	3,010	2,445	2,070	1,974	1,880	1,827	1,738	1,679	1,603	1,557	1,474			
2-7/16	10,000	14,058	11,419	10,111	8,674	7,046	5,967	5,689	5,418	5,266	5,008	4,838	4,621	4,487				
	30,000	10,111	8,213	7,272	6,239	5,068	4,292	4,092	3,897	3,787	3,602	3,480	3,324	3,227				
	40,000	9,275	7,534	6,671	5,723	4,649	3,937	3,753	3,575	3,474	3,304	3,192	3,049	2,960				
	60,000	8,213	6,671	5,907	5,068	4,116	3,486	3,324	3,165	3,076	2,926	2,827	2,700	2,621				
	100,000	7,046	5,723	5,068	4,348	3,531	2,991	2,851	2,716	2,639	2,510	2,425	2,316	2,249				
2-11/16 to 3	10,000	14,959	12,151	10,759	9,230	7,497	6,350	6,054	5,766	3,697	5,329	5,149	4,917					
	30,000	10,759	8,739	7,738	6,639	5,392	4,567	4,354	4,147	3,697	3,833	3,703	3,537					
	40,000	9,870	8,017	7,098	6,090	4,946	4,189	3,994	3,804	3,697	3,516	3,397	3,244					
	60,000	8,739	7,098	6,285	5,392	4,380	3,709	3,537	3,368	3,273	3,113	3,008	2,873					
	100,000	7,497	6,090	5,392	4,626	3,758	3,182	3,034	2,890	2,808	2,671	2,580	2,464					
3-7/16	10,000	23,611	19,178	16,981	14,569	11,833	10,022	9,555	6,004	8,844	8,411							
	30,000	16,981	13,793	12,213	10,478	8,511	7,208	6,872	6,004	6,360	6,050							
	40,000	15,577	12,653	11,203	9,612	7,807	6,612	6,304	6,004	5,835	5,549							
	60,000	13,793	11,203	9,920	8,511	6,913	5,855	5,582	5,316	5,166	4,914							
	100,000	11,833	9,612	8,511	7,302	5,931	5,023	4,789	4,561	4,432	4,216							

Only the labyrinth seal (L seal) may be used to the right of the heavy line.

In the light shaded area, a line-to-line to light press fit on the shaft is required.

For applications in the dark shaded area, the maximum load for the specific speed is shown. The load does not correspond to the  $L_{10}$  shown at the left.

# SELECTION



## S2000-HD

**Table 2: Easy Selection Table for S2000-HD Double Row Spherical Roller Bearings (continued)**

Shaft Size Inches	L10 Life Hours	Allowable Equivalent Radial Load Rating (lbs.) at Various Revolutions per Minute																
		50	100	150	250	500	870	1,020	1,200	1,320	1,560	1,750	2,040	2,250	2,700	3180	3360	3600
3-15/16	10,000	29,919	24,302	21,518	18,461	14,995	12,699	7,988	11,531	11,206								
	30,000	21,518	17,478	15,476	13,278	10,785	9,134	7,988	8,294	8,060								
	40,000	19,739	16,033	14,197	12,180	9,893	8,378	7,988	7,608	7,393								
	60,000	17,478	14,197	12,571	10,785	8,760	7,419	7,073	6,737	6,547								
	100,000	14,995	12,180	10,785	9,252	7,515	6,365	6,068	5,779	5,616								
4-7/16	10,000	37,489	30,450	26,963	23,132	18,789	10,498	15,171	14,449									
	30,000	26,963	21,901	19,392	16,637	13,513	10,498	10,911	10,392									
	40,000	24,733	20,090	17,789	15,261	12,396	10,498	10,009	9,533									
	60,000	21,901	17,789	15,751	13,513	10,976	9,296	8,863	8,441									
	100,000	18,789	15,261	13,513	11,593	9,417	7,975	7,603	7,242									
4-15/16	10,000	52,628	42,747	37,851	32,473	26,377	14,738	21,298										
	30,000	37,851	30,745	27,224	23,356	18,971	14,738	15,318										
	40,000	34,722	28,203	24,973	21,424	17,402	14,738	14,051										
	60,000	30,745	24,973	22,112	18,971	15,409	13,050	12,442										
	100,000	26,377	21,424	18,971	16,275	13,220	11,196	10,674										

Only the labyrinth seal (L seal) may be used to the right of the heavy line.

In the light shaded area, a line-to-line to light press fit on the shaft is required.

For applications in the dark shaded area, the maximum load for the specific speed is shown. The load does not correspond to the  $L_{10}$  shown at the left.

## S2000-HD

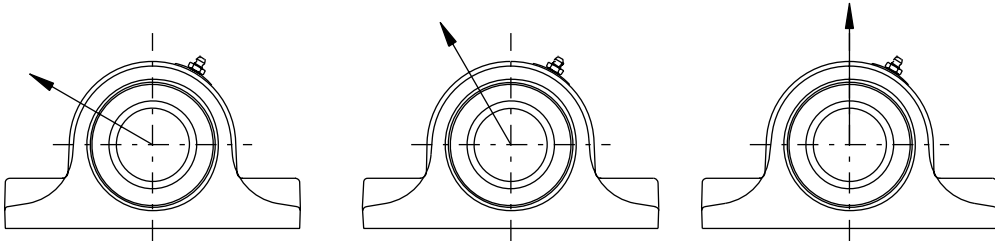
### Definition Of Operating Conditions For Unitized Spherical Roller Bearings

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 8% OF C (TABLE 1)
NORMAL LOAD	OVER 8% TO 18% OF C
HEAVY LOAD	OVER 18% OF C
	<b>C</b> = DYNAMIC CAPACITY
LOW TEMPERATURE	-20 to -100°F
MEDIUM TEMPERATURE	OVER 20°F TO 200°F
HIGH TEMPERATURE	OVER 200°F TO 250°F

# SELECTION



## S2000-HD



**Table 3: Steel Housed S2000 & Imperial - Housing Ratings\***

Shaft Sizes	Basic Bearing Description	Maximum Recommended Housing Loads, lb	
		P2B	P4B
1-1/8 1-3/16 1-1/4 1-3/8 1-7/16 1-1/2	22208	24400	
1-1/2** 1-5/8 1-11/16 1-3/4	22209	26400	
1-3/4** 1-15/16 2	22210	30200	
2-3/16 2-1/4	22211	35400	
2-1/4** 2-3/8 2-7/16 2-1/2	22213	51300	52800
2-11/16 2-3/4 2-15/16 3	22215	59700	60000
3-3/16 3-1/4 3-7/16 3-1/2	22218	90700	95500
3-11/16 3-15/16 4	22220		115000
4-7/16 4-1/2	22222		152100
4-15/16 5	22226		188200

\* It is important to note that the values listed above are housing fracture loads from various applied directions. These loads may exceed bearing, mounting bolt and/or shaft capacities. Applications subject to heavy housing loads, particularly shock loads, must adhere to the following procedures:

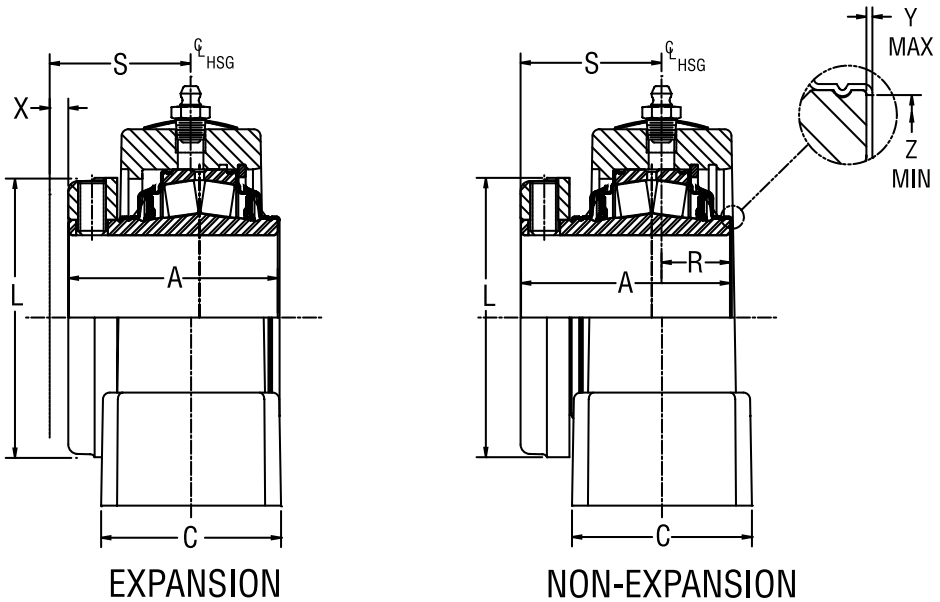
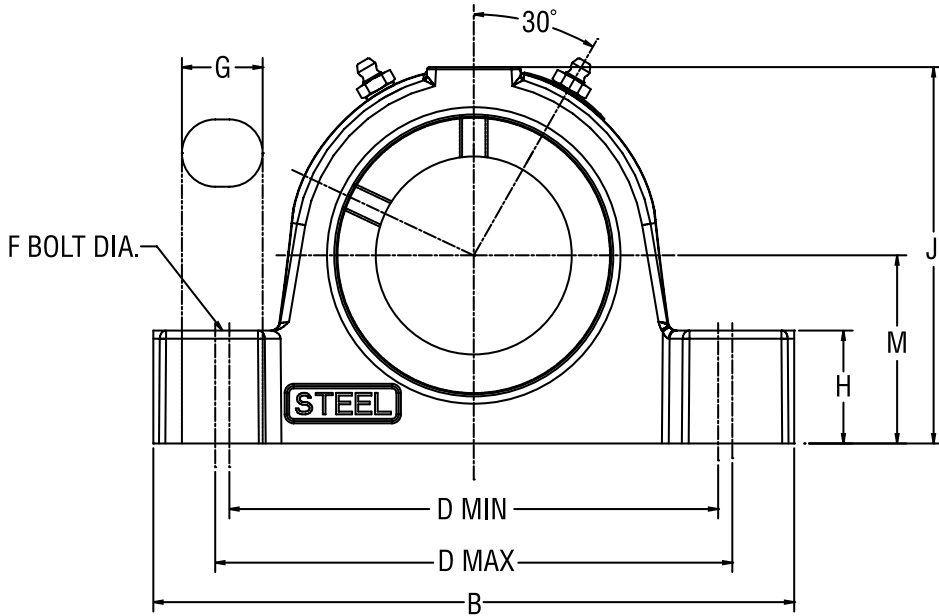
- (1) The pillow block base bolts must be of high strength (Grade 8) bolts and properly tightened to mounting structure.
- (2) Stop bars (shear strips) should be used against the plummer block where side loads are encountered.
- (3) In all cases where loads are heavy, the  $L_{10}$  life of the bearing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

\*\* Imperial - Type E Dimensional Housing

# DIMENSIONS



## Steel S2000-HD Pillow Block 2 Bolt



# DIMENSIONS



## Steel S2000-HD Pillow Block 2 Bolt

Shaft Size	Dodge Non-Expansion		Dodge Expansion	
	Part No.	Description	Part No.	Description
1-3/8	<b>071790</b>	SP2B-S2-106R	<b>071804</b>	SP2B-S2-106RE
1-7/16	<b>071791</b>	SP2B-S2-107R	<b>071805</b>	SP2B-S2-107RE
1-1/2	<b>071792</b>	SP2B-S2-108R	<b>071806</b>	SP2B-S2-108RE
1-11/16	<b>071793</b>	SP2B-S2-111R	<b>071807</b>	SP2B-S2-111RE
1-3/4	<b>071794</b>	SP2B-S2-112R	<b>071808</b>	SP2B-S2-112RE
1-15/16	<b>071795</b>	SP2B-S2-115R	<b>071809</b>	SP2B-S2-115RE
2	<b>071796</b>	SP2B-S2-200R	<b>071810</b>	SP2B-S2-200RE
2-3/16	<b>071797</b>	SP2B-S2-203R	<b>071811</b>	SP2B-S2-203RE
2-7/16	<b>071798</b>	SP2B-S2-207R	<b>071812</b>	SP2B-S2-207RE
2-11/16	<b>071799</b>	SP2B-S2-211R	<b>071813</b>	SP2B-S2-211RE
2-15/16	<b>071800</b>	SP2B-S2-215R	<b>071814</b>	SP2B-S2-215RE
3	<b>071801</b>	SP2B-S2-300R	<b>071815</b>	SP2B-S2-300RE
3-7/16	<b>071802</b>	SP2B-S2-307R	<b>071816</b>	SP2B-S2-307RE
3-15/16	<b>071803</b>	SP2B-S2-315R	<b>071817</b>	SP2B-S2-315RE

