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IMPERIAL - ISAF

UNIFIED ISAF

International Bearings

Sleeve Bearing

SLEEVOIL

IMPERIAL - ISAF

UNITED SAF

International Bearings

Sleeve Bearing

SLEEVOIL

NOTES



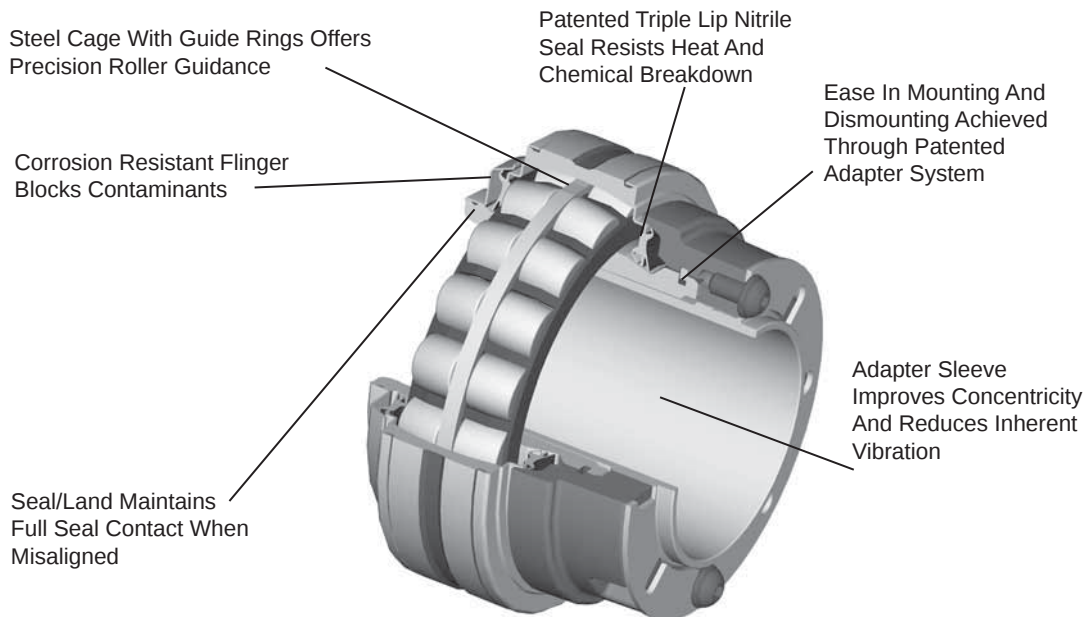
FEATURES/BENEFITS



IMPERIAL

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 of an IMPERIAL bearing can be accomplished in 15 minutes or less.



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

FEATURES/BENEFITS

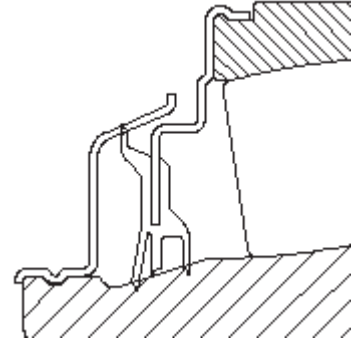


IMPERIAL

IMPERIAL Bearings Offer Patented Seal Options To Maximize Bearing Life . . .

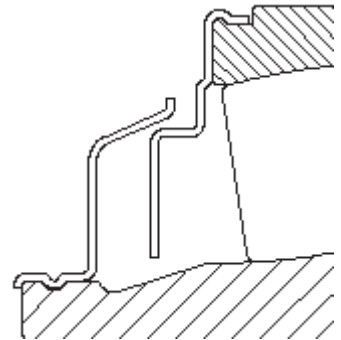
TRIDENT™ seals for low to medium speed

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



Labyrinth seals for higher speeds or high temperatures

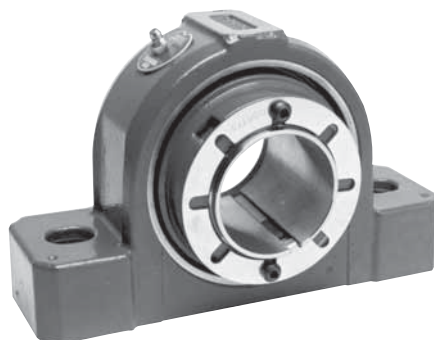
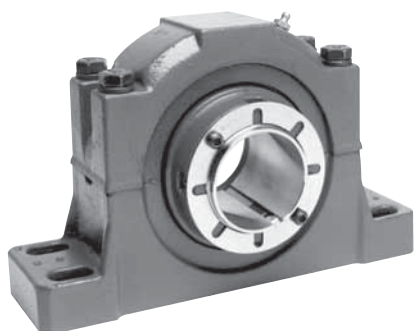
- High speed for relatively clean or hot environments
- 15% increase in maximum speed over standard SAF adapter mounted sphericals of the same shaft size
- Flinger to shield seal and bearing from contamination/damage
- Seal operates up to ± 1 degree of misalignment
- Patented design



FEATURES/BENEFITS



IMPERIAL - IP



- Push-pull adapter mount
- Grease limiting speeds 30% higher than setscrew mounts
- Same rolling element as the S-2000 bearing
- Pillow blocks are interchangeable with S-2000 dimensions on all sizes
- All housings are Class 30 Gray Iron
- 2 bolt pillow blocks, 4 bolt flange bearings piloted flange and take-ups 1-1/8" to 4"
- 4 bolt pillow blocks in sizes 2-3/8" to 5"
- Jackscrew holes standard on piloted flanges
- Can replace 300 series ball bearings in many applications
- Patented adapter mounting system
- Superior holding power reduces the fretting corrosion caused by vibration
- Shaft ready installation
- No special tools required for installation
- DODGE TRIDENT triple lip seal provides superior sealing system
- Seal/land on OD of inner ring maintains full contact pressure even when misaligned
- Less shaft damage vs. setscrew mounts
- Reduced vibration damage vs. setscrew mounts

IMPERIAL - ISAF

UNIFIED SAF

International Bearings

Sleeve Bearing

SLEEVOIL

SPECIFICATION

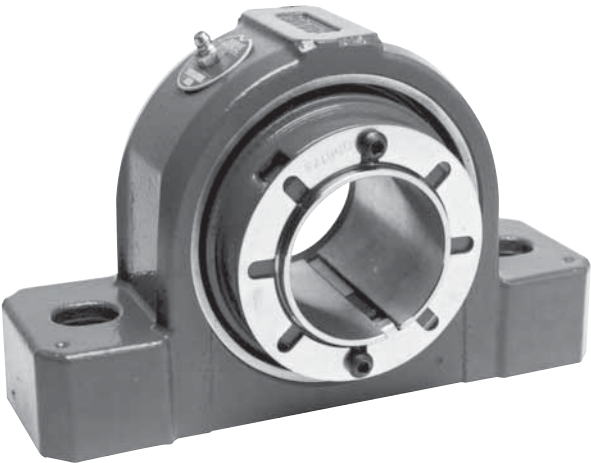


IMPERIAL INCH

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.

ASTM A48 Class 30 cast iron is the standard material used in IMPERIAL 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.



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HOW TO ORDER



IMPERIAL

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 B10-9 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 is available. Standard

grease provided is Mobilith AW2. High temperature greases available include Moluballoy 896 HT 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: 069461 except with Mobil Grease HTS #2 grease

or

P2BIP108L 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.

IMPERIAL - ISAF

UNIFIED SAF

International Bearings

Sleeve Bearing

SLEEVOIL

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FEATURES/BENEFITS

DODGE®



IMPERIAL-E



- Interchangeable with Type E style pillow blocks and flanges
- Same DODGE exclusive IMPERIAL adapter system and bearing insert
- Easy installation - no feeler gauges needed
- Easy removal - no torches, sledge hammers or special tools needed
- DODGE TRIDENT triple lip seal provides superior sealing system
- Labyrinth seal available for high speed or high temperature applications
- Up to $\pm 1^\circ$ misalignment capability
- Seal land on OD of inner ring maintains full contact pressure even when misaligned
- High capacity double row spherical bearing
- 2 bolt pillow blocks in sizes 1-3/8 to 3-1/2"
- 4 bolt pillow blocks in sizes 2-1/4 to 7"
- Flanges in sizes 1-3/8 to 4-1/2"
- Piloted flanges in sizes 1-3/8 to 5"

NOMENCLATURE



IMPERIAL - IP

HOUSING STYLE		BEARING TYPE	SIZE	SEAL	OTHER DATA
“E” prefix denotes Type E dimensioned housing with IMPE- RIAL spherical roller bearing insert*	P2B =	Pillow Block 2 Bolt Base, Cast Iron	Inches and 16th 2 = 2” 07 = 7/16” 207 = 2-7/16”	R =	Expansion Type Bear- ing - If “E” Does Not Appear, Bearing Is Non-Expan- sion Type
	P4B =	Pillow Block 4 Bolt Base, Cast Iron		L =	
	F3R =	Flange Bearing 3 Bolt, Cast Iron Round			
	F4R =	Flange Bearing 4 Bolt Base, Cast Iron, Round			
	F4S =	Flange Bearing 4 Bolt Base, Cast iron, Square			
	FC =	Piloted Flanged (Flanged Cartridge)			
	WSTU =	Wide Slot Take-Up Bearing For Use In Center-Pull Frames			
IP =		IMPERIAL			

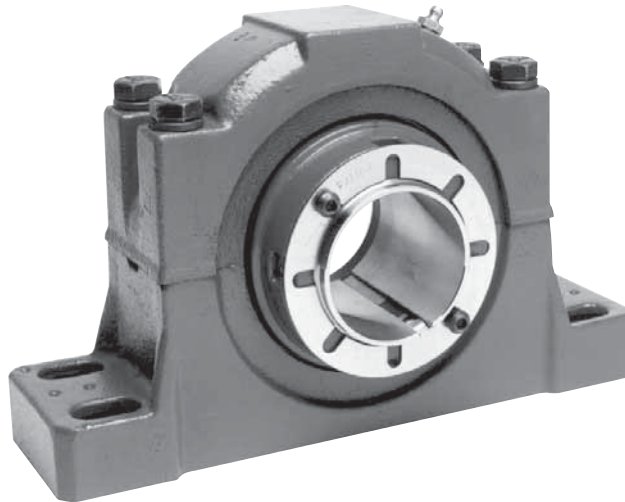
* Available in two or four bolt pillow blocks, four bolt square flanges and piloted flanges

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FEATURES/BENEFITS

DODGE®

ISAF

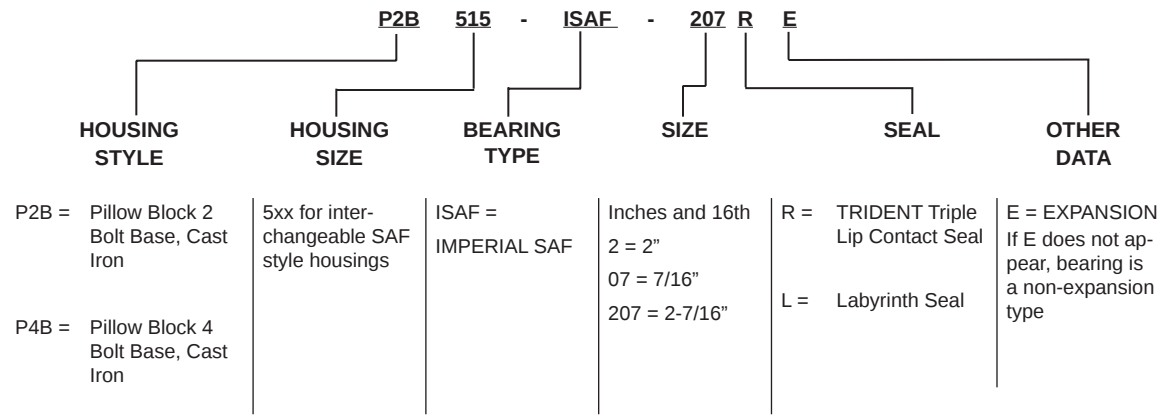


- Interchangeable with SAF style pillow blocks
- Patented adapter mounting system
- Easy installation - no feeler gauges needed
- Easy removal - no torches, sledge hammers or special tools needed
- DODGE TRIDENT triple lip seal provides superior sealing system
- Labyrinth seal available for high speed or high temperature applications
- Up to $\pm 1^\circ$ misalignment capability
- Seal land on OD of inner ring maintains full contact pressure even when misaligned
- High capacity double row spherical bearing
- 2 bolt pillow blocks in sizes 1-7/16 to 3-7/16"
- 4 bolt pillow blocks in sizes 2-7/16" to 7"

NOMENCLATURE



ISAF



IMPERIAL - ISAF

UNIFIED SAF

International Bearings

Sleeve Bearing

SLEEVOIL

ISAF FEATURES/BENEFITS PAGE B10-10	ISAF DIMENSIONS PAGE B10-60		
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SELECTION



IMPERIAL - IP and ISAF 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.

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

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

Where:

C = Dynamic Capacity (Table 1 on page B10-15 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 L₁₀ 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 L₁₀ life to assure that it meets the requirements. The effectiveness

of the shaft attachment to carry thrust load depends on proper tightening of the 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 Tables 3 - 5 on pages B10-18 - B10-19 for maximum values.** Where a load pulls the housing away from the mounting base, both the hold-down bolts and housing must be of adequate strength. Auxiliary load carrying devices such as shear bars are advisable for side or end loading of pillow blocks and radial 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 - IP and ISAF 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 B10-16 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 4011 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 longer, 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

B10-15 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 on 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 loads to an equivalent radial load having the same effect on the life of the bearing as a radial load of this magnitude.

The equivalent radial load $P = XF_R + YF_A$
Where:

- P = Equivalent radial load, lbs.
 F_R = Radial load, lbs. (see Table 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 under the Product Selection area.

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SELECTION



IMPERIAL - IP and SAF 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 B10-15 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 B10-16

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.

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 Mobilith AW2 grease for sizes up to 5". Above 5", Mobilux EP #2 is used. Mobilith AW2 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 as defined on Table 5 on page B10-19 For

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. However, for optimum seal performance, misalignment should be kept under $\pm 0.5^\circ$. 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.

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SELECTION



IMPERIAL - IP and SAF 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
5-7/16 5-1/2	22228	0.25	1.0	2.7	0.67	4.0	6,419	166,000	236,000	1,700	1,100	3/8
5-15/16 6	22232	0.26	1.0	2.6	0.67	3.9	8,630	220,000	315,000	1,500	975	3/8
6-7/16 6-1/2 6-15/16 7	22236	0.25	1.0	2.7	0.67	4.0	10,437	260,000	375,000	1,300	845	3/8

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

** IMPERIAL - Type E Dimensional Housing

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SELECTION



IMPERIAL - IP and SAF 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	5,600	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
*1-1/2 1-5/8 1-11/16 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	1,521	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	
*1-3/4 1-7/8 1-15/16 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	1,608	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		
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			
*2-1/4 2-3/8 2-7/16 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				
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	3,457	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					
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								
Sleeve Bearing	10,000	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 L10 shown at the left.