SHAFT SIZE	A	B	C	D		F BOLT DIA.	G	H	J	L	M	R	S	"X TOTAL EXP"	Y	Z
				MIN	MAX											
1-3/8																
1-7/16	2.53	6.88	2.25	4.69	6.00	1/2	1.28	1.13	3.88	2.75	1.875	0.86	1.67	3/16	0.020	1.80
1-1/2																
1-11/16	2.67	7.13	2.37	5.25	5.75	1/2	0.88	1.25	4.27	3.19	2.125	0.91	1.76	1/4	0.020	2.08
1-3/4																
1-15/16	2.84	8.38	2.44	5.93	6.36	5/8	0.97	1.31	4.56	3.44	2.25	0.89	1.95	1/4	0.020	2.30
2	2.94	8.88	2.50	6.50	7.00	5/8	1.04	1.50	5.00	3.75	2.50	0.99	1.95	1/4	0.025	2.59
2-3/16	3.00	9.25	2.90	6.81	7.43	5/8	1.07	1.63	5.60	4.06	2.75	1.17	2.03	1/4	0.025	2.94
2-7/16																
2-11/16	3.59	10.44	2.91	7.70	8.40	3/4	1.23	1.88	6.38	4.70	3.25	1.11	2.48	1/4	0.025	3.47
2-15/16																
3	4.02	13.00	3.41	9.25	10.75	7/8	1.75	2.25	7.50	5.50	3.75	1.43	2.61	1/4	0.025	4.05
3-7/16	4.47	14.25	3.89	10.04	12.6	1	2.40	2.44	8.37	6.00	4.25	1.59	2.91	5/16	0.025	4.50
3-15/16																

"A" & "R" DIMENSIONS DO NOT INCLUDE "Y" DIMENSION

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

Type E

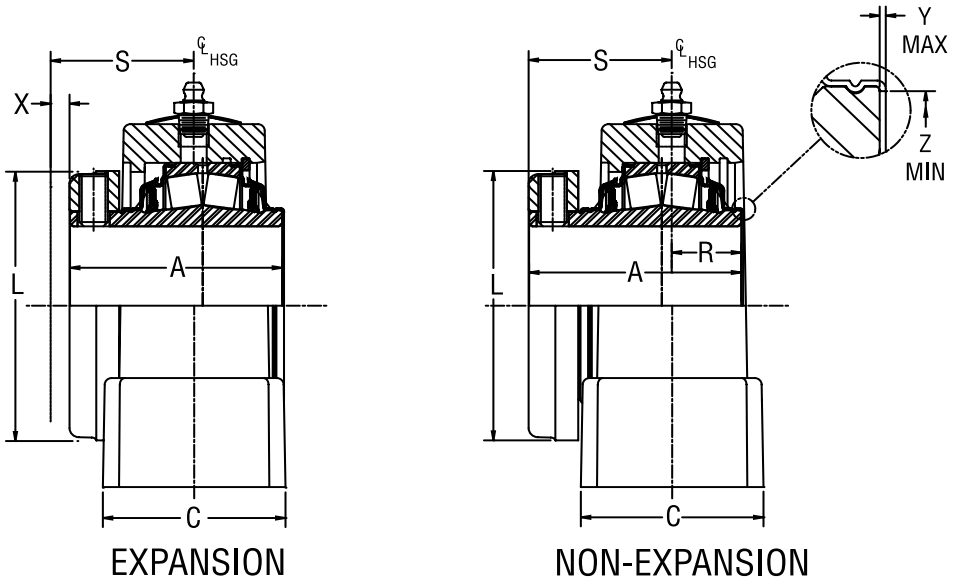
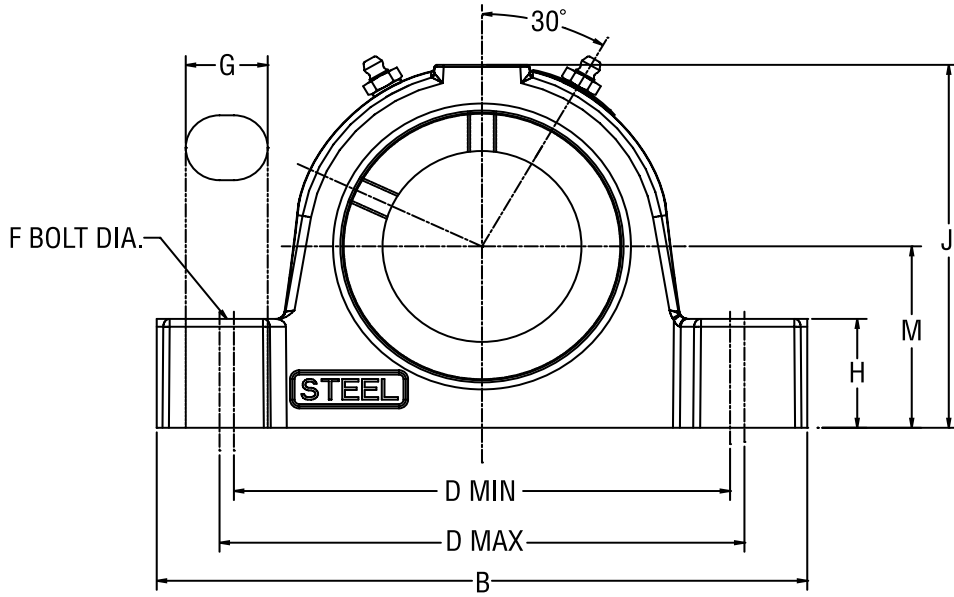
SAFS



# DIMENSIONS



## Steel S2000-HD Pillow Block 2 Bolt With Type E Dimensions



# DIMENSIONS



## Steel S2000-HD Pillow Block 2 Bolt With Type E Dimensions

Shaft Size	Dodge Non-Expansion		Dodge Expansion	
	Part No.	Description	Part No.	Description
1-3/8	<b>071940</b>	SEP2B-S2-106R	<b>071951</b>	SEP2B-S2-106RE
1-7/16	<b>071941</b>	SEP2B-S2-107R	<b>071952</b>	SEP2B-S2-107RE
1-11/16	<b>071942</b>	SEP2B-S2-111R	<b>071953</b>	SEP2B-S2-111RE
1-15/16	<b>071943</b>	SEP2B-S2-115R	<b>071954</b>	SEP2B-S2-115RE
2	<b>071944</b>	SEP2B-S2-200R	<b>071955</b>	SEP2B-S2-200RE
2-3/16	<b>071945</b>	SEP2B-S2-203R	<b>071956</b>	SEP2B-S2-203RE
2-7/16	<b>071946</b>	SEP2B-S2-207R	<b>071957</b>	SEP2B-S2-207RE
2-11/16	<b>071947</b>	SEP2B-S2-211R	<b>071958</b>	SEP2B-S2-211RE
2-15/16	<b>071948</b>	SEP2B-S2-215R	<b>071959</b>	SEP2B-S2-215RE
3	<b>071949</b>	SEP2B-S2-300R	<b>071960</b>	SEP2B-S2-300RE
3-7/16	<b>071950</b>	SEP2B-S2-307R	<b>071961</b>	SEP2B-S2-307RE

SHAFT SIZE	A	B#	C#	D		F BOLT DIA	G#	H#	J#	L	M	R	S	X TOTAL EXP	Y	Z	SET SCREW SIZE	SS TORQUE IN-LBS
				MIN	MAX													
1-3/8 1-7/16	2.53	7.37	2.12	5.83	5.88	1/2	0.75	1.13	3.85	2.55	1.875	1.03	1.50	5/32	0.020	1.80	5/16-18	165
1-11/16	2.67	7.88	2.38	6.13	6.38	1/2	0.75	1.25	4.25	3.01	2.125	0.96	1.69	3/16	0.020	2.08	5/16-18	165
1-15/16 2	2.84	8.87	2.49	6.88	7.12	5/8	0.88	1.31	4.47	3.26	2.250	1.08	1.76	7/32	0.020	2.30	3/8-16	290
2-3/16	2.94	9.62	2.56	7.63	7.88	5/8	0.88	1.50	5.00	3.50	2.500	1.06	1.88	1/4	0.025	2.60	3/8-16	290
2-7/16	3.20	10.50	2.87	8.38	8.62	5/8	0.88	1.63	5.71	3.86	2.750	1.20	2.00	1/4	0.025	2.95	3/8-16	290
2-11/16 2-15/16 3	3.59	12.00	2.99	9.31	9.69	3/4	1.07	1.88	6.32	4.61	3.125	1.34	2.25	1/4	0.025	3.47	1/2-13	620
3-7/16	4.01	14.00	3.49	10.81	11.19	7/8	1.19	2.25	7.69	5.50	3.750	1.51	2.50	1/4	0.025	4.05	1/2-13	620

"A" & "R" DIMENSIONS DO NOT INCLUDE "Y" DIMENSION

# REFERENCE DIMENSION ONLY

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

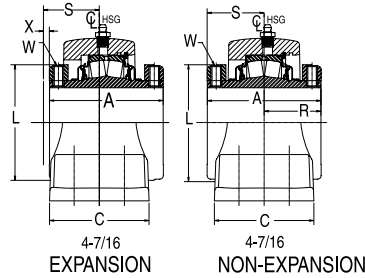
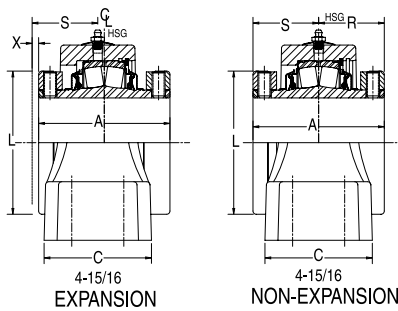
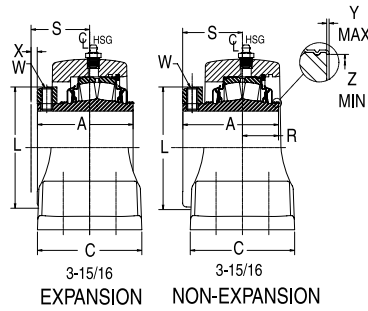
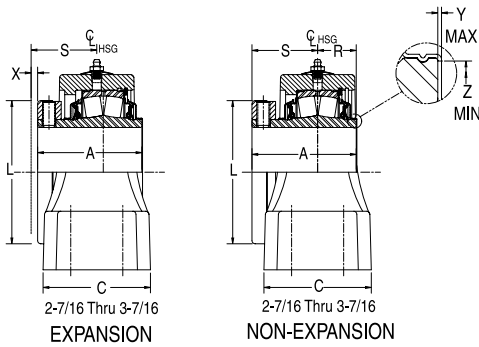
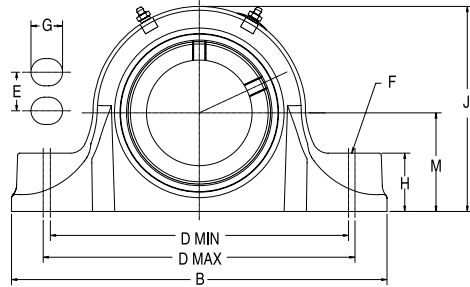
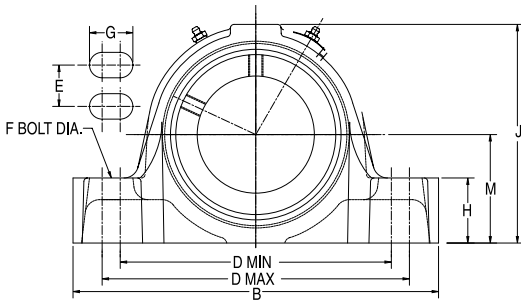
Type E

SAFS

# DIMENSIONS



## Steel S2000-HD Pillow Block 4 Bolt



# DIMENSIONS



## Steel S2000-HD Pillow Block 4 Bolt

Shaft Size	Dodge Non-Expansion		Dodge Expansion	
	Dodge Part No.	Description	Dodge Part No.	Description
2-7/16	<b>071821</b>	SP4B-S2-207R	<b>071832</b>	SP4B-S2-207RE
2-11/16	<b>071822</b>	SP4B-S2-211R	<b>071833</b>	SP4B-S2-211RE
2-15/16 3	<b>071823</b>	SP4B-S2-215R	<b>071834</b>	SP4B-S2-215RE
	<b>071824</b>	SP4B-S2-300R	<b>071835</b>	SP4B-S2-300RE
3-7/16	<b>071825</b>	SP4B-S2-307R	<b>071836</b>	SP4B-S2-307RE
3-15/16	<b>071826</b>	SP4B-S2-315R	<b>071837</b>	SP4B-S2-315RE
4-7/16	<b>071827</b>	SP4B-S2-407R	<b>071838</b>	SP4B-S2-407RE
4-15/16	<b>071828</b>	SP4B-S2-415R	<b>071839</b>	SP4B-S2-415RE

SHAFT SIZE	A	B	C	D MIN	D MAX	E	F BOLT DIA.	G	H	J	L	M	R	S	X TOTAL EXP	Y	Z
2-7/16	3.20	9.25	3.00	6.88	7.63	1.75	1/2	1.06	1.63	5.61	4.06	2.75	1.19	2.90	1/4	0.025	2.94
2-11/16																	
2-15/16 3	3.59	10.44	3.13	7.60	9.10	1.88	5/8	1.43	1.88	6.44	4.70	3.00	1.14	2.46	1/4	0.025	3.47
3-7/16	4.02	12.30	3.75	8.88	10.88	2.00	3/4	1.88	2.25	7.56	5.50	3.75	1.48	2.54	1/4	0.025	4.05
3-15/16	4.47	14.88	4.31	10.88	13.38	2.25	3/4	2.13	2.44	8.70	6.00	4.25	1.25	3.22	5/16	0.025	4.50
4-7/16	6.53	16.13	4.75	11.88	14.5	2.50	3/4	2.19	2.75	9.67	6.45	4.75	2.87	3.66	3/8	0.036	5.00
4-15/16	6.91	17.50	5.03	15.13	15.88	2.75	7/8	1.37	3.00	11.12	7.45	5.50	3.35	3.56	3/8	0.036	5.84

"A" & "R" DIMENSIONS DO NOT INCLUDE "Y" DIMENSION

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

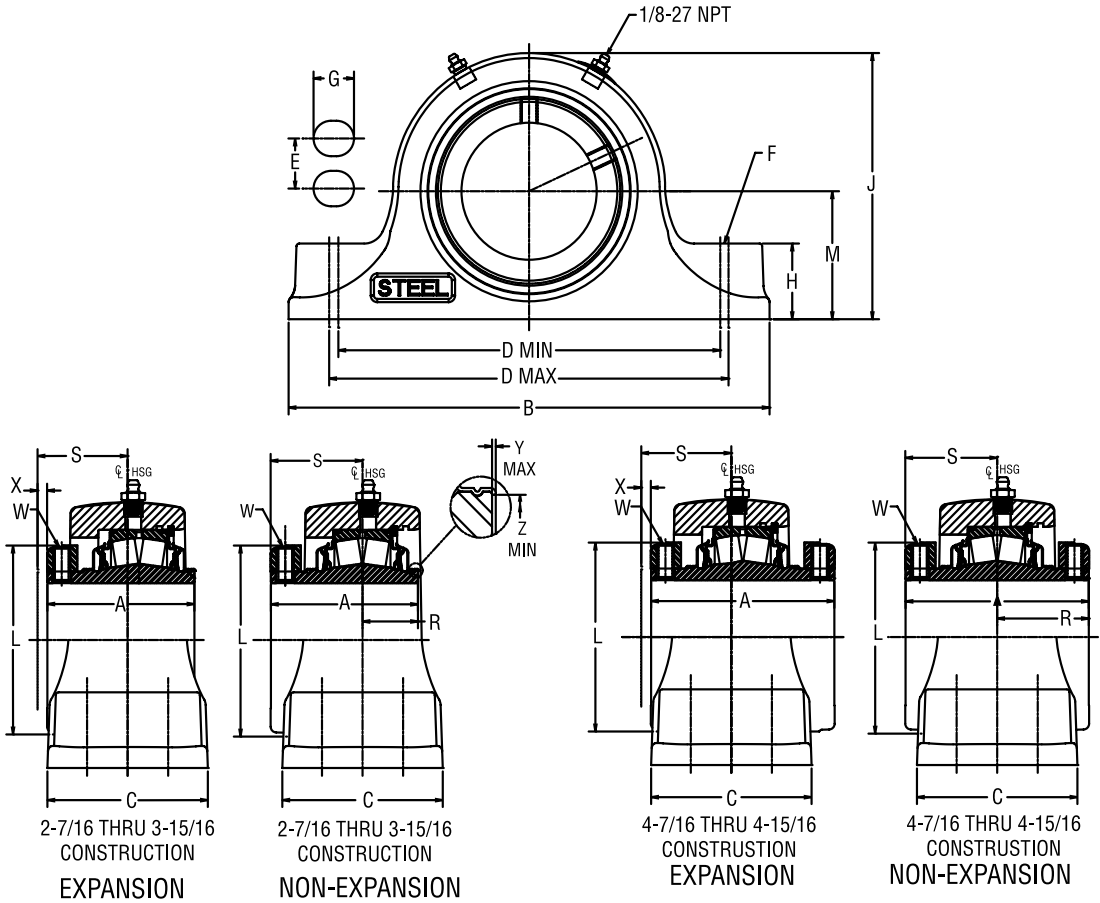
Type E

SAFS

# DIMENSIONS



## Steel S2000-HD Pillow Block 4 Bolt With Type E Dimensions



# DIMENSIONS



## Steel S2000-HD Pillow Block 4 Bolt With Type E Dimensions

Shaft Size	Dodge Non-Expansion		Dodge Expansion	
	Dodge Part No.	Description	Dodge Part No.	Description
2-7/16	<b>071962</b>	SEP4B-S2-207R	<b>071970</b>	SEP4B-S2-207RE
2-11/16	<b>071963</b>	SEP4B-S2-211R	<b>071971</b>	SEP4B-S2-211RE
2-15/16	<b>071964</b>	SEP4B-S2-215R	<b>071972</b>	SEP4B-S2-215RE
3	<b>071965</b>	SEP4B-S2-300R	<b>071973</b>	SEP4B-S2-300RE
3-7/16	<b>071966</b>	SEP4B-S2-307R	<b>071974</b>	SEP4B-S2-307RE
3-15/16	<b>071967</b>	SEP4B-S2-315R	<b>071975</b>	SEP4B-S2-315RE
4-7/16	<b>071968</b>	SEP4B-S2-407R	<b>071976</b>	SEP4B-S2-407RE
4-15/16	<b>071969</b>	SEP4B-S2-415R	<b>071977</b>	SEP4B-S2-415RE

SHAFT SIZE	A	B#	C#	D		E	F BOLT DIA	G#	H#	J#	L	M	R	S	X TOTAL EXP	Y	Z	SET SCREW SIZE	SS TORQUE IN-LBS
				MIN	MAX														
2-7/16	3.20	10.50	3.49	8.31	8.69	1.87	5/8	0.87	1.63	5.72	3.88	2.750	1.20	2.00	0.25	0.025	2.94	3/8	290
2-11/16	3.59	12.00	4.00	9.18	9.82	2.13	5/8	1.00	1.88	6.33	4.61	3.125	1.34	2.25	0.25	0.025	3.47	1/2	620
2-15/16																			
3	4.01	13.50	4.49	10.75	11.25	2.37	3/4	1.13	2.25	7.69	5.50	3.750	1.51	2.50	0.25	0.025	4.05	1/2	620
3-15/16	4.47	15.25	4.50	12.25	12.75	2.25	3/4	1.13	2.44	8.70	6.00	4.250	1.34	3.13	0.31	0.025	4.50	5/8	1325
4-7/16	6.53	16.63	4.63	13.25	13.75	2.50	3/4	1.13	2.75	9.67	6.45	4.750	3.08	3.38	0.38	N/A	N/A	5/8	1325
4-15/16	6.91	18.50	5.13	15.25	15.75	2.87	7/8	1.25	3.00	11.16	7.45	5.500	3.29	3.62	0.38	N/A	N/A	5/8	1325

"A" & "R" DIMENSIONS DO NOT INCLUDE "Y" DIMENSION

# REFERENCE DIMENSION ONLY

Imperial+HD and S2000-HD

Imperial-HD

S2000-HD

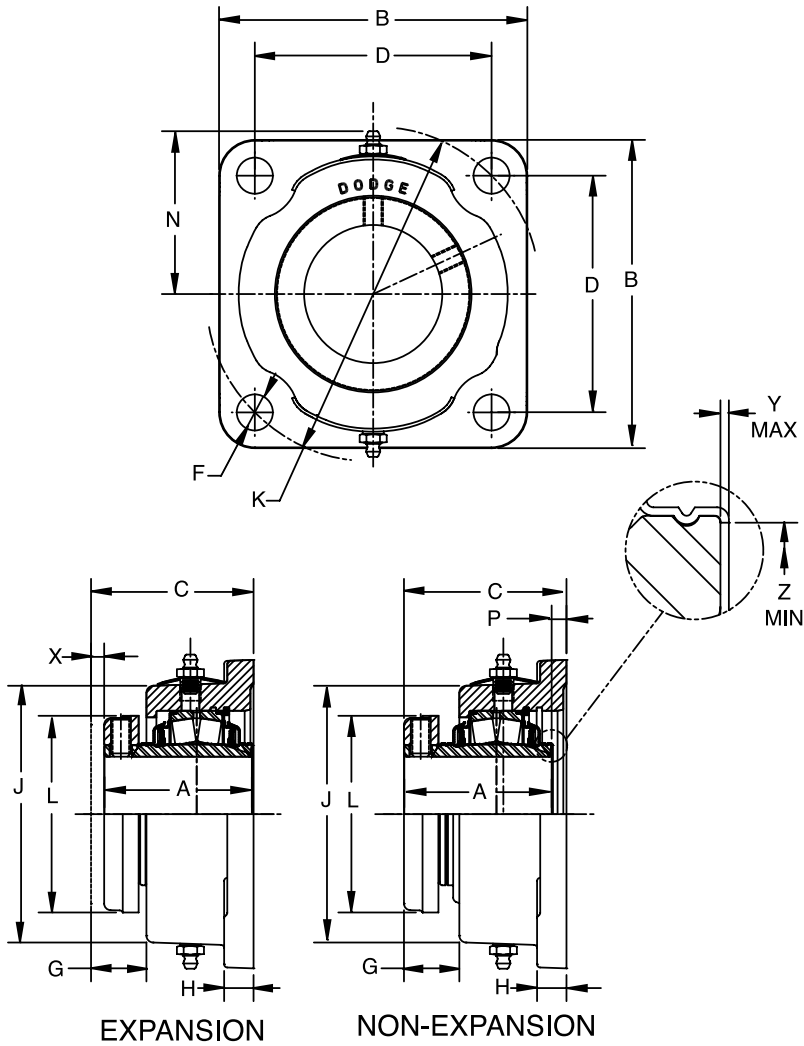
Type E

SAFS

# DIMENSIONS



## Steel S2000-HD Flange 4 Bolt



# DIMENSIONS



## Steel S2000-HD Flange 4 Bolt

Shaft Size	Dodge Non-Expansion		Dodge Expansion	
	Dodge Part No.	Description	Dodge Part No.	Description
1-3/8	<b>072386</b>	SF4S-S2-106R	<b>072400</b>	SF4S-S2-106RE
1-7/16	<b>072387</b>	SF4S-S2-107R	<b>072401</b>	SF4S-S2-107RE
1-1/2	<b>072388</b>	SF4S-S2-108R	<b>072402</b>	SF4S-S2-108RE
1-11/16	<b>072389</b>	SF4S-S2-111R	<b>072403</b>	SF4S-S2-111RE
1-3/4	<b>072390</b>	SF4S-S2-112R	<b>072404</b>	SF4S-S2-112RE
1-15/16	<b>072391</b>	SF4S-S2-115R	<b>072405</b>	SF4S-S2-115RE
2	<b>072392</b>	SF4S-S2-200R	<b>072406</b>	SF4S-S2-200RE
2-3/16	<b>072393</b>	SF4S-S2-203R	<b>072407</b>	SF4S-S2-203RE
2-7/16	<b>072394</b>	SF4S-S2-207R	<b>072408</b>	SF4S-S2-207RE
2-11/16	<b>072395</b>	SF4S-S2-211R	<b>072409</b>	SF4S-S2-211RE
2-15/16	<b>072396</b>	SF4S-S2-215R	<b>072410</b>	SF4S-S2-215RE
3	<b>072397</b>	SF4S-S2-300R	<b>072411</b>	SF4S-S2-300RE
3-7/16	<b>072398</b>	SF4S-S2-307R	<b>072412</b>	SF4S-S2-307RE
3-15/16	<b>072399</b>	SF4S-S2-315R	<b>072413</b>	SF4S-S2-315RE

SHAFT SIZE	A	B	C	D	F BOLT DIA.	G	H	J	K	L	N	P	X TOTAL EXP	Y	Z
1-3/8															
1-7/16	2.53	4.62	2.77	3.54	1/2	0.76	0.88	3.70	5.00	2.75	2.25	0.24	3/16	0.02	1.80
1-1/2															
1-11/16	2.67	5.37	2.87	3.89	1/2	0.77	0.88	4.41	5.50	3.19	2.62	0.20	1/4	0.02	2.08
1-3/4															
1-15/16	2.84	5.18	3.16	4.07	1/2	0.91	0.91	4.66	5.75	3.44	2.75	0.32	1/4	0.02	2.30
2															
2-3/16	2.94	5.87	3.16	4.51	5/8	0.83	0.75	5.03	6.38	3.75	2.93	0.22	1/4	0.02	2.59
2-7/16	3.20	6.18	3.34	4.77	5/8	0.72	1.00	5.63	6.75	4.06	3.23	0.14	1/4	0.025	2.94
2-11/16															
2-15/16	3.59	7.18	3.87	5.57	3/4	1.04	1.06	6.51	7.88	4.70	3.75	0.28	1/4	0.025	3.47
3															
3-7/16	4.00	8.37	4.11	6.72	3/4	0.78	1.28	7.49	9.50	5.50	4.17	0.11	1/4	0.025	4.05
3-15/16	4.48	9.49	4.84	7.60	1	0.85	1.50	8.22	10.75	6.00	4.68	0.36	5/32	0.025	4.50