Applications in the light shaded area may require a high temperature lubrication, consult Dodge Engineering at (864) 297-4800

* IMPERIAL - Type E Dimensional Housing

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL DIMENSIONS PAGE B10-20
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SELECTION



IMPERIAL - IP and SAF Spherical Roller Bearing

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

Size	L10 Life	Allowable Equivalent Radial Load Rating (lbs.) at Various Revolutions per Minute																						
Inches	Hours	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												
5-7/16 to 5-1/2	10,000	59,838	48,603	43,037	36,922	29,990	26,555	17,520	22,516	21,569	20,775													
	30,000	43,037	34,957	30,953	26,555	21,569	19,099	17,520	16,194	15,513	14,942													
	40,000	39,478	32,066	28,394	24,359	19,786	17,520	16,071	14,855	14,230	13,706													
	60,000	34,957	28,394	25,142	21,569	17,520	15,513	14,230	13,153	12,601	12,136													
	100,000	29,990	24,359	21,569	18,505	15,031	13,309	12,209	11,284	10,810	10,412													
5-15/16 to 6	10,000	79,303	64,414	57,036	48,933	39,746	25,312	32,283	29,840	28,586														
	30,000	57,036	46,328	41,022	35,193	28,586	25,312	23,219	21,462	20,560														
	40,000	52,320	42,497	37,630	32,283	26,222	23,219	21,299	19,687	18,860														
	60,000	46,328	37,630	33,320	28,586	23,219	20,560	18,860	17,432	16,700														
	100,000	39,746	32,283	28,586	24,524	19,920	17,638	16,180	14,955	14,327														
6-7/16 to 7	10,000	93,722	76,126	67,407	57,829	46,972	29,914	38,153	35,265															
	30,000	67,407	54,751	48,480	41,592	33,783	29,914	27,441	25,364															
	40,000	61,833	50,224	44,472	38,153	30,990	27,441	25,172	23,266															
	60,000	54,751	44,472	39,378	33,783	27,441	24,298	22,289	20,602															
	100,000	46,972	38,153	33,783	28,983	23,542	20,845	19,122	17,675															

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 L10 shown at the left.

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

IMPERIAL - ISAF

UNIFIED SAF

International Bearings

Sleeve Bearing

SLEEVOIL

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL DIMENSIONS PAGE B10-20
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SELECTION



IMPERIAL - IP Spherical Roller Bearings

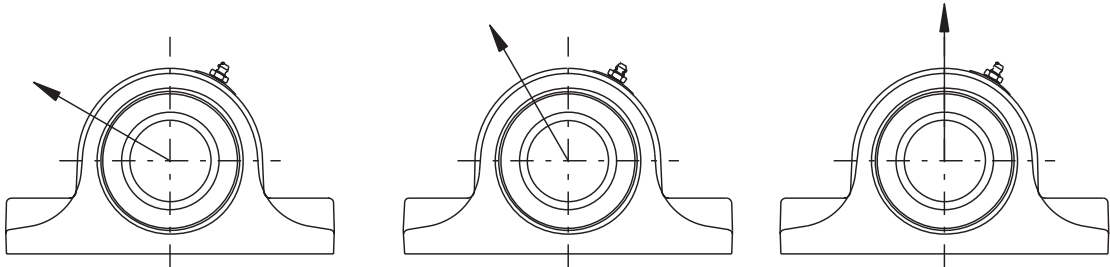


Table 3: IMPERIAL-IP 2-Bolt Pillow Block Housing Ratings*

Bore Size	Maximum Recommended Housing Cap Loads, lb		
	120°	150°	180°
1-1/8 to 1-1/2	2110	2640	3100
1-5/8 to 1-3/4	2380	2980	3500
1-7/8 to 2	3130	3910	4600
2-3/16 to 2-1/4	3330	4160	4900
2-3/8 to 2-1/2	3330	4160	4900
2-11/16 to 3	4420	5520	6500
3-3/16 to 3-1/2	4620	5780	6800
3-11/16 to 4	7500	9350	11000

Table 4: IMPERIAL-IP 4-Bolt Pillow Housing Ratings*

Bore Size	Maximum Recommended Housing Cap Loads, lb		
	120°	150°	180°
2-3/8 to 2-1/2	3810	4760	5600
2-11/16 to 3	4620	5780	6800
3-3/16 to 3-1/2	4700	5870	6900
3-11/16 to 4	7500	9350	11000
4-7/16 to 4-1/2	9900	12330	14500
4-15/16 to 5	13400	16750	19700

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

1. The pillow block base bolts must be of 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 L10 life of the bearing should be checked for proper selection and life requirements.



IMPERIAL - ISAF Spherical Roller Bearings

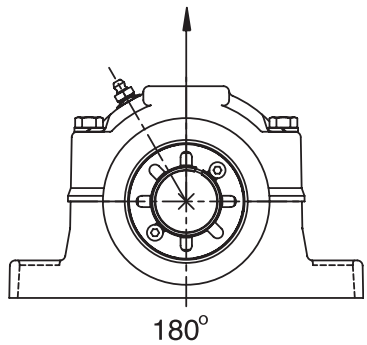


Table 5: ISAF Housing Rating*

SHAFT SIZE (INCHES)	MAXIMUM RECOMMENDED HOUSING CAP LOADS, LBS
	180°
1-1/8 thru 1-1/2	4,600
1-5/8 thru 1-3/4	5,400
1-7/8 thru 2	7,875
2-3/16 thru 2-1/4	9,200
2-3/8 thru 2-1/2	9,220
2-11/16 thru 3	10,200
3-3/8 thru 3-1/2	14,700
3-11/16 thru 4	17,800
4-7/16 thru 4-1/2	18,300
4-15/16 thru 5	22,300
5-7/16 thru 5-1/2	25,100
5-15/16 thru 6	30,200
6-7/16 thru 7	35,300

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

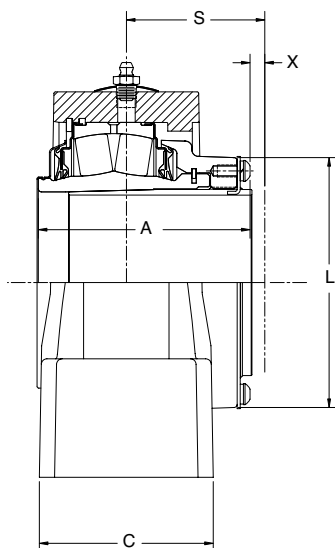
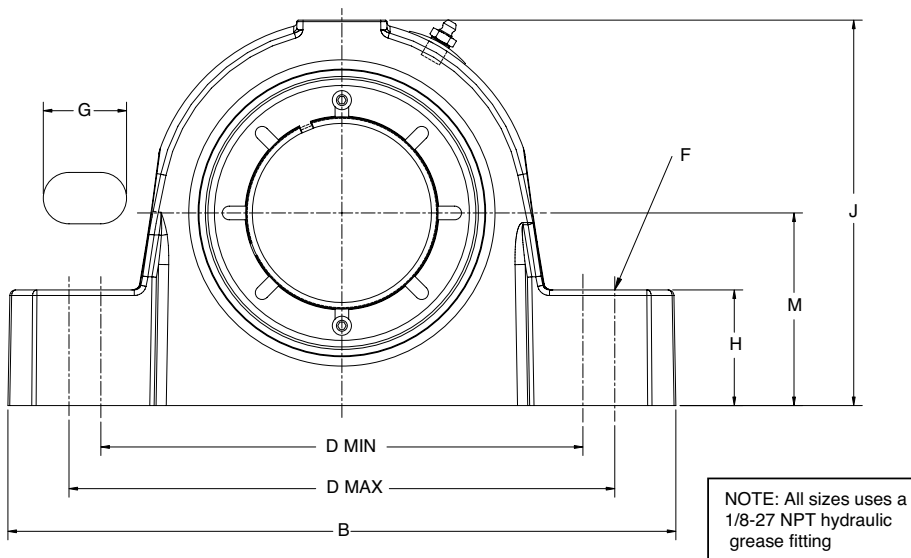
1. The pillow block base bolts must be of high strength (Grade 8) bolts and properly tightened to mounting structure.
2. Stop bars (shear strips) should be used against the plummer block where side loads are encountered.
3. In all cases where loads are heavy, the L_{10} life of the bearing should be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

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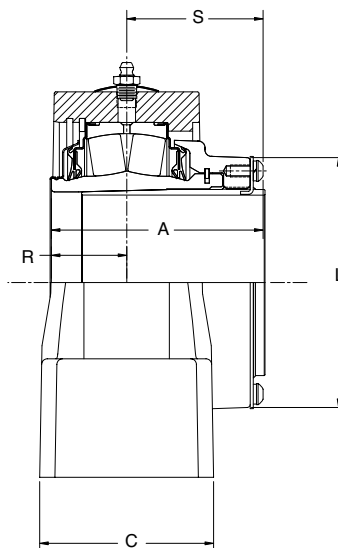
DIMENSION



IMPERIAL - IP Pillow Block 1-1/8 THRU 2-1/4 INCH - 2-BOLT



EXPANSION



NON-EXPANSION

NOTE: See page B10-22 for 2-3/8 - 4 inch

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Pillow Block 1-1/8 THRU 2-1/4 INCH - 2-BOLT

Bearing	Shaft Size Inch	TRIDENT Seal				Labyrinth Seal			
		Non-Expansion		Expansion		Non-Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22208	1 - 1/8	069400	P2B-IP-102R	069428	P2B-IP-102RE	069456	P2B-IP-102L	069484	P2B-IP-102LE
	1 - 3/16	069401	P2B-IP-103R	069429	P2B-IP-103RE	069457	P2B-IP-103L	069485	P2B-IP-103LE
	1 - 1/4	069402	P2B-IP-104R	069430	P2B-IP-104RE	069458	P2B-IP-104L	069486	P2B-IP-104LE
	1 - 3/8	069403	P2B-IP-106R	069431	P2B-IP-106RE	069459	P2B-IP-106L	069487	P2B-IP-106LE
	1 - 7/16	069404	P2B-IP-107R	069432	P2B-IP-107RE	069460	P2B-IP-107L	069488	P2B-IP-107LE
	1 - 1/2	069405	P2B-IP-108R	069433	P2B-IP-108RE	069461	P2B-IP-108L	069489	P2B-IP-108LE
22209	1 - 5/8	069406	P2B-IP-110R	069434	P2B-IP-110RE	069462	P2B-IP-110L	069490	P2B-IP-110LE
	1 - 11/16	069407	P2B-IP-111R	069435	P2B-IP-111RE	069463	P2B-IP-111L	069491	P2B-IP-111LE
	1 - 3/4	069408	P2B-IP-112R	069436	P2B-IP-112RE	069464	P2B-IP-112L	069492	P2B-IP-112LE
22210	1-7/8	069409	P2B-IP-114R	069437	P2B-IP-114RE	069465	P2B-IP-114L	069493	P2B-IP-114LE
	1 - 15/16	069410	P2B-IP-115R	069438	P2B-IP-115RE	069466	P2B-IP-115L	069494	P2B-IP-115LE
	2	069411	P2B-IP-200R	069439	P2B-IP-200RE	069467	P2B-IP-200L	069495	P2B-IP-200LE
22211	2 - 3/16	069412	P2B-IP-203R	069440	P2B-IP-203RE	069468	P2B-IP-203L	069496	P2B-IP-203LE
	2 - 1/4	069413	P2B-IP-204R	069441	P2B-IP-204RE	069469	P2B-IP-204L	069497	P2B-IP-204LE

Metric shaft sizes available upon request

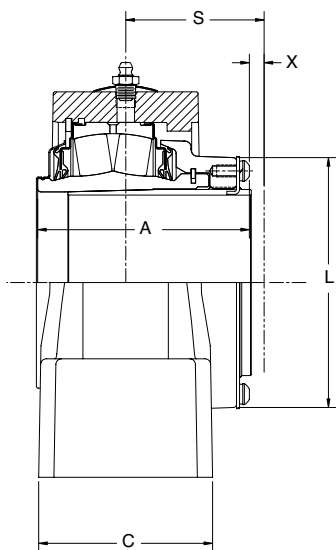
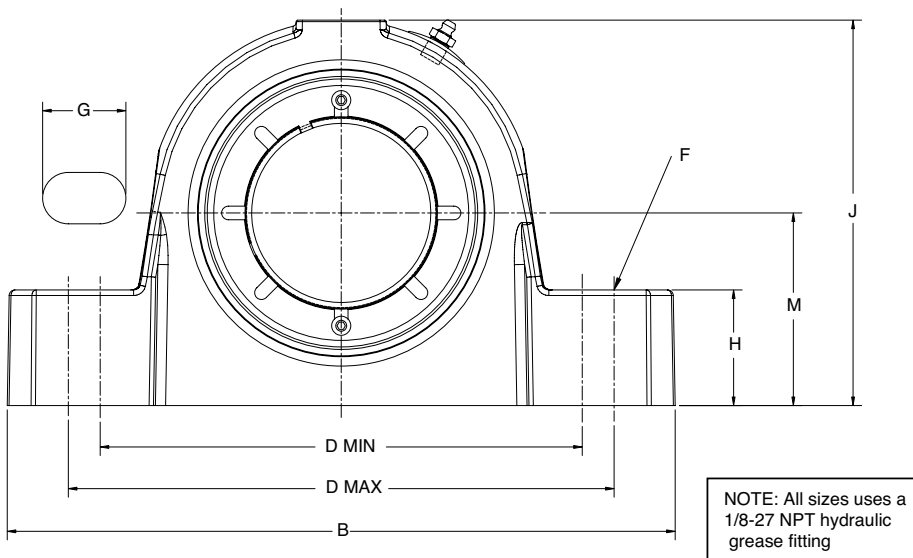
SHAFT SIZE	A	B	C	D		F BOLT DIA.	G	H	J	L	M	R	S	X TOTAL EXP.
				MIN	MAX									
1 - 1/8 1 - 3/16 1 - 1/4 1 - 3/8 1 - 7/16 1 - 1/2	2 - 5/8	6 - 7/8	1 - 61/64	4 - 13/16	5 - 13/64	1/2	13/16	1 - 1/8	3 - 7/8	2 - 23/32	1 - 7/8	7/8	1 - 3/4	3/16
1 - 5/8 1 - 11/16 1 - 3/4	2 - 13/16	7 - 3/8	2 - 1/16	5 - 5/16	5 - 45/64	1/2	13/16	1 - 1/4	4 - 17/64	3	2 - 1/8	13/16	2	1/4
1-7/8 1 - 15/16 2	2 - 55/64	8 - 3/8	2 - 1/2	6 - 1/16	6 - 7/16	5/8	61/64	1 - 5/16	4 - 9/16	3 - 9/32	2 - 1/4	55/64	2	1/4
2 - 3/16 2 - 1/4	3 - 1/32	8 - 7/8	2 - 5/8	6 - 9/16	6 - 15/16	5/8	61/64	1 - 1/2	5	3 - 1/2	2 - 1/2	29/32	2 - 1/8	1/4