"P" DIMENSION IS FOR NON-EXPANSION ONLY

"A" & "P" DIMENSIONS DO NOT INCLUDE "Y" DIMENSION

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

Type E

SAFS

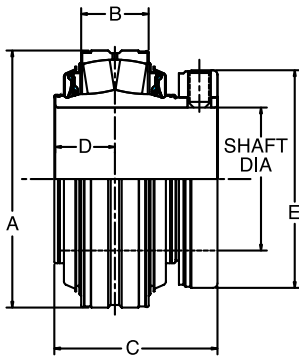


# DIMENSIONS

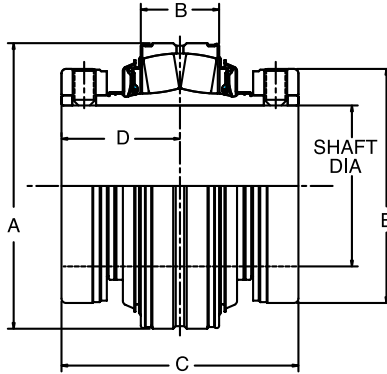


## S-2000 Bearing Insert

### TRIDENT SEAL

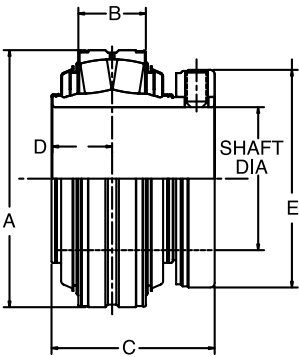


1-3/8 THRU 3-15/16" CONSTRUCTION

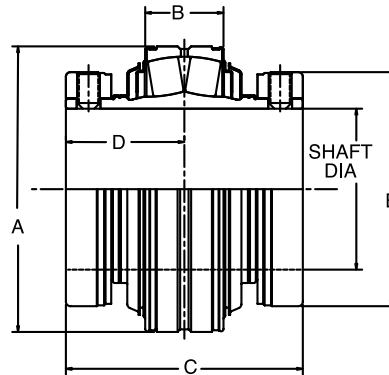


4-7/16 THRU 4-15/16" CONSTRUCTION

### LABYRINTH SEAL



1-3/8 THRU 3-15/16" CONSTRUCTION



4-7/16 THRU 4-15/16" CONSTRUCTION

# DIMENSIONS



## S-2000 Bearing Insert

Bearing	SHAFT SIZE	TRIDENT SEAL		LABYRINTH SEAL	
		PART NUMBER	PART NAME	PART NUMBER	PART NAME
22208	1-3/8	<b>070000</b>	INS-S2-106R	<b>070016</b>	INS-S2-106L
	1-7/16	<b>070001</b>	INS-S2-107R	<b>070017</b>	INS-S2-107L
	1-1/2	<b>070002</b>	INS-S2-108R	<b>070018</b>	INS-S2-108L
22209	1-11/16	<b>070003</b>	INS-S2-111R	<b>070019</b>	INS-S2-111L
	1-3/4	<b>070004</b>	INS-S2-112R	<b>070020</b>	INS-S2-112L
22210	1-15/16	<b>070005</b>	INS-S2-115R	<b>070021</b>	INS-S2-115L
	2	<b>070006</b>	INS-S2-200R	<b>070022</b>	INS-S2-200L
22211	2-3/16	<b>070007</b>	INS-S2-203R	<b>070023</b>	INS-S2-203L
22213	2-7/16	<b>070008</b>	INS-S2-207R	<b>070024</b>	INS-S2-207L
22215	2-11/16	<b>070009</b>	INS-S2-211R	<b>070025</b>	INS-S2-211L
	2-15/16	<b>070010</b>	INS-S2-215R	<b>070026</b>	INS-S2-215L
	3	<b>070011</b>	INS-S2-300R	<b>070027</b>	INS-S2-300L
22218	3-7/16	<b>070012</b>	INS-S2-307R	<b>070028</b>	INS-S2-307L
22220	3-15/16	<b>070013</b>	INS-S2-315R	<b>070029</b>	INS-S2-315L
22222	4-7/16	<b>070014</b>	INS-S2-407R	<b>070030</b>	INS-S2-407L
22226	4-15/16	<b>070015</b>	INS-S2-415R	<b>070031</b>	INS-S2-415L

SHAFT SIZE	A	B	C	D	E
1-3/8					
1-7/16	3.150	61/64	2-17/32	0.970	2-21/32
1-1/2					
1-11/16	3.346	61/64	2-21/32	0.954	3-3/32
1-3/4					
1-15/16	3.543	61/64	2-27/32	0.977	3-11/32
2					
2-3/16	3.937	1-3/64	2-15/16	1.050	3-21/32
2-7/16	4.724	1-9/32	3-13/64	1.208	3-31/32
2-11/16					
2-15/16	5.118	1-9/32	3-19/32	1.219	4-5/8
3					
3-7/16	6.299	1-5/8	4	1.483	5-1/2
3-15/16	7.087	1-7/8	4-31/64	1.646	6
4-7/16	7.874	2-5/32	6-17/32	3.266	6-29/64
4-15/16	9.055	2-19/32	6-29/32	3.453	7-29/64

Imperial+HD and S2000+HD

Imperial+HD

S2000+HD

Type E

SAFS

# DIMENSIONS



## Steel S2000-HD Open End Covers



Shaft Size	Front End				Backside			
	S2000		E-S2000		S2000		E-S2000	
	Dodge Part No.	Description	Dodge Part No.	Description	Dodge Part No.	Description	Dodge Part No.	Description
1-3/8	<b>070240</b>	S2ECO-08-106	<b>070240</b>	S2ECO-08-106	<b>072503</b>	S2IPBECO-08-106	<b>072503</b>	S2IPBECO-08-106
1-7/16	<b>070241</b>	S2ECO-08-107	<b>070241</b>	S2ECO-08-107	<b>072504</b>	S2IPBECO-08-107	<b>072504</b>	S2IPBECO-08-107
1-1/2	<b>070242</b>	S2ECO-08-108	<b>070242</b>	S2ECO-08-108	<b>072505</b>	S2IPBECO-08-108	<b>072506</b>	ES2IPBECO-09-108
1-11/16	<b>070243</b>	S2ECO-09-111	<b>070243</b>	S2ECO-09-111	<b>072508</b>	S2IPBECO-09-111	<b>072508</b>	S2IPBECO-09-111
1-3/4	<b>070244</b>	S2ECO-09-112	<b>070244</b>	S2ECO-09-112	<b>072509</b>	S2IPBECO-09-112	<b>072510</b>	ES2IPBECO-10-112
1-15/16	<b>070245</b>	S2ECO-10-115	<b>070245</b>	S2ECO-10-115	<b>072512</b>	S2IPBECO-10-115	<b>072512</b>	S2IPBECO-10-115
2	<b>070246</b>	S2ECO-10-200	<b>070246</b>	S2ECO-10-200	<b>072513</b>	S2IPBECO-10-200	<b>072513</b>	S2IPBECO-10-200
2-3/16	<b>070247</b>	S2ECO-11-203	<b>070247</b>	S2ECO-11-203	<b>072514</b>	S2IPBECO-11-203	<b>072514</b>	S2IPBECO-11-203
2-7/16	<b>070178</b>	S2IPECO-13-207	<b>070178</b>	S2IPECO-13-207	<b>072518</b>	S2IPBECO-13-207	<b>072518</b>	S2IPBECO-13-207
2-11/16	<b>070248</b>	S2ECO-15-211	<b>070248</b>	S2ECO-15-211	<b>072520</b>	S2IPBECO-15-211	<b>072520</b>	S2IPBECO-15-211
2-15/16	<b>070249</b>	S2ECO-15-215	<b>070249</b>	S2ECO-15-215	<b>072522</b>	S2IPBECO-15-215	<b>072522</b>	S2IPBECO-15-215
3	<b>070250</b>	S2ECO-15-300	<b>070250</b>	S2ECO-15-300	<b>072523</b>	S2IPBECO-15-300	<b>072523</b>	S2IPBECO-15-300
3-7/16	<b>070186</b>	S2IPECO-18-307	<b>070186</b>	S2IPECO-18-307	<b>072526</b>	S2IPBECO-18-307	<b>072526</b>	S2IPBECO-18-307
3-15/16	<b>070189</b>	S2IPECO-20-315	<b>070189</b>	S2IPECO-20-315	<b>072529</b>	S2IPBECO-20-315	<b>072529</b>	S2IPBECO-20-315
4-7/16	<b>070191</b>	S2IPECO-22-407	<b>070191</b>	S2IPECO-22-407	<b>072532</b>	S2BECO-22-407	<b>072532</b>	S2BECO-22-407
4-15/16	<b>070193</b>	S2IPECO-26-415	<b>070193</b>	S2IPECO-26-415	<b>072535</b>	S2BECO-26-415	<b>072535</b>	S2BECO-26-415

# DIMENSIONS



## Steel S2000-HD Closed End Covers



Shaft Size	S2000		E-S2000	
	Dodge Part No.	Description	Dodge Part No.	Description
1-3/8 to 1-1/2	069970	S2EC08	069960	IPEC08
1-11/16 to 1-3/4	069971	S2EC09	069961	IPEC09
1-15/16 to 2	069972	S2EC10	069962	IPEC10
2-3/16	069973	S2EC11	069963	IPEC11
2-7/16	069964	S2EC13	069964	IPEC13
2-11/16 to 3	069975	S2EC15	069965	IPEC15
3-7/16	069966	S2IPEC18	069966	S2IPEC18
3-15/16	069967	S2IPEC20	069967	S2IPEC20
4-7/16	069968	S2IPEC22	069968	S2IPEC22
4-15/16	069969	S2IPEC26	069969	S2IPEC26