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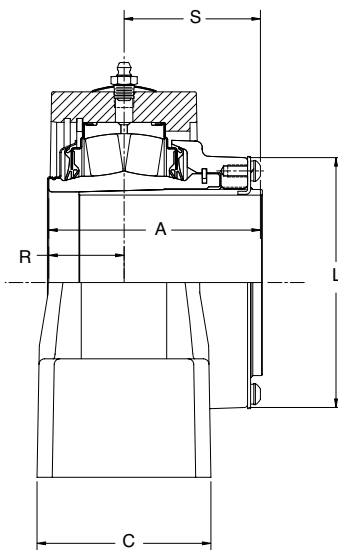
DIMENSION



IMPERIAL - IP Pillow Block 2-3/8 THRU 4 INCH - 2-BOLT



EXPANSION



NON-EXPANSION

NOTE: See page B10-20 for 1-1/8 thru 2-1/4 inch

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Pillow Block 2-3/8 THRU 4 INCH - 2-BOLT

Bearing	Shaft Size Inch	TRIDENT Seal				Labyrinth Seal			
		Non-Expansion		Expansion		Non-Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22213	2-3/8	069414	P2B-IP-206R	069442	P2B-IP-206RE	069470	P2B-IP-206L	069498	P2B-IP-206LE
	2 - 7/16	069415	P2B-IP-207R	069443	P2B-IP-207RE	069471	P2B-IP-207L	069499	P2B-IP-207LE
	2 - 1/2	069416	P2B-IP-208R	069444	P2B-IP-208RE	069472	P2B-IP-208L	069500	P2B-IP-208LE
22215	2 - 11/16	069417	P2B-IP-211R	069445	P2B-IP-211RE	069473	P2B-IP-211L	069501	P2B-IP-211LE
	2-3/4	069418	P2B-IP-212R	069446	P2B-IP-212RE	069474	P2B-IP-212L	069502	P2B-IP-212LE
	2 - 15/16	069419	P2B-IP-215R	069447	P2B-IP-215RE	069475	P2B-IP-215L	069503	P2B-IP-215LE
	3	069420	P2B-IP-300R	069448	P2B-IP-300RE	069476	P2B-IP-300L	069504	P2B-IP-300LE
22218	3 - 3/16	069421	P2B-IP-303R	069449	P2B-IP-303RE	069477	P2B-IP-303L	069505	P2B-IP-303LE
	3-1/4	069422	P2B-IP-304R	069450	P2B-IP-304RE	069478	P2B-IP-304L	069506	P2B-IP-304LE
	3 - 7/16	069423	P2B-IP-307R	069451	P2B-IP-307RE	069479	P2B-IP-307L	069507	P2B-IP-307LE
	3 - 1/2	069424	P2B-IP-308R	069452	P2B-IP-308RE	069480	P2B-IP-308L	069508	P2B-IP-308LE
22220	3 - 11/16	069425	P2B-IP-311R	069453	P2B-IP-311RE	069481	P2B-IP-311L	069509	P2B-IP-311LE
	3 - 15/16	069426	P2B-IP-315R	069454	P2B-IP-315RE	069482	P2B-IP-315L	069510	P2B-IP-315LE
	4	069427	P2B-IP-400R	069455	P2B-IP-400RE	069483	P2B-IP-400L	069511	P2B-IP-400LE

Metric shaft sizes available upon request

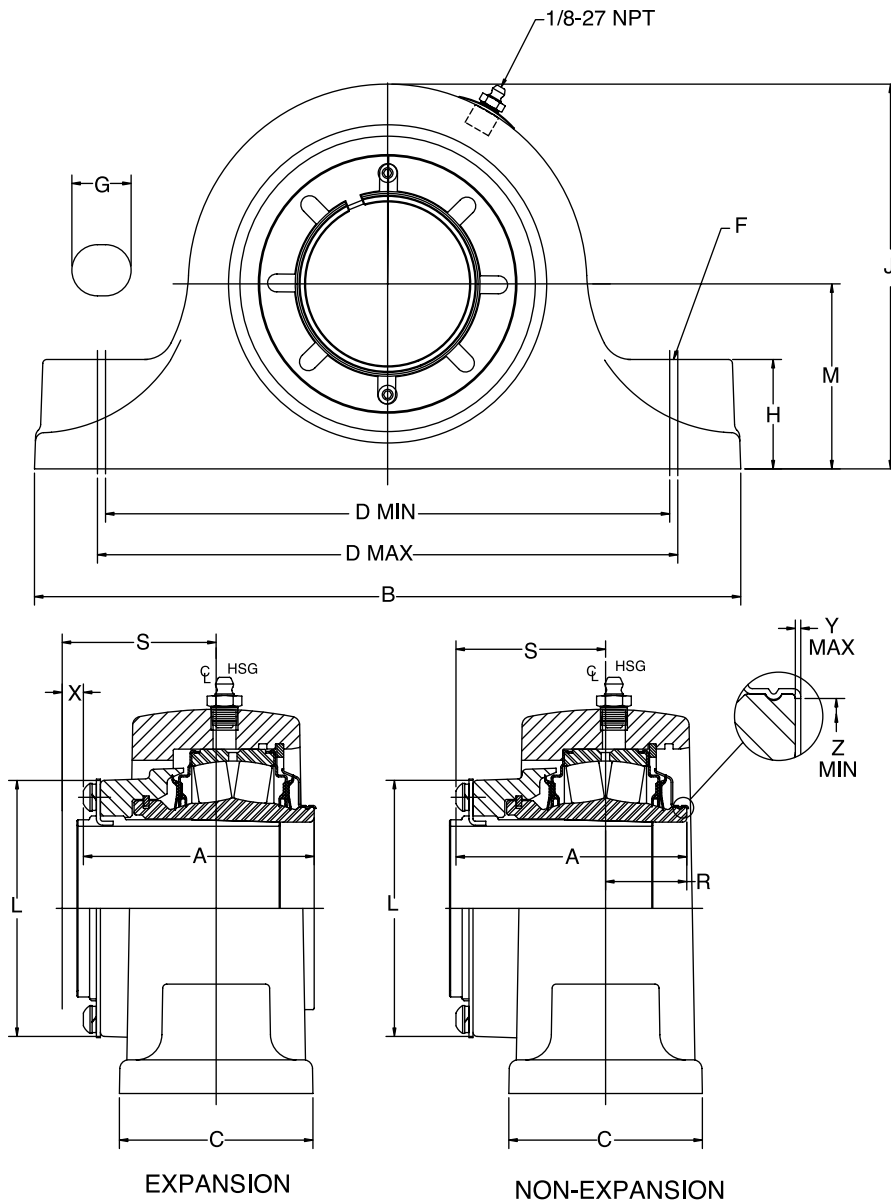
SHAFT SIZE	A	B	C	D		F BOLT DIA.	G	H	J	L	M	R	S	X TOTAL EXP.
				MIN	MAX									
2-3/8														
2 - 7/16	3 - 27/64	9 - 1/4	2 - 55/64	6 - 15/16	7 - 5/16	5/8	61/64	1 - 5/8	5 - 19/32	3 - 7/8	2 - 3/4	1 - 13/64	2 - 7/32	1/4
2 - 1/2														
2 - 11/16														
2-3/4	3 - 1/2	10 - 7/16	3 - 5/64	7 - 15/16	8 - 5/16	3/4	1 - 1/16	1 - 7/8	6 - 3/8	4 - 9/32	3 - 1/4	1 - 15/64	2 - 17/64	1/4
2 - 15/16														
3														
3 - 3/16														
3-1/4	4 - 11/64	13	3 - 27/64	9 - 3/8	10 - 5/8	7/8	1 - 5/8	2 - 1/4	7 - 1/2	5	3 - 3/4	1 - 31/64	2 - 11/16	1/4
3 - 7/16														
3 - 1/2														
3 - 11/16														
3 - 15/16	4 - 45/64	15 - 1/4	3 - 29/32	10 - 5/8	12 - 7/8	1	2 - 1/4	2 - 7/16	8 - 3/8	5 - 9/16	4 - 1/4	1 - 41/64	3 - 1/16	5/16
4														

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DIMENSION



IMPERIAL - IP Pillow Block with Type E Dimensions 1-3/8 THRU 2-3/16 INCH 2-BOLT



NOTE: See page B10-26 for 2-1/4 thru 3-1/2 inch

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Pillow Block with Type E Dimensions 1-3/8 THRU 2-3/16 INCH 2-BOLT

Bearing Series	Shaft Size*	TRIDENT SEAL				Labyrinth Seal			
		Non Expansion		Expansion		Non Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22208	1-3/8	071120	EP2B-IP-106R	071141	EP2B-IP-106RE	071162	EP2B-IP-106L	071183	EP2B-IP-106LE
	1-7/16	071121	EP2B-IP-107R	071142	EP2B-IP-107RE	071163	EP2B-IP-107L	071184	EP2B-IP-107LE
22209	1-1/2	071122	EP2B-IP-108R	071143	EP2B-IP-108RE	071164	EP2B-IP-108L	071185	EP2B-IP-108LE
	1-5/8	071123	EP2B-IP-110R	071144	EP2B-IP-110RE	071165	EP2B-IP-110L	071186	EP2B-IP-110LE
	1-11/16	071124	EP2B-IP-111R	071145	EP2B-IP-111RE	071166	EP2B-IP-111L	071187	EP2B-IP-111LE
22210	1-3/4	071125	EP2B-IP-112R	071146	EP2B-IP-112RE	071167	EP2B-IP-112L	071188	EP2B-IP-112LE
	1-7/8	071126	EP2B-IP-114R	071147	EP2B-IP-114RE	071168	EP2B-IP-114L	071189	EP2B-IP-114LE
	1-15/16	071127	EP2B-IP-115R	071148	EP2B-IP-115RE	071169	EP2B-IP-115L	071190	EP2B-IP-115LE
	2	071128	EP2B-IP-200R	071149	EP2B-IP-200RE	071170	EP2B-IP-200L	071191	EP2B-IP-200LE
22211	2-3/16	071129	EP2B-IP-203R	071150	EP2B-IP-203RE	071171	EP2B-IP-203L	071192	EP2B-IP-203LE

*CONSULT DODGE FOR SIZES NOT LISTED

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	2.63	7.37	2.12	5.63	5.88	1/2	0.75	1.13	3.85	2.72	1.875	1.04	1.59	0.16	0.020	1.80
1-1/2 1-5/8 1-11/16	2.81	7.88	2.38	6.13	6.38	1/2	0.75	1.25	4.25	3.00	2.125	0.98	1.83	0.19	0.020	2.08
1-3/4 1-7/8 1-15/16 2	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	0.22	0.020	2.30
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	0.25	0.025	2.60

NOTES: "A" AND "R" DIMENSIONS DO NOT INCLUDE "Y" DIMENSION

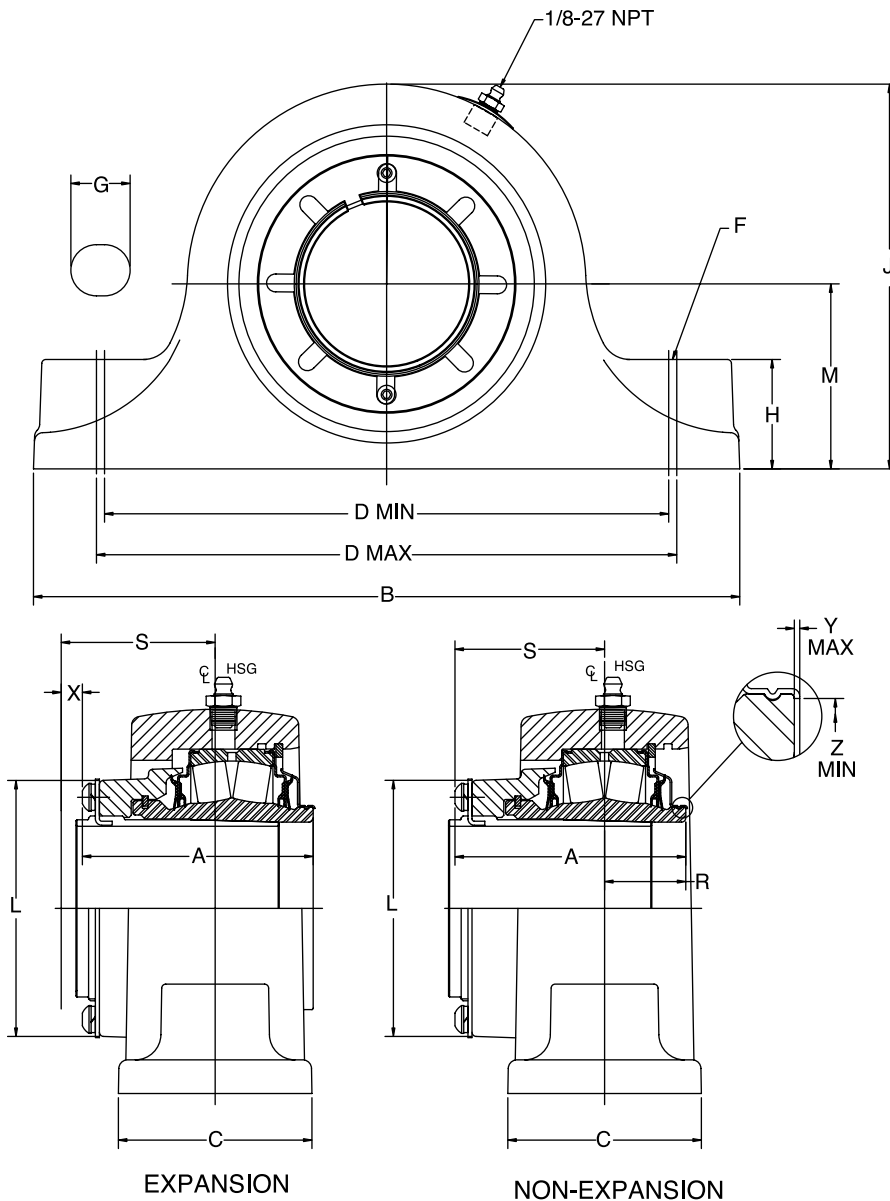
REFERENCE DIMENSION ONLY

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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DIMENSION



IMPERIAL - IP Pillow Block with Type E Dimensions 2-1/4 THRU 3-1/2 INCH 2-BOLT



NOTE: See page B10-24 for 1-3/8 thru 2-3/16 inch

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Pillow Block with Type E Dimensions 2-1/4 THRU 3-1/2 INCH 2-BOLT

Bearing Series	Shaft Size*	TRIDENT Seal				Labyrinth SEAL			
		Non Expansion		Expansion		Non Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22213	2-1/4	071130	EP2B-IP-204R	071151	EP2B-IP-204RE	071172	EP2B-IP-204L	071193	EP2B-IP-204LE
	2-7/16	071131	EP2B-IP-207R	071152	EP2B-IP-207RE	071173	EP2B-IP-207L	071194	EP2B-IP-207LE
	2-1/2	071132	EP2B-IP-208R	071153	EP2B-IP-208RE	071174	EP2B-IP-208L	071195	EP2B-IP-208LE
22215	2-11/16	071133	EP2B-IP-211R	071154	EP2B-IP-211RE	071175	EP2B-IP-211L	071196	EP2B-IP-211LE
	2-3/4	071134	EP2B-IP-212R	071155	EP2B-IP-212RE	071176	EP2B-IP-212L	071197	EP2B-IP-212LE
	2-15/16	071135	EP2B-IP-215R	071156	EP2B-IP-215RE	071177	EP2B-IP-215L	071198	EP2B-IP-215LE
	3	071136	EP2B-IP-300R	071157	EP2B-IP-300RE	071178	EP2B-IP-300L	071199	EP2B-IP-300LE
22218	3-3/16	071137	EP2B-IP-303R	071158	EP2B-IP-303RE	071179	EP2B-IP-303L	071200	EP2B-IP-303LE
	3-1/4	071138	EP2B-IP-304R	071159	EP2B-IP-304RE	071180	EP2B-IP-304L	071201	EP2B-IP-304LE
	3-7/16	071139	EP2B-IP-307R	071160	EP2B-IP-307RE	071181	EP2B-IP-307L	071202	EP2B-IP-307LE
	3-1/2	071140	EP2B-IP-308R	071161	EP2B-IP-308RE	071182	EP2B-IP-308L	071203	EP2B-IP-308LE

*CONSULT DODGE FOR SIZES NOT LISTED

SHAFT SIZE	A	B #	C #	D		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	2.87	8.38	8.62	5/8	0.88	1.63	5.71	3.88	2.750	1.20	2.22	0.25	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	0.25	0.025	3.47
2-15/16																
3																
3-3/16																
3-1/4	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	0.25	0.025	4.05
3-7/16																
3-1/2																

NOTES: "A" AND "R" DIMENSIONS DO NOT INCLUDE "Y" DIMENSION

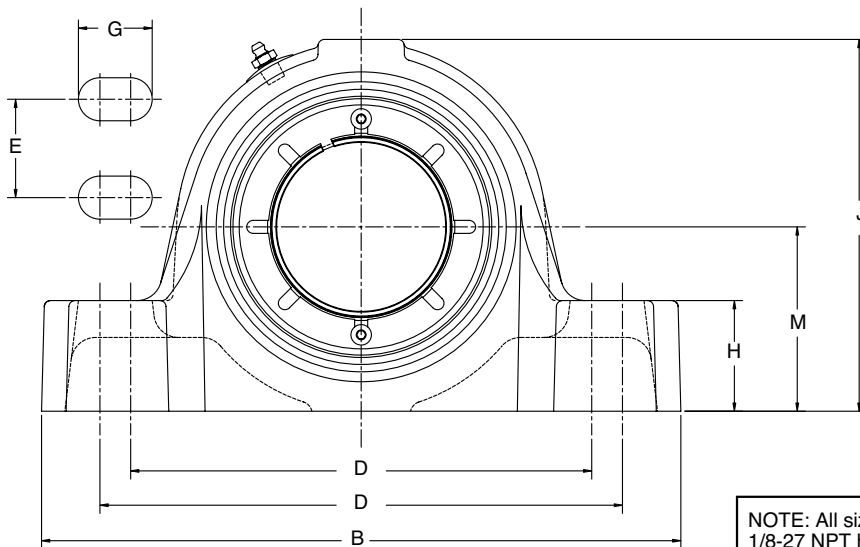
REFERENCE DIMENSION ONLY

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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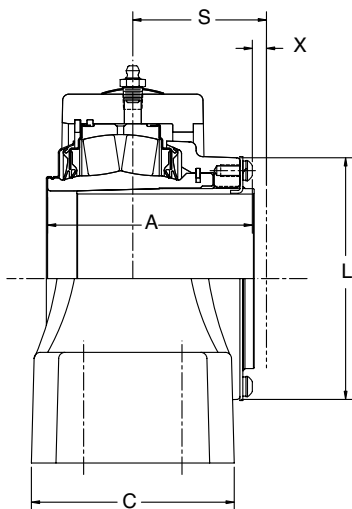
DIMENSION



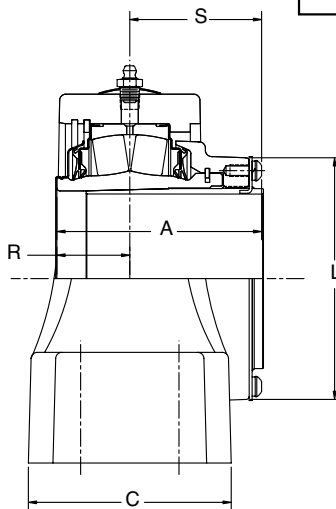
IMPERIAL - IP Pillow Block 2-3/8 THRU 3-1/2 INCH - 4-BOLT



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



EXPANSION



NON-EXPANSION

NOTE: See page B10-30 for 3-11/16 thru 5 inch

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Pillow Block 2-3/8 THRU 3-1/2 INCH - 4-BOLT

Bearing	Shaft Size Inch	TRIDENT Seal				Labyrinth Seal			
		Non-Expansion		Expansion		Non-Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22213	2 - 3/8	069520	P4B-IP-206R	069538	P4B-IP-206RE	069556	P4B-IP-206L	069574	P4B-IP-206LE
	2 - 7/16	069521	P4B-IP-207R	069539	P4B-IP-207RE	069557	P4B-IP-207L	069575	P4B-IP-207LE
	2 - 1/2	069522	P4B-IP-208R	069540	P4B-IP-208RE	069558	P4B-IP-208L	069576	P4B-IP-208LE
22215	2 - 11/16	069523	P4B-IP-211R	069541	P4B-IP-211RE	069559	P4B-IP-211L	069577	P4B-IP-211LE
	2 - 3/4	069524	P4B-IP-212R	069542	P4B-IP-212RE	069560	P4B-IP-212L	069578	P4B-IP-212LE
	2 - 15/16	069525	P4B-IP-215R	069543	P4B-IP-215RE	069561	P4B-IP-215L	069579	P4B-IP-215LE
	3	069526	P4B-IP-300R	069544	P4B-IP-300RE	069562	P4B-IP-300L	069580	P4B-IP-300LE
22218	3 - 3/16	069527	P4B-IP-303R	069545	P4B-IP-303RE	069563	P4B-IP-303L	069581	P4B-IP-303LE
	3 - 1/4	069528	P4B-IP-304R	069546	P4B-IP-304RE	069564	P4B-IP-304L	069582	P4B-IP-304LE
	3 - 7/16	069529	P4B-IP-307R	069547	P4B-IP-307RE	069565	P4B-IP-307L	069583	P4B-IP-307LE
	3 - 1/2	069530	P4B-IP-308R	069548	P4B-IP-308RE	069566	P4B-IP-308L	069584	P4B-IP-308LE

Metric shaft sizes available upon request

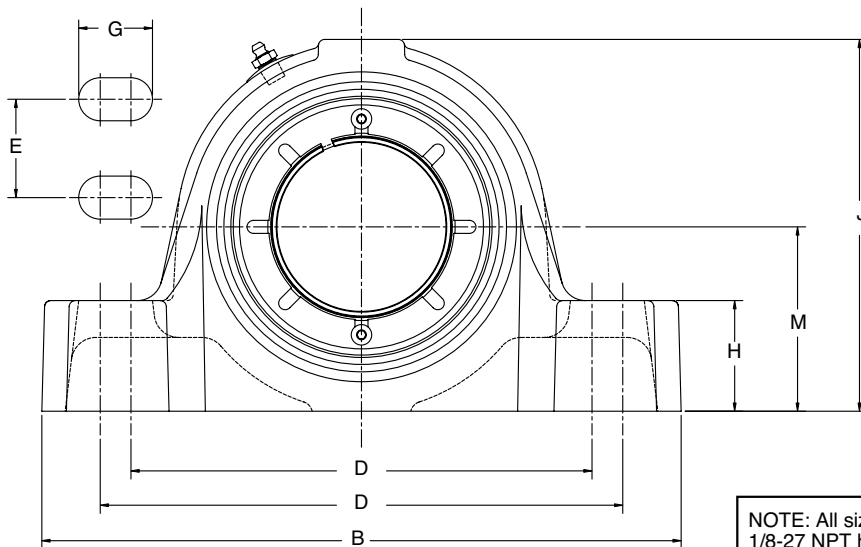
SHAFT SIZE	A	B	C	D		E	F BOLT DIA.	G	H	J	L	M	R	S	X TOTAL EXP.
				MIN	MAX										
2 - 3/8															
2 - 7/16	3 - 27/64	9 - 1/4	3 - 3/8	6 - 15/16	7 - 5/16	1 - 3/4	1/2	13/16	1 - 5/8	5 - 19/32	3 - 7/8	2 - 3/4	1 - 5/64	2 - 11/32	1/4
2 - 1/2															
2 - 11/16															
2 - 3/4	3 - 1/2	10 - 7/16	3 - 3/4	7 - 15/16	8 - 5/16	1 - 7/8	5/8	15/16	1 - 7/8	6 - 7/16	4 - 9/32	3 - 1/4	1 - 3/32	2 - 13/32	1/4
2 - 15/16															
3															
3 - 3/16															
3 - 1/4	4 - 11/64	13	4 - 1/8	9 - 3/8	10 - 5/8	2	3/4	1 - 1/2	2 - 1/4	7 - 9/16	5	3 - 3/4	1 - 7/16	2 - 47/64	1/4
3 - 7/16															
3 - 1/2															

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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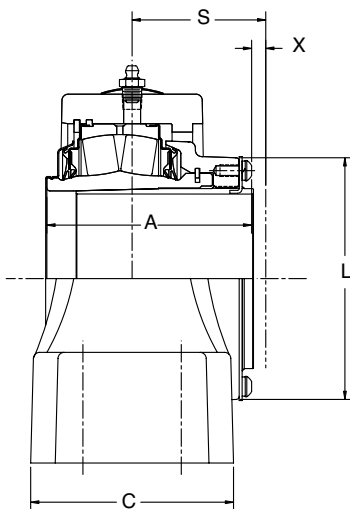
DIMENSION



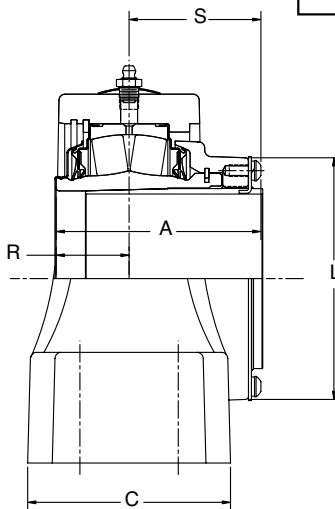
IMPERIAL - IP Pillow Block 3-11/16 THRU 5 INCH - 4-BOLT



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



EXPANSION



NON-EXPANSION

NOTE: See page B10-25 for 2-3/8 thru 3-1/2 inch

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Pillow Block 3-11/16 THRU 5 INCH - 4-BOLT

Bearing	Shaft Size Inch	TRIDENT Seal				Labyrinth Seal			
		Non-Expansion		Expansion		Non-Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22220	3 - 11/16	069531	P4B-IP-311R	069549	P4B-IP-311RE	069567	P4B-IP-311L	069585	P4B-IP-311LE
	3 - 15/16	069532	P4B-IP-315R	069550	P4B-IP-315RE	069568	P4B-IP-315L	069586	P4B-IP-315LE
	4	069533	P4B-IP-400R	069551	P4B-IP-400RE	069569	P4B-IP-400L	069587	P4B-IP-400LE
22222	4 - 7/16	069534	P4B-IP-407R	069552	P4B-IP-407RE	069570	P4B-IP-407L	069588	P4B-IP-407LE
	4 - 1/2	069535	P4B-IP-408R	069553	P4B-IP-408RE	069571	P4B-IP-408L	069589	P4B-IP-408LE
22226	4 - 15/16	069536	P4B-IP-415R	069554	P4B-IP-415RE	069572	P4B-IP-415L	069590	P4B-IP-415LE
	5	069537	P4B-IP-500R	069555	P4B-IP-500RE	069573	P4B-IP-500L	069591	P4B-IP-500LE