Imperial+HD and S2000+HD

Imperial+HD

S2000+HD

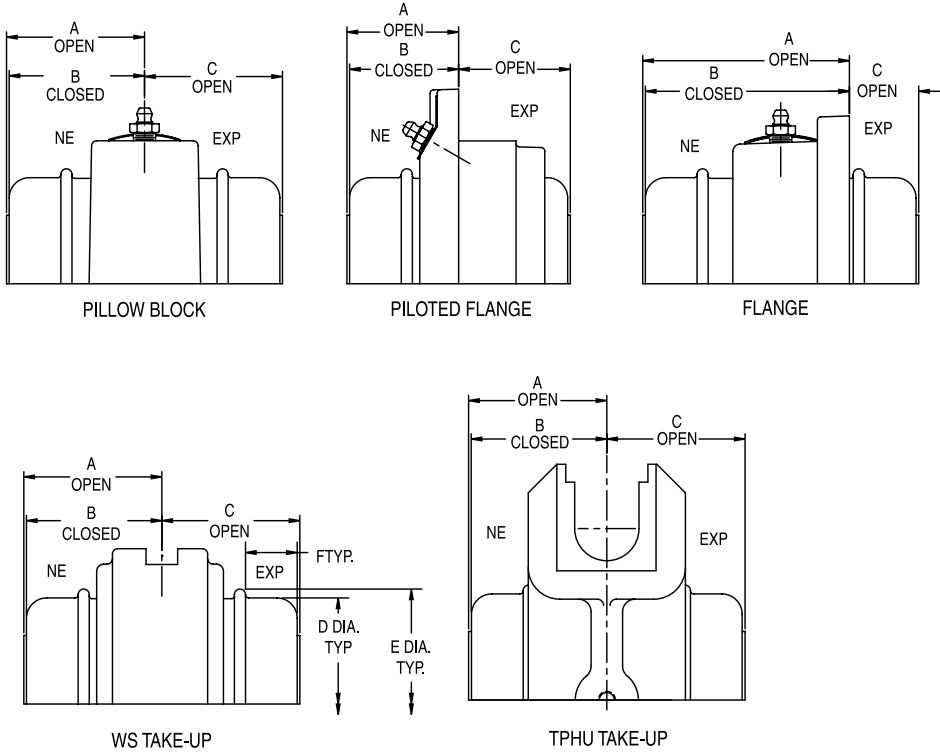
Type E

SAFS

# DIMENSIONS



## S2000-HD End Cover



# DIMENSIONS



## S2000-HD End Cover

	SHAFT SIZE	S2000 PILLLOW BLOCK (2 BOLT)	S2000 PILLLOW BLOCK (4 BOLT)	*E-S2000 PILLLOW BLOCK (2 BOLT)	*E-S2000 PILLLOW BLOCK (2 BOLT)	S2000 PILOTED FLANGE	*E-S2000 PILOTED FLANGE	S2000 ROUND FLANGE	S2000 SQUARE FLANGE	*E-S2000 SQUARE FLANGE	WIDE SLOT TAKE-UP	TOP ANGLE TAKE-UP	D	E	F
A OPEN	1-3/8	2.03		2.03		1.67	1.67	3.12	3.45	3.45	2.06				
B CLOSED	1-7/16	1.97	N/A	1.97	N/A	1.61	1.61	3.06	3.39	3.39	2.00	N/A	2-15/16	3-3/16	3/4
C OPEN	1-1/2	2.11		2.11		2.46	2.46	0.99	0.99	1.20	2.10				
A OPEN		2.22		2.22		1.83	1.83	3.33	4.07	4.07	2.19				
B CLOSED	1-11/16	2.16	N/A	2.16	N/A	1.77	1.77	3.27	4.01	4.01	2.13	N/A	3-17/64	3-25/64	7/8
C OPEN		2.25		2.25		2.60	2.60	1.10	1.10	1.20	2.25				
A OPEN		2.22		2.22		1.83	1.83	3.33	4.07	4.07	2.19				
B CLOSED	1-3/4	2.16	N/A	2.16	N/A	1.77	1.77	3.27	4.01	4.01	2.13	N/A	3-17/64	3-25/64	7/8
C OPEN		2.25		2.25		2.60	2.60	1.10	1.10	1.20	2.25				
A OPEN	1-15/16	2.31	2.31	2.31		1.92	1.92	3.47	3.95	3.95	2.25	2.31			
B CLOSED	THRU	2.25	2.25	2.25	N/A	1.86	1.86	3.41	3.89	3.89	2.19	2.25	3-33/64	3-39/64	1-1/64
C OPEN	2	2.45	2.45	2.45		2.83	2.83	1.28	1.28	1.38	2.45	2.43			
A OPEN		2.47	2.47	2.47		2.00	2.00	3.69	4.53	4.53	2.42	2.47			
B CLOSED	2-3/16	2.41	2.41	2.41	N/A	1.94	1.94	3.63	4.47	4.47	2.36	2.40	3-49/64	3-61/64	1-1/32
C OPEN		2.54	2.54	2.54		3.00	3.00	1.32	1.32	1.40	2.54	2.54			
A OPEN		2.53	2.53	2.53	2.53	2.18	2.18	4.04	4.72	4.72	2.53	2.70			
B CLOSED	2-7/16	2.44	2.44	2.44	2.44	2.09	2.09	3.95	4.63	4.63	2.44	2.61	4-13/32	4-41/64	1
C OPEN		2.77	2.77	2.77	2.77	3.24	3.24	1.37	1.37	2.77	2.77	2.72			
A OPEN	2-11/16	2.65	2.65	2.65	2.65	2.29	2.29	4.18	5.06	5.06	2.70	2.73			
B CLOSED	2-15/16	2.56	2.56	2.56	2.56	2.20	2.20	4.09	4.97	4.97	2.61	2.64	4-59/64	5-1/16	1-7/32
C OPEN	3	3.06	3.06	3.06	3.06	3.54	3.54	1.66	1.66	1.69	3.06	3.06			
A OPEN		3.07	3.07	3.07	3.07	2.91	2.91	N/A	5.78	5.78	3.07	3.07			
B CLOSED	3-7/16	2.94	2.94	2.94	2.94	2.78	2.78	N/A	5.65	5.65	2.94	2.94	5-63/64	6-7/32	1-1/8
C OPEN		3.31	3.31	3.31	3.31	3.59	3.59		1.63	1.66	3.31	3.31			
A OPEN		3.49	3.49		3.49	3.32	3.32		7.17	7.17	3.52	3.61			
B CLOSED	3-15/16	3.36	3.36	N/A	3.36	3.19	3.19	N/A	7.04	7.04	3.39	3.48	6-43/64	6-29/32	1-3/8
C OPEN		3.80	3.80		3.80	4.13	4.13		1.94	1.38	3.80	3.83			
A OPEN			3.96		3.91	4.02		3.85		7.62	3.97	3.96			
B CLOSED	4-7/16	N/A	3.83	N/A	3.78	3.89	3.72	N/A	N/A	7.49	3.84	3.83	7-5/16	7-9/16	1-43/64
C OPEN			4.23		4.23	4.16	4.68			2.06	4.23	4.23			
A OPEN			4.49		4.46	4.24	4.08		N/A	N/A	4.49	4.49			
B CLOSED	5	N/A	4.36	N/A	4.33	4.11	3.95	N/A	N/A	N/A	4.36	4.36	8-7/16	8-11/16	1-29/32
C OPEN			4.69		4.69	4.91	5.37				4.69	4.68			

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

Type E

SAFS

# SELECTION



## Type E, Type K, DOUBLE-INTERLOCK and TAF

**TABLE 1 - E, K, DI, AND TAF TAPERED ROLLER BEARING RADIAL AND THRUST FACTORS**

SHAFT SIZE	e	FA/FR<e		FA/FR>e		DYNAMIC CAPACITY C90 LBS.	STATIC CAPACITY C0 LBS.	MAXIMUM RPM R-SEAL	MAXIMUM RPM E-TECT	MAXIMUM ALLOWABLE SLIP FIT RADIAL LOAD, FR **, LBS	
		X	Y	X	Y					E,DI,&TAF	K
1-3/16 1-1/4	0.49	0.87	1.77	0.70	2.14	2,980	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	4,760	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	6,140	33,000	3,320	2,325	6,400	4,300
1-3/4 1-7/8 1-15/16	0.33	0.87	2.64	0.70	3.18	8,070	43,000	3,050	2,135	8,400	5,600
2 2-3/16	0.36	0.87	2.38	0.70	2.87	8,550	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	9,090	54,000	2,420	1,700	9,500	6,300
2-11/16 2-3/4 2-15/16	0.46	0.87	1.87	0.70	2.26	9,600	61,200	2,060	1,440	10,000	6,700
3 3-3/16 3-1/4 3-7/16 3-1/2	0.50	0.87	1.71	0.70	2.07	15,300	108,600	1,640	1,145	16,000	10,500

**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, (FR), 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.

# SELECTION



## Type E, Type K, DOUBLE-INTERLOCK and TAF

**TABLE 1 - E, K, DI, AND TAF TAPERED ROLLER BEARING RADIAL AND THRUST FACTORS**

SHAFT SIZE	e	FA/FR<e		FA/FR>e		DYNAMIC CAPACITY C90	STATIC CAPACITY C0	MAXIMUM RPM	MAXIMUM RPM	MAXIMUM ALLOWABLE SLIP FIT RADIAL LOAD, FR **, LBS	
		X	Y	X	Y	LBS.	LBS.	R-SEAL	E-TECT	E,DI,&TAF	K
3-15/16 4	0.49	0.87	1.77	0.70	2.14	21,000	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	25,800	188,400	1,360	950	27,000	----
4-15/16 5	0.47	0.87	1.83	0.70	2.21	35,500	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, (FR), 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.

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

Type E

SAFS



# SELECTION



## Type E, Type K, DOUBLE-INTERLOCK and TAF

**TABLE 2 - EASY SELECTION TABLE TYPE E, K, DI AND TAF**

Shaft Size	L10 Hours Life	Allowable Equivalent Radial Load (Lbs.) at various Revolutions Per Minute																		
		50	100	150	250	500	790	915	1,200	1,360	1,530	1,640	1,750	2,060	2,420	2,730	3,050	3,320	3,820	4,490
1-3/16 1-1/4	10,000	4,143	3,365	2,980	2,557	2,077	1,810	1,732	1,597	1,538	1,485	1,454	1,426	1,358	1,294	1,248	1,207	1,177	1,128	1,075
	30,000	2,980	2,421	2,143	1,839	1,494	1,302	1,246	1,149	1,106	1,068	1,046	1,026	977	931	898	868	846	811	773
	40,000	2,734	2,220	1,966	1,687	1,370	1,194	1,143	1,054	1,015	980	959	941	896	854	823	796	776	744	709
	60,000	2,421	1,966	1,741	1,494	1,213	1,058	1,012	933	899	867	849	833	793	756	729	705	687	659	628
	100,000	2,077	1,687	1,494	1,281	1,041	907	868	800	771	744	729	715	681	648	625	605	590	565	539
1-3/8 1-7/16	10,000	6,618	5,376	4,760	4,084	3,317	2,892	2,767	2,551	2,457	2,372	2,323	2,278	2,169	2,067	1,993	1,928	1,880	1,802	
	30,000	4,760	3,866	3,424	2,937	2,386	2,080	1,990	1,835	1,767	1,706	1,670	1,638	1,560	1,486	1,434	1,387	1,352	1,296	
	40,000	4,366	3,547	3,140	2,694	2,188	1,908	1,826	1,683	1,621	1,565	1,532	1,503	1,431	1,364	1,315	1,272	1,240	1,189	
	60,000	3,866	3,140	2,781	2,386	1,938	1,689	1,616	1,490	1,435	1,385	1,357	1,331	1,267	1,207	1,165	1,126	1,098	1,053	
	100,000	3,317	2,694	2,386	2,047	1,662	1,449	1,387	1,278	1,231	1,189	1,164	1,142	1,087	1,036	999	966	942	903	
1-1/2 1-5/8 1-11/16	10,000	8,537	6,934	6,140	5,268	4,279	3,730	3,569	3,290	3,169	3,059	2,996	2,938	2,798	2,666	2,571	2,487	2,425		
	30,000	6,140	4,987	4,416	3,789	3,077	2,683	2,567	2,366	2,279	2,200	2,155	2,113	2,012	1,917	1,849	1,789	1,744		
	40,000	5,632	4,575	4,051	3,475	2,823	2,461	2,355	2,171	2,091	2,018	1,977	1,939	1,846	1,759	1,696	1,641	1,600		
	60,000	4,987	4,051	3,587	3,077	2,500	2,179	2,085	1,922	1,851	1,787	1,750	1,716	1,635	1,557	1,502	1,453	1,416		
	100,000	4,279	3,475	3,077	2,640	2,144	1,869	1,789	1,649	1,588	1,533	1,502	1,473	1,402	1,336	1,289	1,247	1,215		
1-3/4 1-7/8 1-15/16 2	10,000	11,220	9,114	8,070	6,923	5,624	4,902	4,691	4,325	4,165	4,021	3,938	3,862	3,677	3,504	3,379	3,269			
	30,000	8,070	6,555	5,804	4,979	4,045	3,526	3,374	3,110	2,996	2,892	2,832	2,777	2,645	2,520	2,431	2,351			
	40,000	7,403	6,013	5,324	4,568	3,710	3,234	3,095	2,853	2,748	2,653	2,598	2,548	2,426	2,312	2,230	2,157			
	60,000	6,555	5,324	4,714	4,045	3,285	2,864	2,740	2,526	2,433	2,349	2,300	2,256	2,148	2,047	1,974	1,910			
	100,000	5,624	4,568	4,045	3,470	2,818	2,457	2,351	2,167	2,088	2,015	1,974	1,935	1,843	1,756	1,694	1,638			
2-3/16	10,000	11,888	9,656	8,550	7,335	5,958	5,194	4,970	4,582	4,413	4,260	4,172	4,091	3,896	3,712	3,581				
	30,000	8,550	6,945	6,149	5,276	4,285	3,736	3,575	3,295	3,174	3,064	3,001	2,943	2,802	2,670	2,575				
	40,000	7,843	6,371	5,641	4,839	3,931	3,427	3,279	3,023	2,911	2,810	2,752	2,699	2,570	2,449	2,362				
	60,000	6,945	5,641	4,995	4,285	3,481	3,034	2,903	2,677	2,578	2,489	2,437	2,390	2,276	2,169	2,092				
	100,000	5,958	4,839	4,285	3,675	2,986	2,603	2,491	2,296	2,212	2,135	2,091	2,051	1,953	1,861	1,795				
2-1/4 2-7/16 2-1/2	10,000	12,639	10,266	9,090	7,798	6,334	5,522	5,284	4,871	4,692	4,529	4,435	4,350	4,142	3,947					
	30,000	9,090	7,383	6,538	5,609	4,556	3,972	3,800	3,503	3,374	3,257	3,190	3,129	2,979	2,839					
	40,000	8,338	6,773	5,997	5,145	4,179	3,643	3,486	3,214	3,095	2,988	2,926	2,870	2,733	2,604					
	60,000	7,383	5,997	5,310	4,556	3,700	3,226	3,087	2,846	2,741	2,646	2,591	2,541	2,420	2,306					
	100,000	6,334	5,145	4,556	3,908	3,175	2,768	2,648	2,441	2,351	2,270	2,223	2,180	2,076	1,978					
2-11/16 2-3/4 2-15/16 3	10,000	13,348	10,842	9,600	8,236	6,690	5,832	5,580	5,145	4,955	4,783	4,684	4,594	4,375						
	30,000	9,600	7,798	6,905	5,924	4,811	4,194	4,014	3,700	3,564	3,440	3,369	3,304	3,146						
	40,000	8,806	7,153	6,334	5,434	4,414	3,848	3,682	3,394	3,269	3,156	3,090	3,031	2,886						
	60,000	7,798	6,334	5,608	4,811	3,908	3,407	3,260	3,005	2,895	2,794	2,737	2,684	2,556						
	100,000	6,690	5,434	4,811	4,128	3,353	2,923	2,797	2,578	2,483	2,397	2,348	2,302	2,192						

For maximum RPM see Table 1 on page 76

In the shaded area, E, DI 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, Type K, DOUBLE-INTERLOCK and TAF