Metric shaft sizes available upon request

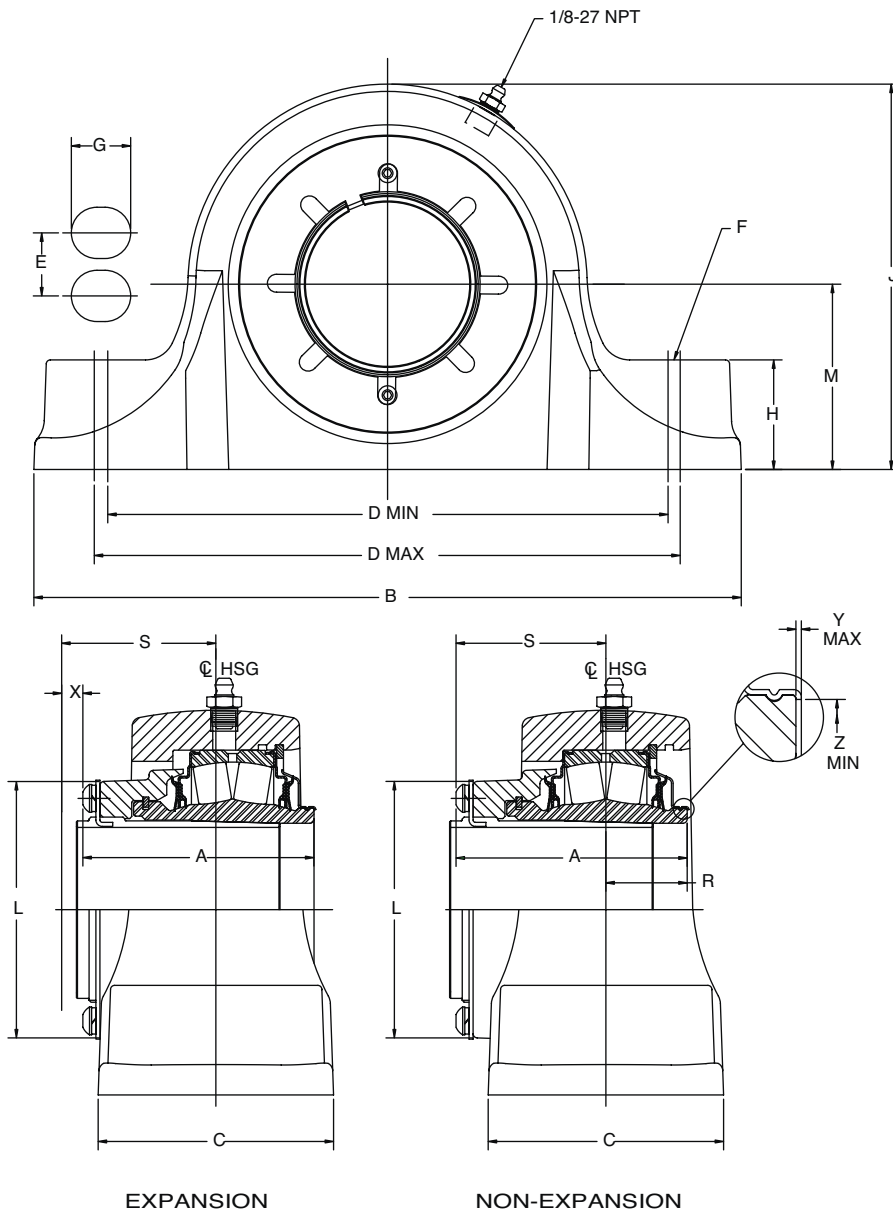
SHAFT SIZE	A	B	C	D		E	F BOLT DIA.	G	H	J	L	M	R	S	X TOTAL EXP.
				MIN	MAX										
3 - 11/16															
3 - 15/16	4 - 45/64	15 - 1/4	4 - 1/2	12 - 1/8	12 - 7/8	2 - 1/4	3/4	1 - 1/4	2 - 7/16	8 - 7/16	5 - 9/16	4 - 1/4	1 - 41/64	3 - 1/16	5/16
4															
4 - 7/16	5 - 15/64	16 - 1/2	4 - 3/4	13	14	2 - 1/2	3/4	1 - 3/8	2 - 3/4	9 - 5/8	6 - 7/16	4 - 3/4	1 - 3/4	3 - 31/64	3/8
4 - 1/2															
4 - 15/16	5 - 63/64	18 - 5/8	5 - 3/8	15	16	2 - 3/4	7/8	1 - 1/2	3	11 - 1/8	7 - 5/8	5 - 1/2	1 - 29/32	4 - 5/64	3/8
5															

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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DIMENSION



IMPERIAL - IP Pillow Block with Type E Dimensions 2-1/4 THRU 7 INCH - 4-BOLT



IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Pillow Block with Type E Dimensions 2-1/4 THRU 7 INCH - 4-BOLT

Bearing Series	Shaft Size*	TRIDENT Seal				Labyrinth Seal			
		Non Expansion		Expansion		Non Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22213	2-1/4	071204	EP4B-IP-204R	071221	EP4B-IP-204RE	071238	EP4B-IP-204L	071255	EP4B-IP-204LE
	2-7/16	071205	EP4B-IP-207R	071222	EP4B-IP-207RE	071239	EP4B-IP-207L	071256	EP4B-IP-207LE
	2-1/2	071206	EP4B-IP-208R	071223	EP4B-IP-208RE	071240	EP4B-IP-208L	071257	EP4B-IP-208LE
22215	2-11/16	071207	EP4B-IP-211R	071224	EP4B-IP-211RE	071241	EP4B-IP-211L	071258	EP4B-IP-211LE
	2-3/4	071208	EP4B-IP-212R	071225	EP4B-IP-212RE	071242	EP4B-IP-212L	071259	EP4B-IP-212LE
	2-15/16	071209	EP4B-IP-215R	071226	EP4B-IP-215RE	071243	EP4B-IP-215L	071260	EP4B-IP-215LE
	3	071210	EP4B-IP-300R	071227	EP4B-IP-300RE	071244	EP4B-IP-300L	071261	EP4B-IP-300LE
22218	3-3/16	071211	EP4B-IP-303R	071228	EP4B-IP-303RE	071245	EP4B-IP-303L	071262	EP4B-IP-303LE
	3-1/4	071212	EP4B-IP-304R	071229	EP4B-IP-304RE	071246	EP4B-IP-304L	071263	EP4B-IP-304LE
	3-7/16	071213	EP4B-IP-307R	071230	EP4B-IP-307RE	071247	EP4B-IP-307L	071264	EP4B-IP-307LE
	3-1/2	071214	EP4B-IP-308R	071231	EP4B-IP-308RE	071248	EP4B-IP-308L	071265	EP4B-IP-308LE
22220	3-15/16	071215	EP4B-IP-315R	071232	EP4B-IP-315RE	071249	EP4B-IP-315L	071266	EP4B-IP-315LE
	4	071216	EP4B-IP-400R	071233	EP4B-IP-400RE	071250	EP4B-IP-400L	071267	EP4B-IP-400LE
22222	4-7/16	071217	EP4B-IP-407R	071234	EP4B-IP-407RE	071251	EP4B-IP-407L	071268	EP4B-IP-407LE
	4-1/2	071218	EP4B-IP-408R	071235	EP4B-IP-408RE	071252	EP4B-IP-408L	071269	EP4B-IP-408LE
22226	4-15/16	071219	EP4B-IP-415R	071236	EP4B-IP-415RE	071253	EP4B-IP-415L	071270	EP4B-IP-415LE
	5	071220	EP4B-IP-500R	071237	EP4B-IP-500RE	071254	EP4B-IP-500L	071271	EP4B-IP-500LE
22228	5-7/16	071610	EP4B-IP-507R	071618	EP4B-IP-507RE	071626	EP4B-IP-507L	071634	EP4B-IP-507LE
	5-1/2	071611	EP4B-IP-508R	071619	EP4B-IP-508RE	071627	EP4B-IP-508L	071635	EP4B-IP-508LE
22232	5-15/16	071612	EP4B-IP-515R	071620	EP4B-IP-515RE	071628	EP4B-IP-515L	071636	EP4B-IP-515LE
	6	071613	EP4B-IP-600R	071621	EP4B-IP-600RE	071629	EP4B-IP-600L	071637	EP4B-IP-600LE
22236	6-7/16	071614	EP4B-IP-607R	071622	EP4B-IP-607RE	071630	EP4B-IP-607L	071638	EP4B-IP-607LE
	6-1/2	071615	EP4B-IP-608R	071623	EP4B-IP-608RE	071631	EP4B-IP-608L	071639	EP4B-IP-608LE
	6-15/16	071616	EP4B-IP-615R	071624	EP4B-IP-615RE	071632	EP4B-IP-615L	071640	EP4B-IP-615LE
	7	071617	EP4B-IP-700R	071625	EP4B-IP-700RE	071633	EP4B-IP-700L	071641	EP4B-IP-700LE

*CONSULT DODGE FOR SIZES NOT LISTED

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 2-1/2	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	0.25	0.025	2.94
2-11/16 2-3/4 2-15/16 3	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	0.25	0.025	3.47
3-3/16 3-1/4 3-7/16 3-1/2	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	0.25	0.025	4.05
3-15/16 4	4.70	15.25	4.50	12.25	12.75	2.25	3/4	1.13	2.44	8.70	5.56	4.250	1.35	3.35	0.31	0.025	4.50
4-7/16 4-1/2	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	0.38	0.036	5.00
4-15/16 5	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	0.38	0.036	5.84
5-7/16 5-1/2	6.17	22	6.25	17.38	19.12	3.75	1	2	3.25	13.19	8.75	6.69	1.4	4.77	0.38	0.036	5.92
5-15/16 6	7.08	22	6.25	17.38	19.12	3.75	1	2	3.25	13.19	10.25	6.69	2.66	4.42	0.38	0.036	7.02
6-7/16 6-1/2 6-15/16 7	7.39	26	7.12	21.25	23.25	4.62	1	2	3.69	14.94	11.41	7.5	2.46	4.94	0.36	0.036	7.89

NOTES: "A" AND "R" DIMENSIONS DO NOT INCLUDE "Y" DIMENSION

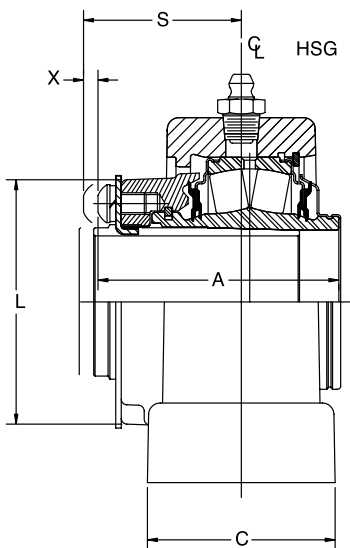
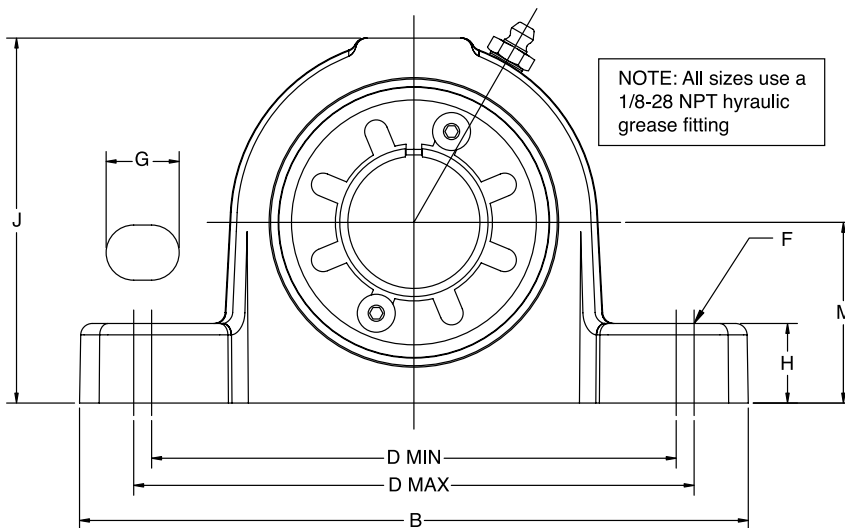
REFERENCE DIMENSION ONLY

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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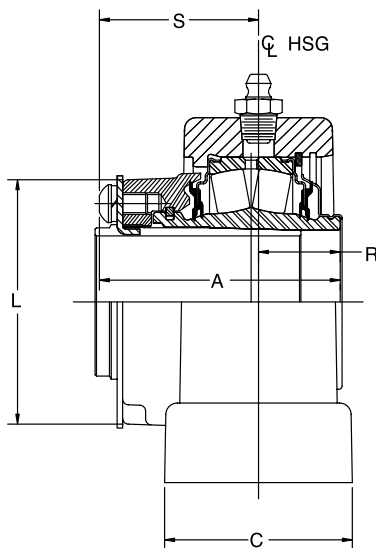
DIMENSION



IMPERIAL - ISN Metric Pillow Block 30 THROUGH 125mm, 2-BOLT



EXPANSION



NON-EXPANSION

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - ISN Metric Pillow Block 30 THROUGH 125mm, 2-BOLT

Bearing	Shaft Size mm	TRIDENT Seal				Labyrinth Seal			
		NON-EXPANSION		EXPANSION		NON-EXPANSION		EXPANSION	
		Part Number	Description	Part Number	Description	Part Number	Description	Part Number	Description
22208	30	071000	ISN 507-030MFR	071017	ISN 507-030MLR	071034	ISN 507-030MFS	071051	ISN 507-030MLS
	35	071001	ISN 508-035MFR	071018	ISN 508-035MLR	071035	ISN 508-035MFS	071052	ISN 508-035MLS
22209	40	071002	ISN 509-040MFR	071019	ISN 509-040MLR	071036	ISN 509-040MFS	071053	ISN 509-040MLS
22210	45	071003	ISN 510-045MFR	071020	ISN 510-045MLR	071037	ISN 510-045MFS	071054	ISN 510-045MLS
	50	071004	ISN 511-050MFR	071021	ISN 511-050MLR	071038	ISN 511-050MFS	071055	ISN 511-050MLS
22211	55	071005	ISN 512-055MFR	071022	ISN 512-055MLR	071039	ISN 512-055MFS	071056	ISN 512-055MLS
22213	60	071006	ISN 513-060MFR	071023	ISN 513-060MLR	071040	ISN 513-060MFS	071057	ISN 513-060MLS
22215	65	071007	ISN 515-065MFR	071024	ISN 515-065MLR	071041	ISN 515-065MFS	071058	ISN 515-065MLS
	70	071008	ISN 516-070MFR	071025	ISN 516-070MLR	071042	ISN 516-070MFS	071059	ISN 516-070MLS
	75	071009	ISN 517-075MFR	071026	ISN 517-075MLR	071043	ISN 517-075MFS	071060	ISN 517-075MLS
22218	80	071010	ISN 518-080MFR	071027	ISN 518-080MLR	071044	ISN 518-080MFS	071061	ISN 518-080MLS
	85	071011	ISN 519-085MFR	071028	ISN 519-085MLR	071045	ISN 519-085MFS	071062	ISN 519-085MLS
22220	90	071012	ISN 520-090MFR	071029	ISN 520-090MLR	071046	ISN 520-090MFS	071063	ISN 520-090MLS
	100	071013	ISN 522-100MFR	071030	ISN 522-100MLR	071047	ISN 522-100MFS	071064	ISN 522-100MLS
22222	110	071014	ISN 524-110-MFR	071031	ISN 524-110MLR	071048	ISN 524-110MFS	071065	ISN 524-110MLS
22226	115	071015	ISN 526-115MFR	071032	ISN 526-115MLR	071049	ISN 526-115MFS	071066	ISN 526-115MLS
	125	071016	ISN 528-125MFR	071033	ISN 528-125MLR	071050	ISN 528-125MFS	071067	ISN 528-125MLS

F = Non-Expansion, L = Expansion, R = Trident Rubbing Seal; S = Labyrinth Seal

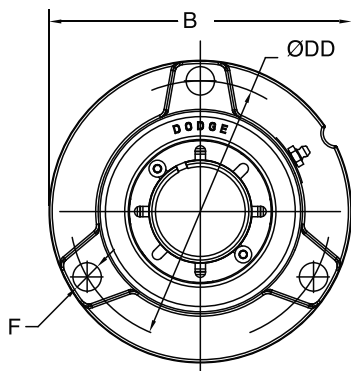
Shaft Size mm	A	B	C	D		F BOLT DIA	G	H	J	L	M	R	S	X TOTAL EXPANSION
				min	max									
30	66.7	184.9	52.0	145.0	155.0	M12	20	22	100.9	67.6	50	22.6	44.1	4
35	66.7	205.9	60.2	150.0	174.6	M12	27.3	25	110.8	67.6	60	22.6	44.1	4
40	71.4	206.3	60.2	155.0	174.6	M12	24.8	25	114	74.7	60	20.6	50.8	6.5
45	72.6	204.9	60.2	160.0	175.0	M12	22.5	25	113.8	81	60	21.1	51.4	6.5
50	72.6	253.9	70.2	190.0	215.9	M16	31	28	124.5	81	70	21.1	51.4	6.5
55	77.0	253.9	69.9	190.0	216.0	M16	31	30	130.3	87.1	70	23.4	54.2	6.5
60	86.9	274.9	80.2	205.0	235.0	M16	33	30	152.4	96.5	80	27.1	59.7	7
65	88.9	280.1	80.1	215.0	236.0	M16	28.5	30	156	106.7	80	26.9	61.7	7
70	88.9	315.9	90.2	244.5	268.3	M20	34.1	32	176	106.7	95	26.9	61.7	7
75														
80	106.0	345.3	100.3	270.0	293.7	M20	34	35	196.7	124.7	100	34.5	71.4	7
85	106.0	345.0	100.2	264.2	296.1	M20	37.9	35	205.2	124.7	112	34.5	71.4	7
90	120.0	379.8	110.2	292.8	327.0	M24	43.1	40	218.3	138.7	112	37.2	82.3	8
100	120.0	410.0	120.0	314.4	356.0	M24	46.8	45	239	138.7	125	37.2	82.3	8
110	133.0	410.0	120.0	314.5	356.0	M24	46.8	45	260.7	161.3	140	44.4	88.4	10
115	152.0	444.8	130.0	359.6	387.0	M24	41.7	50	292.8	191.8	150	48.6	103.2	10
125	152.0	500.0	150.2	400.0	427.0	M30	48.5	50	290.4	191.8	150	48.6	103.2	10

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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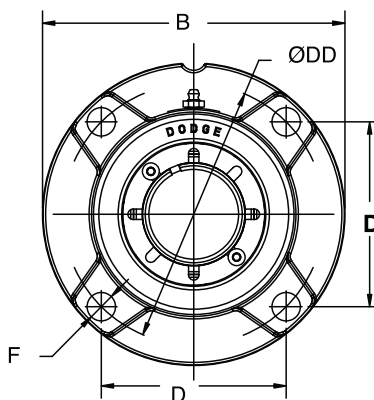
DIMENSION



IMPERIAL - IP Flange - Round 1-1/8 THRU 2 INCH

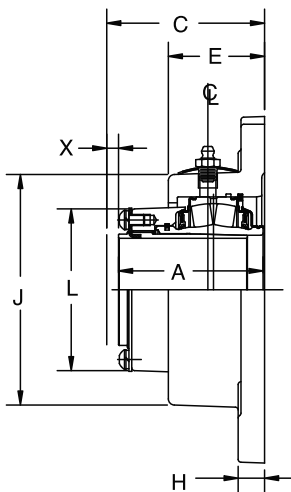


1-1/8 THRU 1-1/2"
CONSTRUCTION

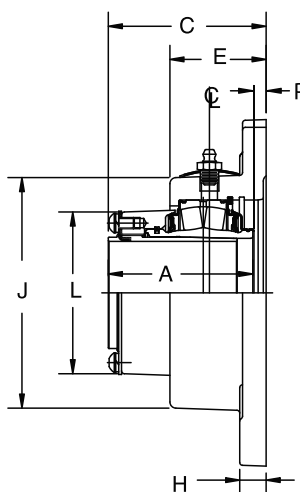


1-5/8 THRU 2"
CONSTRUCTION

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



EXPANSION



NON-EXPANSION

NOTE: See page B10-38 for 2-3/16 thru 3 inch

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Flange - Round 1-1/8 THRU 2 INCH

Bearing	Shaft Size Inch	TRIDENT Seal				Labyrinth Seal			
		Non-Expansion		Expansion		Non-Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22208	1 - 1/8	069592	F3R-IP-102R	069630	F3R-IP-102RE	069651	F3R-IP-102L	069672	F3R-IP-102LE
	1 - 3/16	069593	F3R-IP-103R	069631	F3R-IP-103RE	069652	F3R-IP-103L	069673	F3R-IP-103LE
	1 - 1/4	069594	F3R-IP-104R	069632	F3R-IP-104RE	069653	F3R-IP-104L	069674	F3R-IP-104LE
	1 - 3/8	069595	F3R-IP-106R	069633	F3R-IP-106RE	069654	F3R-IP-106L	069675	F3R-IP-106LE
	1 - 7/16	069596	F3R-IP-107R	069634	F3R-IP-107RE	069655	F3R-IP-107L	069676	F3R-IP-107LE
	1 - 1/2	069597	F3R-IP-108R	069635	F3R-IP-108RE	069656	F3R-IP-108L	069677	F3R-IP-108LE
22209	1 - 5/8	069598	F4R-IP-110R	069636	F4R-IP-110RE	069657	F4R-IP-110L	069678	F4R-IP-110LE
	1 - 11/16	069599	F4R-IP-111R	069637	F4R-IP-111RE	069658	F4R-IP-111L	069679	F4R-IP-111LE
	1 - 3/4	069600	F4R-IP-112R	069638	F4R-IP-112RE	069659	F4R-IP-112L	069680	F4R-IP-112LE
22210	1 - 7/8	069601	F4R-IP-114R	069639	F4R-IP-114RE	069660	F4R-IP-114L	069681	F4R-IP-114LE
	1 - 15/16	069602	F4R-IP-115R	069640	F4R-IP-115RE	069661	F4R-IP-115L	069682	F4R-IP-115LE
	2	069603	F4R-IP-200R	069641	F4R-IP-200RE	069662	F4R-IP-200L	069683	F4R-IP-200LE

Metric shaft sizes available upon request

SHAFT SIZE	A	B	C	D	DD	E	F BOLT DIA.	H	J	L	P	X TOTAL EXP
1 - 1/8 1 - 3/16 1 - 1/4 1 - 3/8 1 - 7/16 1 - 1/2	2 - 5/8	5 - 7/8	2 - 55/64	3 - 17/32	5	1 - 51/64	* 1/2	1/2	3 - 3/4	2 - 23/32	15/64	3/16
1 - 5/8 1 - 11/16 1 - 3/4	2 - 13/16	6 - 3/8	3 - 7/64	3 - 57/64	5 - 1/2	1 - 57/64	*1/2	1/2	4 - 1/4	3	19/64	1/4
1 - 7/8 1 - 15/16 2	2 - 55/64	6 - 11/16	3 - 5/32	4 - 1/16	5 - 3/4	1 - 59/64	** 1/2	9/16	4 - 1/2	3 - 9/32	19/64	1/4

* 3 Equally spaced bolt holes

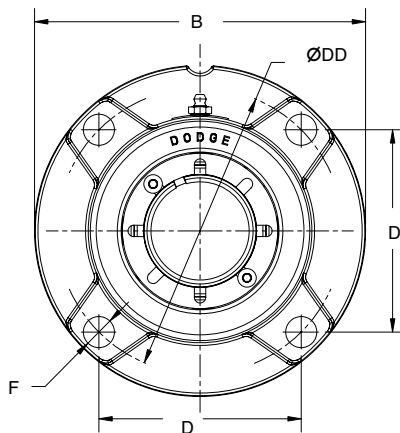
** 4 Equally spaced bolt holes

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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DIMENSION

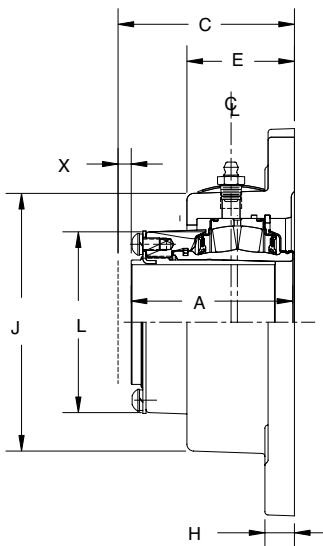


IMPERIAL - IP Flange - Round 2-3/16 THRU 3 INCH

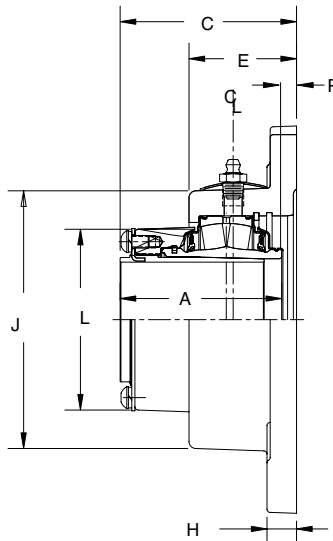


NOTE: All sizes use a
1/8-27 NPT hydraulic
grease fitting

2-3/16 THRU 3" CONSTRUCTION



EXPANSION



NON-EXPANSION

NOTE: See page B10-36 for 1-1/8 thru 2 inch

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Flange - Round 2-3/16 THRU 3 INCH

Bearing	Shaft Size Inch	TRIDENT Seal				Labyrinth Seal			
		Non-Expansion		Expansion		Non-Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22211	2 - 3/16	069604	F4R-IP-203R	069642	F4R-IP-203RE	069663	F4R-IP-203L	069684	F4R-IP-203LE
	2 - 1/4	069605	F4R-IP-204R	069643	F4R-IP-204RE	069664	F4R-IP-204L	069685	F4R-IP-204LE
22213	2 - 3/8	069606	F4R-IP-206R	069644	F4R-IP-206RE	069665	F4R-IP-206L	069686	F4R-IP-206LE
	2 - 7/16	069607	F4R-IP-207R	069645	F4R-IP-207RE	069666	F4R-IP-207L	069687	F4R-IP-207LE
	2 - 1/2	069608	F4R-IP-208R	069646	F4R-IP-208RE	069667	F4R-IP-208L	069688	F4R-IP-208LE
22215	2 - 11/16	069609	F4R-IP-211R	069647	F4R-IP-211RE	069668	F4R-IP-211L	069689	F4R-IP-211LE
	2 - 3/4	069610	F4R-IP-212R	069648	F4R-IP-212RE	069669	F4R-IP-212L	069690	F4R-IP-212LE
	2 - 15/16	069611	F4R-IP-215R	069649	F4R-IP-215RE	069670	F4R-IP-215L	069691	F4R-IP-215LE
	3	069612	F4R-IP-300R	069650	F4R-IP-300RE	069671	F4R-IP-300L	069692	F4R-IP-300LE

Metric shaft sizes available upon request

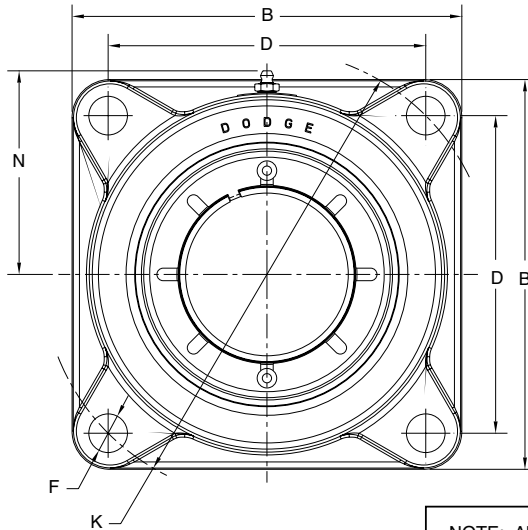
SHAFT SIZE	A	B	C	D	DD	E	F BOLT DIA.	H	J	L	P	X TOTAL EXP
2 - 3/16 2 - 1/4	3 - 1/32	7 - 3/8	3 - 11/32	4 - 1/2	6 - 3/8	2 - 3/64	5/8	9/16	4 - 7/8	3 - 1/2	5/16	1/4
2 - 3/8 2 - 7/16 2 - 1/2	3 - 27/64	7 - 3/4	3 - 47/64	4 - 49/64	6 - 3/4	2 - 3/8	5/8	41/64	5 - 3/8	3 - 7/8	5/16	1/4
2 - 11/16 2 - 3/4 2 - 15/16 3	3 - 1/2	9 - 1/4	3 - 13/16	5 - 9/16	7 - 7/8	2 - 25/64	3/4	3/4	6 - 1/4	4 - 9/32	5/16	1/4

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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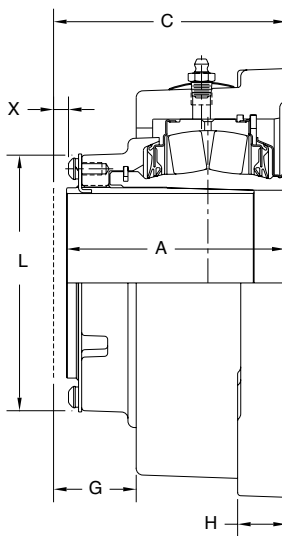
DIMENSION



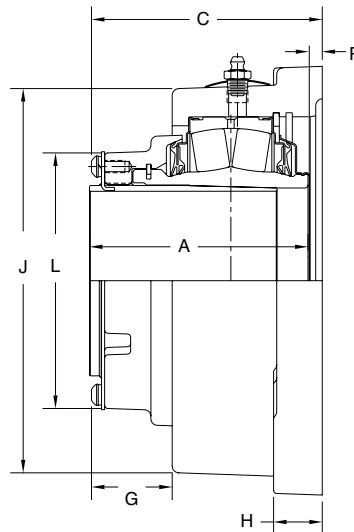
IMPERIAL - IP Flange - Square 1-1/8 THRU 2-1/4 INCH



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



EXPANSION



NON-EXPANSION

NOTE: See page B10-42 for 2-3/8 thru 4 inch

IMPERIAL FEATURES
PAGE B10-3

IMPERIAL SPECIFICATION
PAGE B10-6

IMPERIAL NOMENCLATURE
PAGE B10-9

IMPERIAL SELECTION
PAGE B10-12



IMPERIAL - IP Flange - Square 1-1/8 THRU 2-1/4 INCH

Bearing	Shaft Size Inch	TRIDENT Seal				Labyrinth Seal			
		Non-Expansion		Expansion		Non-Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22208	1 - 1/8	069693	F4S-IP-102R	069721	F4S-IP-102RE	069749	F4S-IP-102L	069777	F4S-IP-102LE
	1 - 3/16	069694	F4S-IP-103R	069722	F4S-IP-103RE	069750	F4S-IP-103L	069778	F4S-IP-103LE
	1 - 1/4	069695	F4S-IP-104R	069723	F4S-IP-104RE	069751	F4S-IP-104L	069779	F4S-IP-104LE
	1 - 3/8	069696	F4S-IP-106R	069724	F4S-IP-106RE	069752	F4S-IP-106L	069780	F4S-IP-106LE
	1 - 7/16	069697	F4S-IP-107R	069725	F4S-IP-107RE	069753	F4S-IP-107L	069781	F4S-IP-107LE
	1 - 1/2	069698	F4S-IP-108R	069726	F4S-IP-108RE	069754	F4S-IP-108L	069782	F4S-IP-108LE
22209	1 - 5/8	069699	F4S-IP-110R	069727	F4S-IP-110RE	069755	F4S-IP-110L	069783	F4S-IP-110LE
	1 - 11/16	069700	F4S-IP-111R	069728	F4S-IP-111RE	069756	F4S-IP-111L	069784	F4S-IP-111LE
	1 - 3/4	069701	F4S-IP-112R	069729	F4S-IP-112RE	069757	F4S-IP-112L	069785	F4S-IP-112LE
22210	1 - 7/8	069702	F4S-IP-114R	069730	F4S-IP-114RE	069758	F4S-IP-114L	069786	F4S-IP-114LE
	1 - 15/16	069703	F4S-IP-115R	069731	F4S-IP-115RE	069759	F4S-IP-115L	069787	F4S-IP-115LE
	2	069704	F4S-IP-200R	069732	F4S-IP-200RE	069760	F4S-IP-200L	069788	F4S-IP-200LE
22211	2 - 3/16	069705	F4S-IP-203R	069733	F4S-IP-203RE	069761	F4S-IP-203L	069789	F4S-IP-203LE
	2 - 1/4	069706	F4S-IP-204R	069734	F4S-IP-204RE	069762	F4S-IP-204L	069790	F4S-IP-204LE