**TABLE 2 (continued) - EASY SELECTION TABLE TYPE E, K, DI AND TAF**

Shaft Size	L10 Hours Life	Allowable Equivalent Radial Load (Lbs.) at various Revolutions Per Minute																			
		50	100	150	250	500	790	915	1,200	1,360	1,530	1,640	1,750	2,060	2,420	2,730	3,050	3,320	3,820	4,490	
3-3/16 3-1/4 3-7/16 3-1/2	10,000	21,273	17,279	15,300	13,126	10,662	9,295	8,894	8,199	7,897	7,623	7,466	7,322								
	30,000	15,300	12,427	11,004	9,441	7,668	6,685	6,397	5,897	5,680	5,482	5,369	5,266								
	40,000	14,035	11,400	10,094	8,660	7,034	6,132	5,868	5,409	5,210	5,029	4,925	4,830								
	60,000	12,427	10,094	8,938	7,668	6,228	5,430	5,196	4,790	4,613	4,453	4,361	4,277								
100,000	10,662	8,660	7,668	6,579	5,344	4,658	4,458	4,109	3,958	3,820	3,742	3,670									
3-15/16 4	10,000	29,198	23,716	21,000	18,016	14,634	12,757	12,207	11,254	10,839	10,463										
	30,000	21,000	17,057	15,104	12,958	10,525	9,175	8,780	8,094	7,796	7,525										
	40,000	19,264	15,647	13,855	11,886	9,655	8,417	8,054	7,425	7,151	6,903										
	60,000	17,057	13,855	12,268	10,525	8,549	7,453	7,131	6,574	6,332	6,112										
100,000	14,634	11,886	10,525	9,030	7,334	6,394	6,118	5,640	5,432	5,244											
4-7/16 4-1/2	10,000	35,872	29,137	25,800	22,134	17,979	15,673	14,998	13,826	13,316											
	30,000	25,800	20,956	18,556	15,919	12,931	11,273	10,787	9,944	9,577											
	40,000	23,667	19,223	17,022	14,603	11,861	10,340	9,895	9,122	8,786											
	60,000	20,956	17,022	15,072	12,931	10,503	9,156	8,761	8,077	7,779											
100,000	17,979	14,603	12,931	11,093	9,011	7,855	7,517	6,929	6,674												
4-15/16 5	10,000	49,359	40,092	35,500	30,456	24,738	21,566	20,636	19,024												
	30,000	35,500	28,835	25,532	21,905	17,792	15,511	14,842	13,682												
	40,000	32,565	26,451	23,421	20,094	16,321	14,228	13,615	12,551												
	60,000	28,835	23,421	20,739	17,792	14,452	12,599	12,055	11,114												
100,000	24,738	20,094	17,792	15,264	12,398	10,809	10,343	9,535													
5-7/16 5-15/16 6	10,000	56,589	45,964	40,700	34,917	28,362	24,725	23,659													
	30,000	40,700	33,059	29,272	25,113	20,398	17,783	17,016													
	40,000	37,335	30,325	26,852	23,037	18,712	16,312	15,609													
	60,000	33,059	26,852	23,777	20,398	16,569	14,444	13,821													
100,000	28,362	23,037	20,398	17,500	14,214	12,392	11,858														
6-7/16 6-1/2 6-15/16 7	10,000	56,589	45,964	40,700	34,917	28,362	24,725	23,659													
	30,000	40,700	33,059	29,272	25,113	20,398	17,783	17,016													
	40,000	37,335	30,325	26,852	23,037	18,712	16,312	15,609													
	60,000	33,059	26,852	23,777	20,398	16,569	14,444	13,821													
100,000	28,362	23,037	20,398	17,500	14,214	12,392	11,858														

For maximum RPM see Table 1 on page 76

In the shaded area, E, DI 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

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

Type E

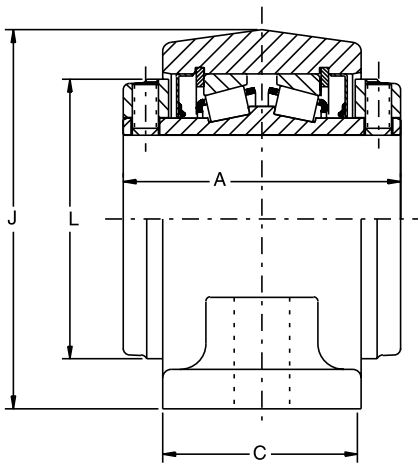
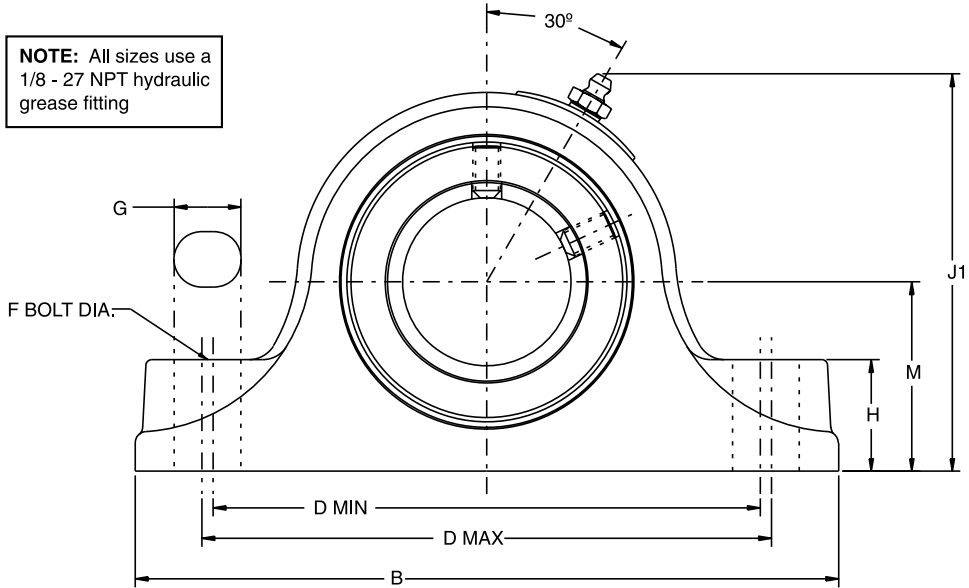
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# DIMENSIONS

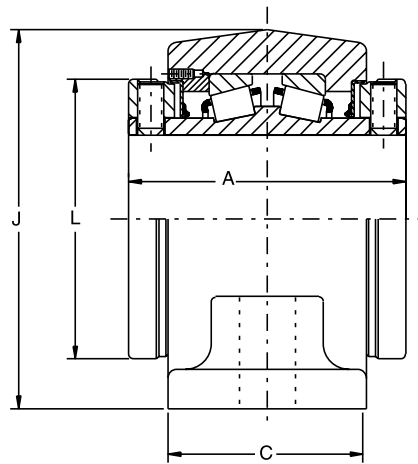


## Steel Type E Pillow Block - Inch 2-BOLT BASE

**NOTE:** All sizes use a 1/8 - 27 NPT hydraulic grease fitting



1-3/16" THRU 3" CONSTRUCTION



3-3/16" THRU 3-1/2" CONSTRUCTION

# DIMENSIONS



## Steel Type E Pillow Block - Inch 2-BOLT BASE

CAST STEEL			
SHAFT SIZE INCHES #	PART NUMBER	PART NAME	WEIGHT LBS
1-3/16	023047	SP2B-E-103R	4
1-1/4	023048	SP2B-E-104R	4
1-3/8	023049	SP2B-E-106R	7
1-7/16	023050	SP2B-E-107R	7
1-1/2	023051	SP2B-E-108R	10
1-5/8	023052	SP2B-E-110R	10
1-11/16	023053	SP2B-E-111R	10
1-3/4	023054	SP2B-E-112R	11
1-7/8	023055	SP2B-E-114R	11
1-15/16	023056	SP2B-E-115R	11
2	023057	SP2B-E-200R	11
2-3/16	023058	SP2B-E-203R	14
2-1/4	023059	SP2B-E-204R	19
2-7/16	023060	SP2B-E-207R	19
2-1/2	023061	SP2B-E-208R	19
2-11/16	023062	SP2B-E-211R	26
2-3/4	023063	SP2B-E-212R	26
2-15/16	023064	SP2B-E-215R	26
3	023065	SP2B-E-300R	26
3-3/16	023066	SP2B-E-303R	44
3-1/4	023067	SP2B-E-304R	44
3-7/16	023068	SP2B-E-307R	44
3-1/2	023069	SP2B-E-308R	44

# Consult DODGE For Sizes Not Listed

SHAFT SIZE (Inches)	A	B	C	D		F BOLT DIA	G	H	J	J1	L	M
				MIN	MAX							
1-3/16 1-1/4	2.75	6.00	1.88	4.75	4.81	1/2	0.59	0.88	3.00	3.28	2.25	1.50
1-3/8 1-7/16	3.00	7.38	2.12	5.62	5.88	1/2	0.75	1.12	3.75	4.00	2.75	1.88
1-1/2 1-5/8 1-11/16	3.38	7.88	2.38	6.12	6.38	1/2	0.75	1.25	4.25	4.47	3.38	2.12
1-3/4 1-7/8 1-15/16 2	3.50	8.88	2.50	6.88	7.12	5/8	0.88	1.31	4.50	4.69	3.44	2.25
2-3/16 2-1/4 2-7/16 2-1/2	3.75	9.62	2.62	7.62	7.88	5/8	0.88	1.50	5.00	5.17	3.75	2.50
2-11/16 2-3/4 2-15/16 3	4.50	12.00	3.00	9.31	9.69	3/4	1.00	1.88	6.25	60.34	4.72	3.12
3-3/16 3-1/4 3-7/16 3-1/2	5.00	14.00	3.50	10.81	11.38	7/8	1.38	2.25	7.50	7.50	5.50	3.75

NOTE: All sizes use a 1/8-27 NPT hydraulic grease fitting

Imperial+HD and S2000+HD

Imperial+HD

S2000+HD

Type E

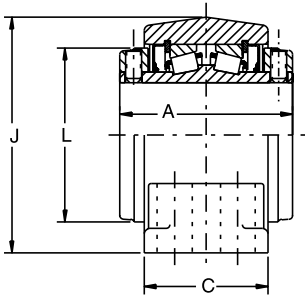
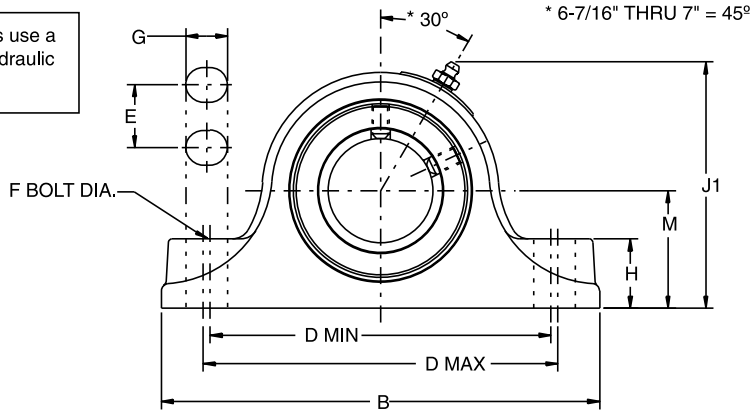
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# DIMENSIONS

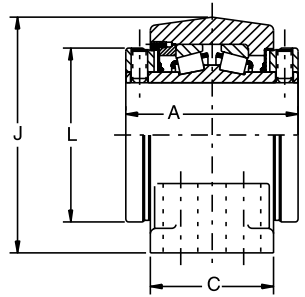


## Steel Type E Pillow Block - Inch 4-BOLT BASE

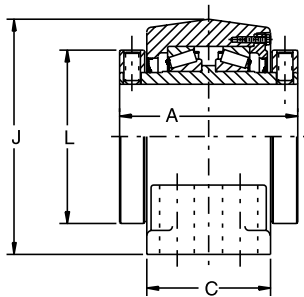
**NOTE:** All sizes use a 1/8 - 27 NPT hydraulic grease fitting



2-1/4" THRU 3" CONSTRUCTION



3-3/16" THRU 5" CONSTRUCTION



5-7/16" THRU 7" CONSTRUCTION

# DIMENSIONS



## Steel Type E Pillow Block - Inch 4-BOLT BASE

CAST STEEL			
SHAFT SIZE INCHES #	PART NUMBER	PART NAME	WEIGHT LBS
3-15/16 4	023070	SP4B-E-315R	65
	023071	SP4B-E-400R	65
4-7/16 4-1/2	023072	SP4B-E-407R	81
	023073	SP4B-E-408R	81
4-15/16 5	023074	SP4B-E-415R	132
	023075	SP4B-E-500R	132

# Consult DODGE For Sizes Not Listed

SHAFT SIZE INCHES	A	B	C*	D		E	F BOLT DIA	G	H	J1	J	L	M
				MIN	MAX								
3-15/16 4	6.25	15.25	4.50	12.25	12.75	2.25	3/4	1.12	2.44	8.50	8.44	6.00	4.25
4-7/16 4-1/2	6.75	16.62	4.62	13.25	13.75	2.50	3/4	1.12	2.75	9.38	9.28	6.45	4.75
4-15/16 5	7.25	18.50	5.12	15.25	15.75	2.88	7/8	1.25	3.00	10.88	10.69	7.45	5.50