Metric shaft sizes available upon request

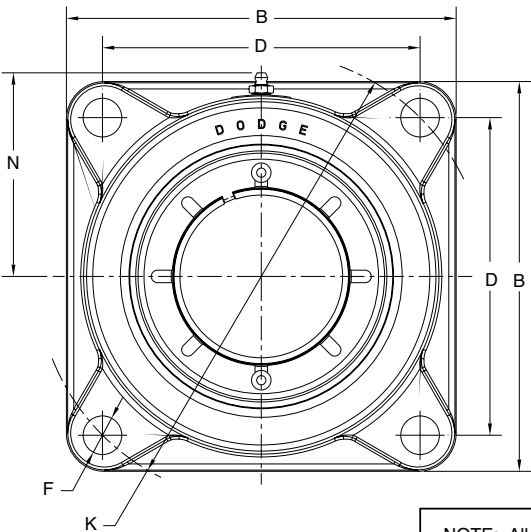
SHAFT SIZE	A	B	C	D	F BOLT DIA.	G	H	J	K	L	N	P	X TOTAL EXP.
1 - 1/8													
1 - 3/16													
1 - 1/4	2 - 5/8	4 - 3/4	2 - 55/64	3 - 17/32	1/2	1 - 5/64	1/2	3 - 13/16	5	2 - 23/32	2 - 31/64	15/64	3/16
1 - 3/8													
1 - 7/16													
1 - 1/2													
1 - 5/8													
1 - 11/16	2 - 13/16	5 - 1/8	3 - 7/64	3 - 57/64	1/2	1 - 13/64	1/2	4 - 13/32	5 - 1/2	3	2 - 25/32	19/64	1/4
1 - 3/4													
1 - 7/8													
1 - 15/16	2 - 55/64	5 - 19/64	3 - 5/32	4 - 1/16	1/2	1 - 15/64	9/16	4 - 31/32	5 - 3/4	3 - 9/32	2 - 29/32	19/64	1/4
2													
2 - 3/16													
2 - 1/4	3 - 1/32	5 - 7/8	3 - 11/32	4 - 33/64	5/8	1 - 5/16	9/16	5 - 1/64	6 - 3/8	3 - 1/2	3 - 3/32	5/16	1/4

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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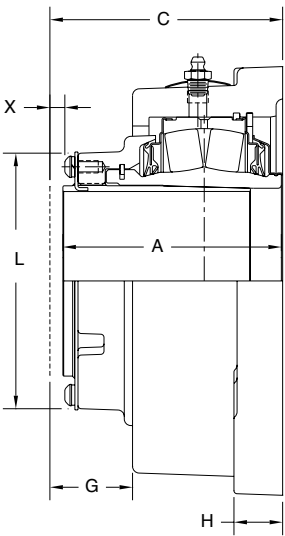
DIMENSION



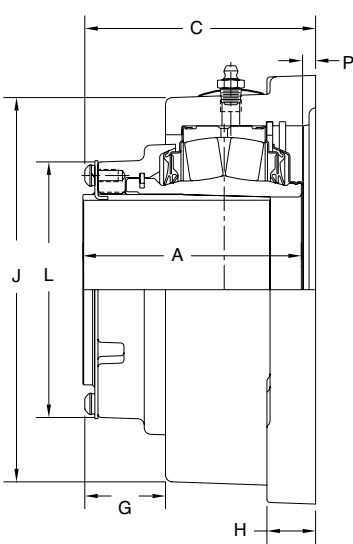
IMPERIAL - IP Flange - Square 2-3/8 THRU 4 INCH



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



EXPANSION



NON-EXPANSION

NOTE: See page B10-40 for 1-1/8 thru 2-1/4 inch

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Flange - Square 2-3/8 THRU 4 INCH

Bearing	Shaft Size Inch	TRIDENT Seal				Labyrinth Seal			
		Non-Expansion		Expansion		Non-Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22213	2 - 3/8	069707	F4S-IP-206R	069735	F4S-IP-206RE	069763	F4S-IP-206L	069791	F4S-IP-206LE
	2 - 7/16	069708	F4S-IP-207R	069736	F4S-IP-207RE	069764	F4S-IP-207L	069792	F4S-IP-207LE
	2 - 1/2	069709	F4S-IP-208R	069737	F4S-IP-208RE	069765	F4S-IP-208L	069793	F4S-IP-208LE
22215	2 - 11/16	069710	F4S-IP-211R	069738	F4S-IP-211RE	069766	F4S-IP-211L	069794	F4S-IP-211LE
	2 - 3/4	069711	F4S-IP-212R	069739	F4S-IP-212RE	069767	F4S-IP-212L	069795	F4S-IP-212LE
	2 - 15/16	069712	F4S-IP-215R	069740	F4S-IP-215RE	069768	F4S-IP-215L	069796	F4S-IP-215LE
	3	069713	F4S-IP-300R	069741	F4S-IP-300RE	069769	F4S-IP-300L	069797	F4S-IP-300LE
22218	3 - 3/16	069714	F4S-IP-303R	069742	F4S-IP-303RE	069770	F4S-IP-303L	069798	F4S-IP-303LE
	3 - 1/4	069715	F4S-IP-304R	069743	F4S-IP-304RE	069771	F4S-IP-304L	069799	F4S-IP-304LE
	3 - 7/16	069716	F4S-IP-307R	069744	F4S-IP-307RE	069772	F4S-IP-307L	069800	F4S-IP-307LE
	3 - 1/2	069717	F4S-IP-308R	069745	F4S-IP-308RE	069773	F4S-IP-308L	069801	F4S-IP-308LE
22220	3 - 11/16	069718	F4S-IP-311R	069746	F4S-IP-311RE	069774	F4S-IP-311L	069802	F4S-IP-311LE
	3 - 15/16	069719	F4S-IP-315R	069747	F4S-IP-315RE	069775	F4S-IP-315L	069803	F4S-IP-315LE
	4	069720	F4S-IP-400R	069748	F4S-IP-400RE	069776	F4S-IP-400L	069804	F4S-IP-400LE

Metric shaft sizes available upon request

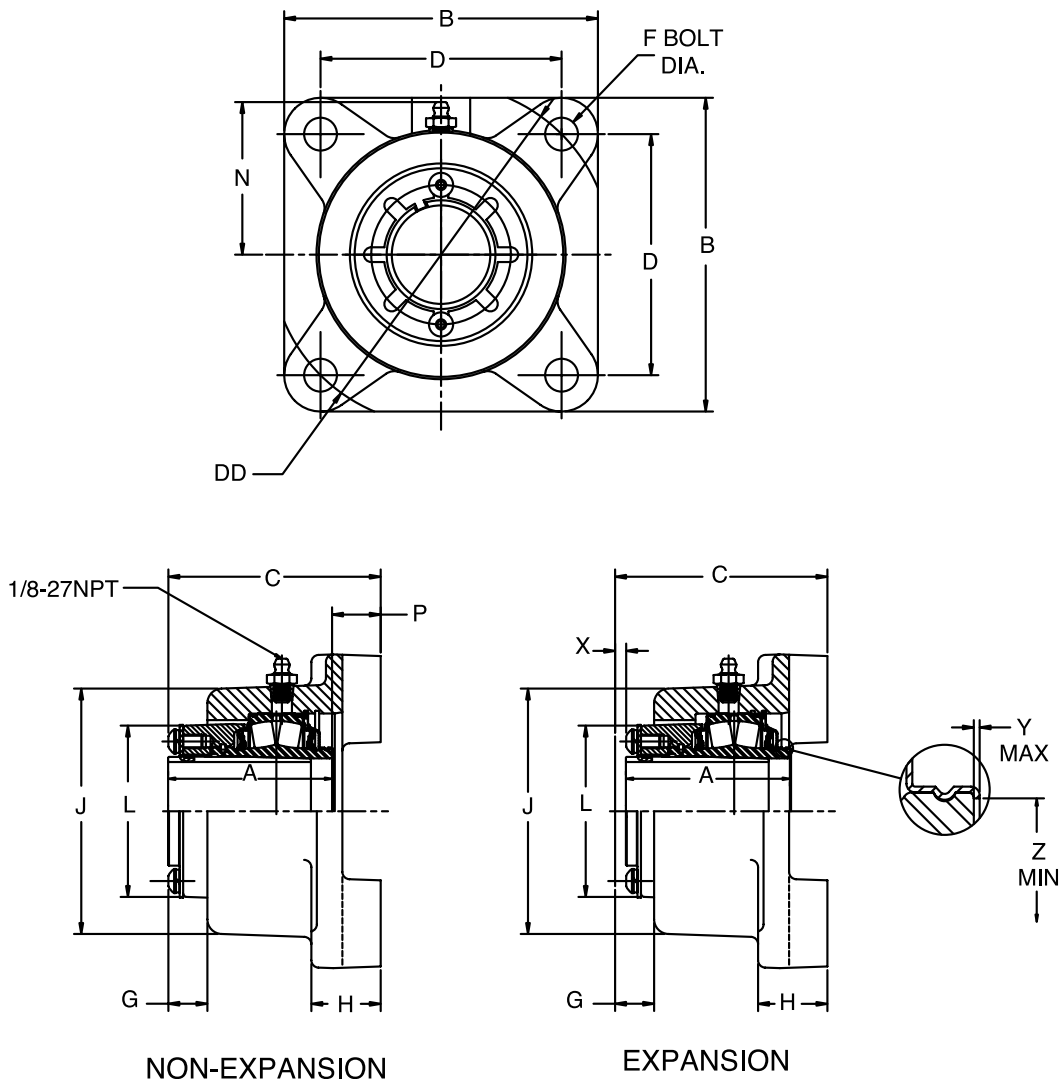
SHAFT SIZE	A	B	C	D	F BOLT DIA.	G	H	J	K	L	N	P	X TOTAL EXP.
2 - 3/8													
2 - 7/16	3 - 27/64	6 - 1/8	3 - 47/64	4 - 25/32	5/8	1 - 23/64	41/64	5 - 5/8	6 - 3/4	3 - 7/8	3 - 13/32	5/16	1/4
2 - 1/2													
2 - 11/16													
2 - 3/4	3 - 1/2	7 - 3/16	3 - 13/16	5 - 9/16	3/4	1 - 27/64	3/4	6 - 1/2	7 - 7/8	4 - 9/32	3 - 27/32	5/16	1/4
2 - 15/16													
3													
3 - 3/16													
3 - 1/4	4 - 11/64	8 - 1/4	4 - 31/64	6 - 23/32	3/4	1 - 19/32	15/16	7 - 31/64	9 - 1/2	5	4 - 21/64	5/16	1/4
3 - 7/16													
3 - 1/2													
3 - 11/16													
3 - 15/16	4 - 45/64	9 - 1/4	5 - 5/64	7 - 39/64	7/8	1 - 25/32	1 - 1/16	8 - 7/32	10 - 3/4	5 - 9/16	4 - 45/64	3/8	5/16
4													

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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DIMENSION



IMPERIAL - IP Flange - Square with Type E Dimensions 1-3/8 THRU 2-3/16 INCH



NOTE: See page B10-46 for 2-1/4 thru 4-1/2 inch

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Flange - Square with Type E Dimensions 1-3/8 THRU 2-3/16 INCH

Bearing Series	Shaft Size*	TRIDENT SEAL				Labyrinth Seal			
		Non Expansion		Expansion		Non Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22208	1-3/8	071288	EF4B-IP-106R	071313	EF4B-IP-106RE	071338	EF4B-IP-106L	071364	EF4B-IP-106LE
	1-7/16	071289	EF4B-IP-107R	071314	EF4B-IP-107RE	071339	EF4B-IP-107L	071365	EF4B-IP-107LE
22209	1-1/2	071290	EF4B-IP-108R	071315	EF4B-IP-108RE	071340	EF4B-IP-108L	071366	EF4B-IP-108LE
	1-5/8	071291	EF4B-IP-110R	071316	EF4B-IP-110RE	071341	EF4B-IP-110L	071367	EF4B-IP-110LE
	1-11/16	071292	EF4B-IP-111R	071317	EF4B-IP-111RE	071342	EF4B-IP-111L	071368	EF4B-IP-111LE
22210	1-3/4	071293	EF4B-IP-112R	071318	EF4B-IP-112RE	071343	EF4B-IP-112L	071369	EF4B-IP-112LE
	1-7/8	071294	EF4B-IP-114R	071319	EF4B-IP-114RE	071344	EF4B-IP-114L	071370	EF4B-IP-114LE
	1-15/16	071295	EF4B-IP-115R	071320	EF4B-IP-115RE	071345	EF4B-IP-115L	071371	EF4B-IP-115LE
	2	071296	EF4B-IP-200R	071321	EF4B-IP-200RE	071346	EF4B-IP-200L	071372	EF4B-IP-200LE
22211	2-3/16	071297	EF4B-IP-203R	071322	EF4B-IP-203RE	071347	EF4B-IP-203L	071373	EF4B-IP-203LE

*CONSULT DODGE FOR SIZES NOT LISTED

SHAFT SIZE	A	B#	C#	D	DD	BOLT DIA.	G	H#	J#	L	N	P	X TOTAL EXP.	Y	Z
1-3/8	2.63	4.63	3.15	3.50	4.950	1/2	0.66	1.06	3.88	2.72	2.34	0.53	0.16	0.020	1.80
1-7/16															
1-1/2	2.81	5.38	3.64	4.13	5.834	1/2	0.67	1.19	4.18	3.00	2.50	0.83	0.19	0.020	2.08
1-5/8															
1-11/16															
1-3/4	2.86	5.63	3.64	4.38	6.188	1/2	0.65	1.18	4.36	3.28	2.60	0.79	0.22	0.020	2.30
1-7/8															
1-15/16															
2															
2-3/16	3.03	6.25	3.96	4.88	6.894	5/8	0.68	1.38	4.88	3.50	2.88	0.94	0.25	0.020	2.60