**NOTE:** All sizes use a 1/8-27 NPT hydraulic grease fitting

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

Type E

SAFS

# SELECTION



## UNIFIED Pillow Block - Spherical Roller Bearings

Table 3: Selection Table for UNIFIED SAF Pillow Blocks

Shaft Size		Bearing Series	L10 Life Hours	Allowable Equivalent Radial Load Rating (Lbs.) at Various Revolutions Per Minute																
Adapter Mount (Inches)	Direct Mount (mm)			50	100	250	500	750	950	1,300	1,500	1,800	2,000	2,600	3,000	3,200	3,400	4500	5,600	
-	40	22308	10,000	12,797	10,394	7,896	6,413	5,679	5,290	4,815	4,613	4,367	4,231	3,911	3,747	3,675	3,609	3,318		
			30,000	9,204	7,476	5,679	4,613	4,084	3,805	3,463	3,318	3,141	3,043	2,813	2,695	2,643	2,595	2,386		
			60,000	7,476	6,072	4,613	3,747	3,318	3,090	2,813	2,695	2,551	2,472	2,285	2,189	2,147	2,108	1,938		
1-7/16	-	22209	10,000	8,831	7,173	5,449	4,426	3,919	3,651	3,323	3,183	3,014	2,920	2,699	2,586	2,536	2,490	2,290	2,144	
			30,000	6,352	5,159	3,919	3,183	2,819	2,626	2,390	2,290	2,168	2,100	1,941	1,860	1,824	1,791	1,647	1,542	
			60,000	5,159	4,191	3,183	2,586	2,290	2,133	1,941	1,860	1,761	1,706	1,577	1,511	1,482	1,455	1,338	1,253	
	45	22309	10,000	15,320	12,444	9,453	7,678	6,799	6,333	5,765	5,522	5,228	5,066	4,682	4,485	4,399	4,320	3,972		
			30,000	11,018	8,950	6,799	5,522	4,890	4,555	4,146	3,972	3,760	3,643	3,368	3,226	3,164	3,107	2,857		
			60,000	8,950	7,269	5,522	4,485	3,972	3,700	3,368	3,226	3,054	2,959	2,735	2,620	2,570	2,524	2,320		
1-11/16	-	22210	10,000	9,372	7,613	5,783	4,697	4,159	3,874	3,527	3,378	3,199	3,099	2,864	2,744	2,691	2,643	2,430	2,275	
			30,000	6,741	5,475	4,159	3,378	2,991	2,787	2,536	2,430	2,300	2,229	2,060	1,974	1,936	1,901	1,748	1,637	
			60,000	5,475	4,447	3,378	2,744	2,430	2,263	2,060	1,974	1,869	1,810	1,673	1,603	1,572	1,544	1,419	1,329	
	50	22310	10,000	18,384	14,932	11,343	9,214	8,158	7,600	6,917	6,627	6,274	6,079	5,619	5,383	5,279	5,184			
			30,000	13,222	10,740	8,158	6,627	5,868	5,466	4,975	4,766	4,512	4,372	4,041	3,871	3,797	3,729			
			60,000	10,740	8,723	6,627	5,383	4,766	4,440	4,041	3,871	3,665	3,551	3,282	3,144	3,084	3,029			
1-15/16	-	22211	10,000	11,355	9,223	7,006	5,691	5,039	4,694	4,273	4,093	3,875	3,755	3,470	3,325	3,261	3,202	2,944	2,757	
			30,000	8,167	6,633	5,039	4,093	3,624	3,376	3,073	2,944	2,787	2,700	2,496	2,391	2,345	2,303	2,117	1,983	
			60,000	6,633	5,388	4,093	3,325	2,944	2,742	2,496	2,391	2,264	2,193	2,027	1,942	1,905	1,871	1,720	1,611	
	55	22311	10,000	21,628	17,567	13,345	10,840	9,598	8,941	8,138	7,796	7,381	7,152	6,610	6,332	6,211	6,099			
			30,000	15,555	12,635	9,598	7,796	6,903	6,431	5,853	5,607	5,309	5,144	4,754	4,554	4,467	4,387			
			60,000	12,635	10,263	7,796	6,332	5,607	5,223	4,754	4,554	4,312	4,178	3,862	3,699	3,628	3,563			
-	60	22312	10,000	25,052	20,349	15,458	12,556	11,118	10,357	9,427	9,031	8,550	8,284	7,657	7,335	7,194	7,065			
			30,000	18,018	14,635	11,118	9,031	7,996	7,449	6,780	6,495	6,149	5,958	5,507	5,276	5,174	5,081			
			60,000	14,635	11,888	9,031	7,335	6,495	6,050	5,507	5,276	4,995	4,839	4,473	4,285	4,203	4,127			
2-3/16	-	22213	10,000	16,401	13,322	10,120	8,220	7,279	6,780	6,171	5,912	5,597	5,423	5,013	4,802	4,710	4,625	4,252		
			30,000	11,796	9,581	7,279	5,912	5,235	4,877	4,439	4,252	4,026	3,901	3,605	3,454	3,388	3,327	3,058		
			60,000	9,581	7,783	5,912	4,802	4,252	3,961	3,605	3,454	3,270	3,168	2,928	2,805	2,752	2,702	2,484		
	65	22313	10,000	28,116	22,838	17,349	14,092	12,478	11,623	10,580	10,135	9,596	9,297	8,593	8,232	8,074	7,929			
			30,000	20,222	16,425	12,478	10,135	8,974	8,360	7,609	7,289	6,901	6,687	6,180	5,921	5,807	5,703			
			60,000	16,425	13,342	10,135	8,232	7,289	6,790	6,180	5,921	5,606	5,431	5,020	4,809	4,717	4,632			
-	70	22314	10,000	31,180	25,326	19,239	15,627	13,837	12,890	11,732	11,239	10,641	10,310	9,530	9,129	8,954				
			30,000	22,426	18,215	13,837	11,239	9,952	9,271	8,438	8,084	7,653	7,415	6,854	6,566	6,440				
			60,000	18,215	14,795	11,239	9,129	8,084	7,530	6,854	6,566	6,217	6,023	5,567	5,333	5,231				
2-7/16 2-1/2	75	22215	10,000	17,302	14,054	10,676	8,672	7,679	7,153	6,511	6,237	5,905	5,721	5,288	5,066	4,969	4,879			
			30,000	12,444	10,108	7,679	6,237	5,523	5,145	4,683	4,486	4,247	4,115	3,803	3,644	3,574	3,509			
			60,000	10,108	8,210	6,237	5,066	4,486	4,179	3,803	3,644	3,450	3,342	3,089	2,959	2,903	2,850			
	75	22315	10,000	36,047	29,279	22,242	18,066	15,997	14,902	13,564	12,994	12,302	11,919	11,017	10,554					
			30,000	25,926	21,058	15,997	12,994	11,505	10,718	9,755	9,345	8,848	8,573	7,924	7,591					
			60,000	21,058	17,105	12,994	10,554	9,345	8,706	7,924	7,591	7,187	6,963	6,436	6,166					
2-11/16 2-3/4	80	22216	10,000	20,186	16,396	12,456	10,117	8,958	8,345	7,596	7,276	6,889	6,675	6,170	5,910	5,797	5,692			
			30,000	14,518	11,793	8,958	7,276	6,443	6,002	5,463	5,233	4,955	4,801	4,437	4,251	4,169	4,094			
			60,000	11,793	9,579	7,276	5,910	5,233	4,875	4,437	4,251	4,025	3,899	3,604	3,453	3,387	3,325			
	80	22316	10,000	40,372	32,793	24,911	20,234	17,917	16,690	15,191	14,553	13,778	13,350	12,339	11,821					
			30,000	29,037	23,585	17,917	14,553	12,886	12,004	10,926	10,467	9,910	9,601	8,875	8,502					
			60,000	23,585	19,157	14,553	11,821	10,467	9,750	8,875	8,502	8,049	7,799	7,208	6,905					

**Note:** Dark Shaded Areas Require Circulating Oil  
Light Shaded Areas Require Static Oil

# SELECTION



## UNIFIED Pillow Block - Spherical Roller Bearings

Table 3: Selection Table for UNIFIED SAF Pillow Blocks (cont)

Shaft Size		Bearing Series	L10 Life Hours	Allowable Equivalent Radial Load Rating (Lbs.) at Various Revolutions Per Minute																
Adapter Mount (Inches)	Direct Mount (mm)			50	100	250	500	750	950	1,300	1,500	1,800	2,000	2,600	3,000	3,200	3,400	4500	5,600	
2-15/16 3	85	22217	10,000	24,512	19,910	15,125	12,285	10,878	10,133	9,223	8,836	8,365	8,105	7,492	7,177	7,039	6,912			
			30,000	17,629	14,320	10,878	8,836	7,824	7,288	6,634	6,355	6,017	5,829	5,388	5,162	5,063	4,971			
			60,000	14,320	11,631	8,836	7,177	6,355	5,920	5,388	5,162	4,887	4,735	4,377	4,193	4,112	4,038			
	85	22317	10,000	43,977	35,720	27,135	22,041	19,516	18,180	16,548	15,852	15,008	14,541	13,441						
			30,000	31,629	25,691	19,516	15,852	14,037	13,076	11,901	11,401	10,794	10,459	9,667						
			60,000	25,691	20,868	15,852	12,876	11,401	10,621	9,667	9,261	8,768	8,495	7,852						
3-3/16	90	22218	10,000	28,116	22,838	17,349	14,092	12,478	11,623	10,580	10,135	9,596	9,297	8,593	8,232	8,074	7,929			
			30,000	20,222	16,425	12,478	10,135	8,974	8,360	7,609	7,289	6,901	6,687	6,180	5,921	5,802	4,809	4,717	4,632	
			60,000	16,425	13,342	10,135	8,232	7,289	6,790	6,180	5,921	5,606	5,431	5,020	4,809	4,717	4,632			
3-7/16 3-1/2	100	22220	10,000	34,785	28,254	21,464	17,434	15,437	14,380	13,089	12,539	11,871	11,502	10,631	10,185					
			30,000	25,018	20,321	15,437	12,539	11,103	10,343	9,414	9,018	8,538	8,273	7,646	7,325					
			60,000	20,321	16,506	12,539	10,185	9,018	8,401	7,646	7,325	6,935	6,719	6,211	5,950					
	100	22320	10,000	65,966	53,581	40,703	33,061	29,275	27,270	24,821	23,778	22,513	21,812							
			30,000	47,444	38,536	29,275	23,778	21,055	19,613	17,852	17,102	16,192	15,688							
			60,000	38,536	31,301	23,778	19,314	17,102	15,931	14,500	13,891	13,152	12,742							
3-15/16 4	110	22222	10,000	43,977	35,720	27,135	22,041	19,516	18,180	16,548	15,852	15,008	14,541	13,441						
			30,000	31,629	25,691	19,516	15,852	14,037	13,076	11,901	11,401	10,794	10,459	9,667						
			60,000	25,691	20,868	15,852	12,876	11,401	10,621	9,667	9,261	8,768	8,495	7,852						
	110	22322	10,000	76,419	62,072	47,153	38,300	33,914	31,592	28,755	27,546	26,080								
			30,000	54,962	44,643	33,914	27,546	24,391	22,722	20,681	19,812	18,758								
			60,000	44,643	36,262	27,546	22,375	19,812	18,456	16,798	16,092	15,236								
4-3/16	120	22224	10,000	51,547	41,869	31,806	25,835	22,876	21,310	19,396	18,581	17,592	17,045							
			30,000	37,074	30,113	22,876	18,581	16,453	15,326	13,950	13,364	12,652	12,259							
			60,000	30,113	24,460	18,581	15,092	13,364	12,449	11,331	10,855	10,277	9,957							
	120	22324	10,000	86,512	70,270	53,381	43,359	38,393	35,764	32,553	31,185	29,525								
			30,000	62,222	50,540	38,393	31,185	27,613	25,723	23,413	22,429	21,235								
			60,000	50,540	41,051	31,185	25,330	22,429	20,893	19,017	18,218	17,248								
4-7/16 4-1/2	130	22226	10,000	61,279	49,774	37,812	30,712	27,195	25,333	23,058	22,089	20,913	20,263							
			30,000	44,074	35,799	27,195	22,089	19,559	18,220	16,584	15,887	15,041	14,573							
			60,000	35,799	29,078	22,089	17,942	15,887	14,799	13,470	12,904	12,217	11,837							
	130	22326	10,000	100,931	81,981	62,278	50,585	44,792	41,725	37,978	36,382									
			30,000	72,592	58,963	44,792	36,382	32,215	30,010	27,315	26,167									
			60,000	58,963	47,893	36,382	29,551	26,167	24,375	22,186	21,254									
4-15/16 5	140	22228	10,000	70,652	57,387	43,594	35,410	31,354	29,208	26,585	25,467	24,112	23,362							
			30,000	50,814	41,274	31,354	25,467	22,551	21,007	19,120	18,317	17,342	16,802							
			60,000	41,274	33,525	25,467	20,686	18,317	17,063	15,530	14,878	14,086	13,648							
	140	22328	10,000	117,152	95,157	72,287	58,715	51,990	48,431	44,082	42,229									
			30,000	84,258	68,439	51,990	42,229	37,393	34,833	31,705	30,372									
			60,000	68,439	55,590	42,229	34,301	30,372	28,293	25,752	24,670									
5-3/16	150	22230	10,000	82,187	66,756	50,712	41,191	36,473	33,976	30,925	29,625	28,049	27,176							
			30,000	59,111	48,013	36,473	29,625	26,232	24,436	22,242	21,307	20,173	19,545							
			60,000	48,013	38,998	29,625	24,063	21,307	19,849	18,066	17,307	16,386	15,876							
	150	22330	10,000	131,571	106,869	81,184	65,942	58,389	54,392	49,507										
			30,000	94,629	76,862	58,389	47,427	41,995	39,120	35,607										
			60,000	76,862	62,432	47,427	38,522	34,110	31,775	28,922										

Note: Dark Shaded Areas Require Circulating Oil  
Light Shaded Areas Require Static Oil

Imperial-HD and S2000-HD

Imperial-HD

S2000-HD

Type E

SAFS



## SELECTION



## UNIFIED Pillow Block - Spherical Roller Bearings

Table 3: Selection Table for UNIFIED SAF Pillow Blocks (cont)

Shaft Size		Bearing Series	L10 Life Hours	Allowable Equivalent Radial Load Rating (Lbs.) at Various Revolutions Per Minute																	
Adapter Mount (Inches)	Direct Mount (mm)			50	100	250	500	750	950	1,300	1,500	1,800	2,000	2,600	3,000	3,200	3,400	4500	5,600		
5- 7/16 5-1/2	160	22232	10,000	93,722	76,126	57,829	46,972	41,592	38,745	35,265	33,783	31,985									
			30,000	67,407	54,751	41,592	33,783	29,914	27,866	25,364	24,298	23,004									
			60,000	54,751	44,472	33,783	27,441	24,298	22,634	20,602	19,736	18,685									
	160	22332	10,000	117,152	95,157	72,287	58,715	51,990	48,431	44,082											
			30,000	84,258	68,439	51,990	42,229	37,393	34,833	31,705											
			60,000	68,439	55,590	42,229	34,301	30,372	28,293	25,752											
5- 15/16 6	170	22234	10,000	108,140	87,837	66,726	54,199	47,991	44,706	40,691	38,981										
			30,000	77,777	63,175	47,991	38,981	34,516	32,153	29,266	28,036										
			60,000	63,175	51,314	38,981	31,662	28,036	26,117	23,771	22,772										
	170	22334	10,000	129,768	105,405	80,071	65,038	57,589	53,647	48,829											
			30,000	93,332	75,809	57,589	46,777	41,420	38,584	35,119											
			60,000	75,809	61,576	46,777	37,995	33,643	31,340	28,525											
6- 7/16 6-1/2	180	22236	10,000	109,943	89,301	67,838	55,102	48,791	45,451	41,369	39,631										
			30,000	79,073	64,227	48,791	39,631	35,092	32,689	29,753	28,503										
			60,000	64,227	52,169	39,631	32,190	28,503	26,552	24,167	23,152										
6-15/16 7	190	22238	10,000	97,326	79,053	60,054	48,779	43,192	40,235	36,622											
			30,000	69,999	56,857	43,192	35,083	31,065	28,938	26,339											
			60,000	56,857	46,182	35,083	28,496	25,232	23,505	21,394											
	190	22338	10,000	149,594	121,508	92,305	74,975	66,388	61,843												
			30,000	107,591	87,391	66,388	53,923	47,747	44,479												
			60,000	87,391	70,984	53,923	43,799	38,783	36,128												
7-3/16	200	22240	10,000	108,140	87,837	66,726	54,199	47,991	44,706												
			30,000	77,777	63,175	47,991	38,981	34,516	32,153												
			60,000	63,175	51,314	38,981	31,662	28,036	26,117												
7 -1/2 7-15/16 8	220	22244	10,000	131,571	106,869	81,184	65,942	58,389	54,392												
			30,000	94,629	76,862	58,389	47,427	41,995	39,120												
			60,000	76,862	62,432	47,427	38,522	34,110	31,775												
8 -7/16 8 -1/2 8-15/16, 9	23048		10,000	93,722	76,126	57,829	46,972	41,592	38,745												
			30,000	67,407	54,751	41,592	33,783	29,914	27,866												
			60,000	54,751	44,472	33,783	27,441	24,298	22,634												
9- 7/16 9-1/2	23052		10,000	122,559	99,549	75,623	61,425	54,390	50,666												
			30,000	88,147	71,598	54,390	44,178	39,118	36,440												
			60,000	71,598	58,155	44,178	35,884	31,774	29,599												
9-15/16 10 10- 7/16 10-1/2	23056		10,000	124,361	101,013	76,735	62,328	55,190													
			30,000	89,444	72,651	55,190	44,828	39,694													
			60,000	72,651	59,011	44,828	36,412	32,241													

Note: Dark Shaded Areas Require Circulating Oil

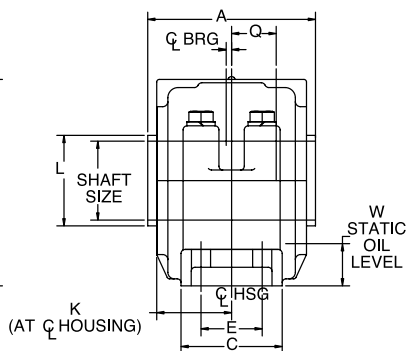
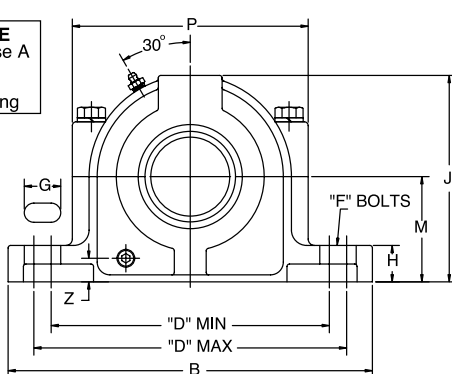
Light Shaded Areas Require Static Oil

# DIMENSIONS



## SAFS Steel Housing Pillow Blocks (22200K/22300K ADAPTER MOUNT BEARING)

**LUBE NOTE**  
All Sizes Use A  
1/8-27 NPT  
Hydraulic  
Grease Fitting



Shaft Size Inch ▲	Housing No.	Part Numbers				Approx. Wt. lbs.	A with Seals			B	C
		SAFS 2-Bolt		SAFS 4-Bolt			Std.	Optional			
		Complete Pillow Block ★	Housing Only	Complete Pillow Block ★	Housing Only			TRIPLE-TECT	LER/ER		
2-7/16	515	042400	042425	042410	042428	24	5.16	4-43/64	7.44	11.25	3.12
2-1/2	515	042401	042425	042411	042428						
2-11/16	516	042407†	044231	042408†	044232	32	5.42	4-51/64	7.62	13.00	3.50
2-3/4	516	042420†	044231	042421†	044232						
2-15/16	517	042402	042433	042412	042436	35	5-39/64	4-63/64	7.88	13.00	3.50
3	517	042403	042433	042413	042436						
3-3/16	518	042424†	044233	042430†	044234	44	6.14	5.62	8.00	13.75	3.88
3-7/16	520	042404	042440	042414	042443						
3-1/2	520	042405	042440	042415	042443	74	6.41	5-13/16	8.50	15.25	4.38
3-15/16	522	-	-	042416	042450						
4	522	-	-	042417	042450	97	6.86	6.38	8.64	16.50	4.75
4-3/16	524	-	-	042432†	044235						
4-7/16	526	-	-	042568	042455	160	8.47	7.88	9.45	18.38	5.12
4-1/2	526	-	-	042575	042455						
4-15/16	528	-	-	042569	042460	175	8.09	7.50	10.33	20.12	5.88
5	528	-	-	042576	042460						
5-3/16	530	-	-	042439†	044236	220	8.75	8.16	10.64	21.25	6.25
5-7/16	532	-	-	042570	042465						
5-1/2	532	-	-	042577	042465	245	9.22	8.62	10.45	22	6.25
5-15/16	534	-	-	042571	042469						
6	534	-	-	042578	042469	310	9.91	9.12	11.88	24.75	6.75
6-7/16	536	-	-	042572	042468						
6-1/2	536	-	-	042579	042468	345	10.34	9.62	11.39	26.75	7.12
6-15/16	538	-	-	042573	042472						
7	538	-	-	042580	042472	400	10.84	10.12	11.16	28.00	7.50
7-1/2	544	-	-	042446†	044277						
7-15/16	544	-	-	042581	042477	640	12.84	11.62	13.20	32.75	8.75
8	544	-	-	042574	042477						

★ Includes: (1) housing with Spacers, (1) Standard Spherical Bearing, (1) SNW Assembly (SNP above 8") and (2) TRIPLE-TECT Seals unless otherwise noted.

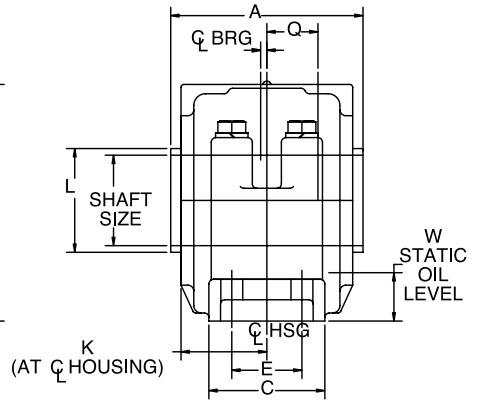
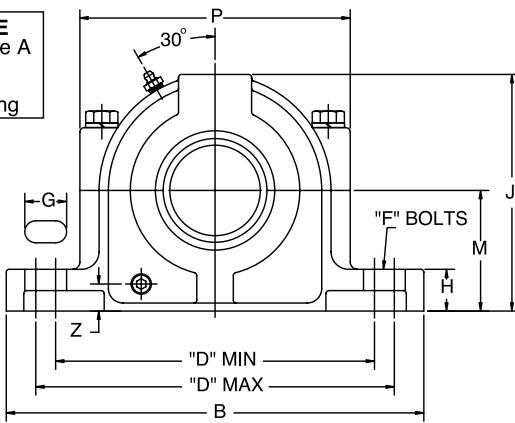
† Sizes not listed will be quoted on application  
SAFS 2-Bolt Pillow Block (P2B-SAFS - - -)  
SAFS 4-Bolt Pillow Block (P4B-SAFS - - -)

# DIMENSIONS



## SAFS Steel Housing Pillow Blocks (22200K/22300K ADAPTER MOUNT BEARING)

**LUBE NOTE**  
All Sizes Use A  
1/8-27 NPT  
Hydraulic  
Grease Fitting



# DIMENSIONS



## SAFS Steel Housing Pillow Blocks

Shaft Size Inch	Dimension				E	Bolt Dia.		G	H	J	K	L	M	P	Q	S	W	Z
	D					F												
	2-Bolt		4-Bolt			2B	4B											
	Min.	Max.	Min.	Max.														
2-7/16 2-1/2	8.75	9.50	8.62	9.62	1.88	5/8	1/2	1.12	1.25	6.44	2.31	2.80	3.25	7.06	1.34	0.12	1.16	0.62
2-11/16 2-3/4	10.12	10.62	9.88	10.88	2.12	3/4	5/8	1.25	1.50	6.88	2.38	3.17	3.50	8.00	1.47	0.19	1.25	0.62
2-15/16 3	10.25	10.75	10.00	11.00	2.12	3/4	5/8	1.12, 2B 1.25, 4B	1.50	7.38	2.47	3.42	3.75	8.25	1.56	0.19	1.38	0.75
3-3/16	10.75	11.25	10.50	11.50	2.12	3/4	5/8	1.25	1.62	7.75	2.75	3.69	4.00	8.25	1.70	0.19	1.47	0.69
3-7/16 3-1/2	11.88	12.62	11.75	12.75	2.38	7/8	3/4	1.38	1.75	8.75	2.91	3.83	4.50	9.81	1.89	0.19	1.64	0.94
3-15/16 4	-	-	12.88	14.12	2.75	-	3/4	1.50	2.00	9.62	3.12	4.33	4.94	10.62	2.08	0.19	1.80	1.12
4-3/16	-	-	13.25	14.50	2.75	-	3/4	1.50	1.75	10.25	3.91	4.59	5.25	11.50	2.22	0.19	1.84	1.00
4-7/16 4-1/2	-	-	14.50	16.00	3.25	-	7/8	1.75	2.50	11.56	3.88	4.94	6.00	12.81	2.41	0.19	2.34	1.28
4-15/16 5	-	-	15.62	17.38	3.38	-	1	2.00	2.50	12.00	3.69	5.36	6.00	13.56	2.53	0.19	2.03	1.81
5-3/16	-	-	16.75	18.50	3.75	-	1	2.00	2.50	12.81	4.06	5.77	6.31	14.50	2.69	0.19	2.03	1.81
5-7/16 5-1/2	-	-	17.38	19.12	3.75	-	1	2.00	2.75	13.69	4.25	5.88	6.69	15.12	2.89	0.19	2.09	1.22
5-15/16 6	-	-	19.38	21.62	4.25	-	1	2.00	2.88	14.56	4.62	6.44	7.06	16.81	3.12	0.19	2.81	1.56
6-7/16 6-1/2	-	-	21.38	23.12	4.62	-	1	2.00	3.00	15.25	4.81	6.80	7.50	17.81	3.08	0.19	2.42	1.09
6-15/16 7	-	-	22.12	23.88	4.50	-	1-1/4	2.25	3.12	16.12	5.12	7.38	7.88	17.88	3.23	0.19	2.53	1.31
7-1/2 7-15/16 8	-	-	25.12	27.88	5.25	-	1-1/2	3.00	3.88	19.25	5.75	7.94 8.33	9.50	20.75	3.64	0.19	3.25	1.88

◆ Distance shaft should extend beyond housing centerline of pillow block in closed end style.

★ Non-expansion bearing offset from centerline. For Expansion Bearing S = 0.

■ Based on TRIPLE-TECT seals.

Imperial+HD and S2000+HD

Imperial+HD

S2000+HD

Type E

SAFS

Imperial-HD and S2000-HD

Imperial-HD

S-2000-HD

Type E

SAFS

# NOTES

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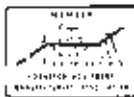
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