NOTE(S): "P" DIMENSION IS FOR NON-EXPANSION ONLY

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

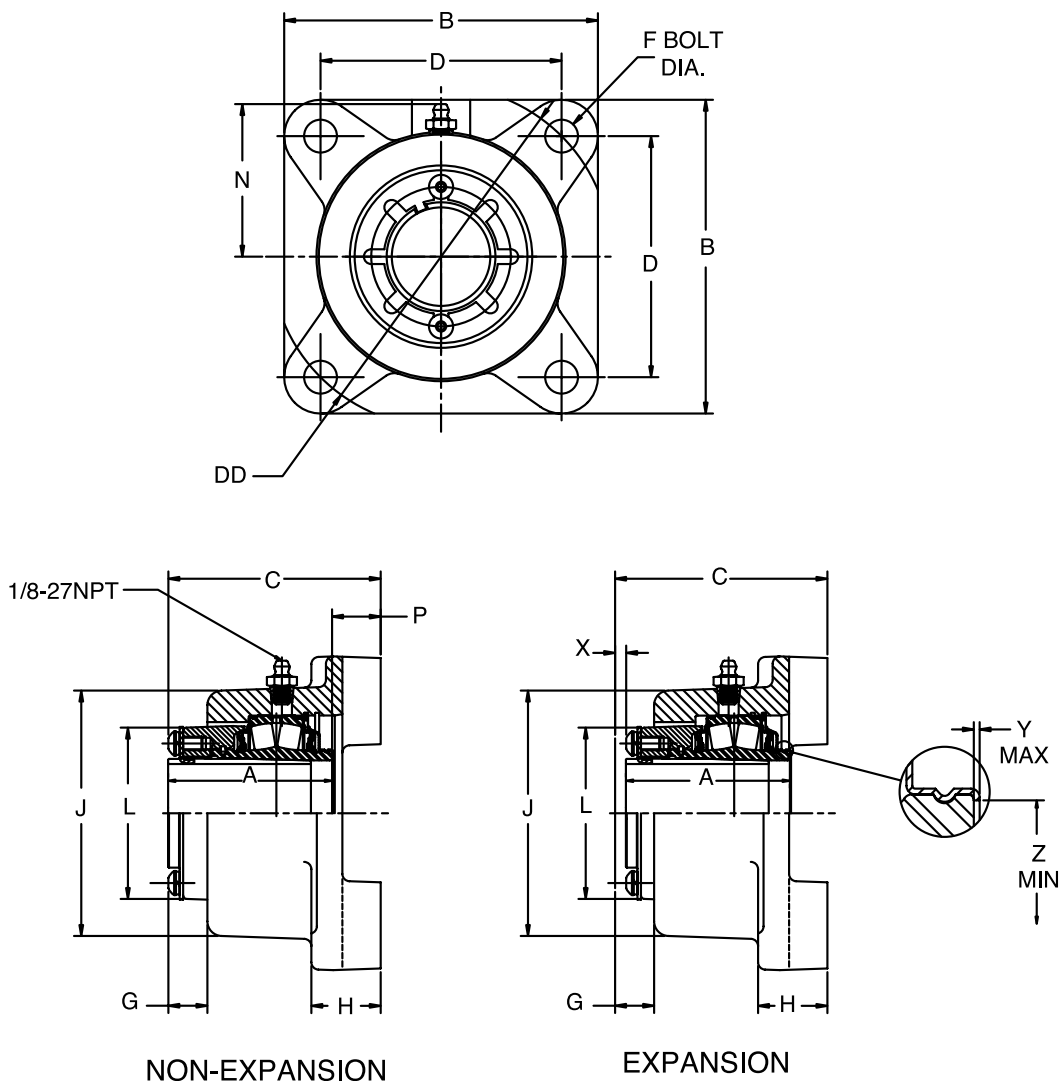
REFERENCE DIMENSION ONLY

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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DIMENSION



IMPERIAL - IP Flange - Square with Type E Dimensions 2-1/4 THRU 4-1/2 INCH



NOTE: See page B10-44 for 1-3/8 thru 2-3/16 inch

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Flange - Square with Type E Dimensions 2-1/4 THRU 4-1/2 INCH

Bearing Series	Shaft Size*	TRIDENT SEAL				Labyrinth Seal			
		Non Expansion		Expansion		Non Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22213	2-1/4	071298	EF4B-IP-204R	071323	EF4B-IP-204RE	071348	EF4B-IP-204L	071374	EF4B-IP-204LE
	2-7/16	071299	EF4B-IP-207R	071324	EF4B-IP-207RE	071349	EF4B-IP-207L	071375	EF4B-IP-207LE
	2-1/2	071300	EF4B-IP-208R	071325	EF4B-IP-208RE	071350	EF4B-IP-208L	071376	EF4B-IP-208LE
22215	2-11/16	071301	EF4B-IP-211R	071326	EF4B-IP-211RE	071351	EF4B-IP-211L	071377	EF4B-IP-211LE
	2-3/4	071302	EF4B-IP-212R	071327	EF4B-IP-212RE	071352	EF4B-IP-212L	071378	EF4B-IP-212LE
	2-15/16	071303	EF4B-IP-215R	071328	EF4B-IP-215RE	071353	EF4B-IP-215L	071379	EF4B-IP-215LE
	3	071304	EF4B-IP-300R	071329	EF4B-IP-300RE	071354	EF4B-IP-300L	071380	EF4B-IP-300LE
22218	3-3/16	071305	EF4B-IP-303R	071330	EF4B-IP-303RE	071355	EF4B-IP-303L	071381	EF4B-IP-303LE
	3-1/4	071306	EF4B-IP-304R	071331	EF4B-IP-304RE	071356	EF4B-IP-304L	071382	EF4B-IP-304LE
	3-7/16	071307	EF4B-IP-307R	071332	EF4B-IP-307RE	071357	EF4B-IP-307L	071383	EF4B-IP-307LE
	3-1/2	071308	EF4B-IP-308R	071333	EF4B-IP-308RE	071358	EF4B-IP-308L	071384	EF4B-IP-308LE
22220	3-15/16	071309	EF4B-IP-315R	071334	EF4B-IP-315RE	071359	EF4B-IP-315L	071385	EF4B-IP-315LE
	4	071310	EF4B-IP-400R	071335	EF4B-IP-400RE	071360	EF4B-IP-400L	071386	EF4B-IP-400LE
22222	4-7/16	071311	EF4B-IP-407R	071336	EF4B-IP-407RE	071361	EF4B-IP-407L	071387	EF4B-IP-407LE
	4-1/2	071312	EF4B-IP-408R	071337	EF4B-IP-408RE	071362	EF4B-IP-408L	071388	EF4B-IP-408LE

*CONSULT DODGE FOR SIZES NOT LISTED

SHAFT SIZE*	A	B#	C#	D	DD	F BOLT DIA	G	H#	J#	L	N	P	X TOTAL EXP.	Y	Z
2-1/4															
2-7/16	3.42	6.88	4.41	5.37	7.601	5/8	1.04	1.50	5.81	3.88	3.32	0.99	0.25	0.025	2.95
2-1/2															
2-11/16															
2-3/4	3.50	7.75	4.59	6.00	8.485	3/4	0.79	1.61	6.30	4.28	3.58	1.1	0.25	0.025	3.47
2-15/16															
3															
3-3/16															
3-1/4	4.17	9.25	5.4	7.00	9.899	3/4	1.12	1.88	7.44	5	4.15	1.24	0.25	0.025	4.05
3-7/16															
3-1/2															
3-15/16	4.70	10.25	6.73	7.75	10.960	7/8	1.22	2.12	8.27	5.56	4.58	2.02	0.31	0.025	4.5
4															
4-7/16	5.23	10.88	7.12	8.75	12.374	7/8	1.42	2.43	9.13	6.44	5.01	1.89	0.38	0.036	5
4-1/2															

NOTE(S): "P" DIMENSION IS FOR NON-EXPANSION ONLY

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

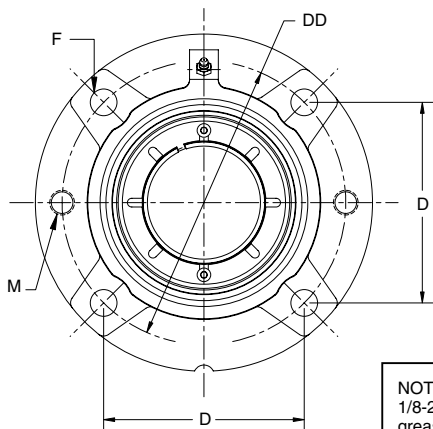
REFERENCE DIMENSION ONLY

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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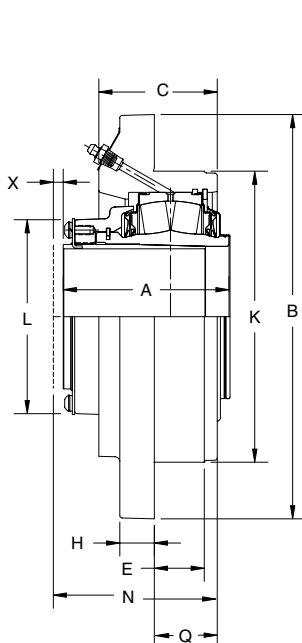
DIMENSION



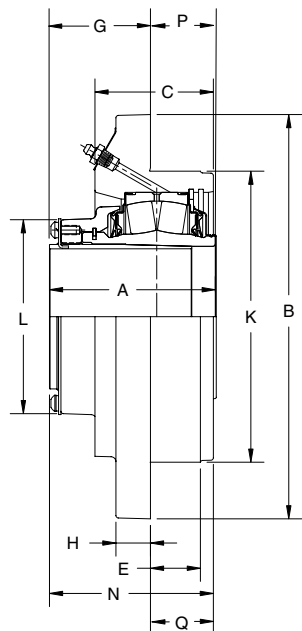
IMPERIAL - IP Piloted Flange 1-1/8 THRU 2-1/2 INCH



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



EXPANSION



NON-EXPANSION

NOTE: See page B10-50 for 2-11/16 thru 5 inch

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Piloted Flange 1-1/8 THRU 2-1/2 INCH

Bearing	Shaft Size Inch	TRIDENT Seal				Labyrinth Seal			
		Non-Expansion		Expansion		Non-Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22208	1 - 1/8	069805	FC-IP-102R	069837	FC-IP-102RE	069869	FC-IP-102L	069901	FC-IP-102LE
	1 - 3/16	069806	FC-IP-103R	069838	FC-IP-103RE	069870	FC-IP-103L	069902	FC-IP-103LE
	1 - 1/4	069807	FC-IP-104R	069839	FC-IP-104RE	069871	FC-IP-104L	069903	FC-IP-104LE
	1 - 3/8	069808	FC-IP-106R	069840	FC-IP-106RE	069872	FC-IP-106L	069904	FC-IP-106LE
	1 - 7/16	069809	FC-IP-107R	069841	FC-IP-107RE	069873	FC-IP-107L	069905	FC-IP-107LE
	1 - 1/2	069810	FC-IP-108R	069842	FC-IP-108RE	069874	FC-IP-108L	069906	FC-IP-108LE
22209	1 - 5/8	069811	FC-IP-110R	069843	FC-IP-110RE	069875	FC-IP-110L	069907	FC-IP-110LE
	1 - 11/16	069812	FC-IP-111R	069844	FC-IP-111RE	069876	FC-IP-111L	069908	FC-IP-111LE
	1 - 3/4	069813	FC-IP-112R	069845	FC-IP-112RE	069877	FC-IP-112L	069909	FC-IP-112LE
22210	1 - 7/8	069814	FC-IP-114R	069846	FC-IP-114RE	069878	FC-IP-114L	069910	FC-IP-114LE
	1 - 15/16	069815	FC-IP-115R	069847	FC-IP-115RE	069879	FC-IP-115L	069911	FC-IP-115LE
	2	069816	FC-IP-200R	069848	FC-IP-200RE	069880	FC-IP-200L	069912	FC-IP-200LE
22211	2 - 3/16	069817	FC-IP-203R	069849	FC-IP-203RE	069881	FC-IP-203L	069913	FC-IP-203LE
	2 - 1/4	069818	FC-IP-204R	069850	FC-IP-204RE	069882	FC-IP-204L	069914	FC-IP-204LE
22213	2 - 3/8	069819	FC-IP-206R	069851	FC-IP-206RE	069883	FC-IP-206L	069915	FC-IP-206LE
	2 - 7/16	069820	FC-IP-207R	069852	FC-IP-207RE	069884	FC-IP-207L	069916	FC-IP-207LE
	2 - 1/2	069821	FC-IP-208R	069853	FC-IP-208RE	069885	FC-IP-208L	069917	FC-IP-208LE

Metric shaft sizes available upon request

SHAFT SIZE	A	B	C	D	DD	E	F BOLT DIA.	G	H	K*	L	M	N	P	Q	X TOTAL EXP
1 - 1/8																
1 - 3/16																
1 - 1/4	2-5/8	5-1/4	1-27/32	3-3/32	4-3/8	3/4	3/8	1-25/64	1/2	3.625	2-23/32	3/8-16	2-39/64	1-15/64	1-7/32	3/16
1 - 3/8																
1 - 7/16																
1 - 1/2																
1 - 5/8																
1 - 11/16	2-13/16	6-1/8	1-29/32	3-5/8	5-1/8	7/8	7/16	1-39/64	1/2	4.250	3	7/16-14	2-55/64	1-13/64	1-17/64	1/4
1 - 3/4																
1 - 7/8																
1 - 15/16	2-55/64	6 3/8	2	3-51/64	5-3/8	7/8	7/16	1-19/32	9/16	4.500	3-9/32	7/16-14	2-55/64	1-17/64	1-17/64	1/4
2																
2 - 3/16																
2 - 1/4	3-1/32	7-1/8	2-3/16	4-1/4	6	1	1/2	1-21/32	9/16	5.000	3-1/2	1/2-13	3-5/64	1-3/8	1-27/64	1/4
2 - 3/8																
2 - 7/16	3-27/64	7 5/8	2-1/2	4-19/32	6-1/2	1	1/2	1-7/8	5/8	5.500	3-7/8	1/2-13	3-7/16	1-35/64	1-9/16	1/4
2 - 1/2																

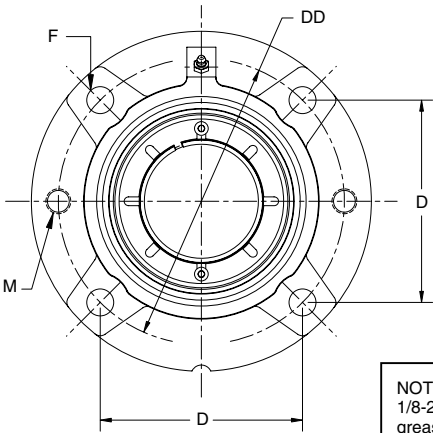
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IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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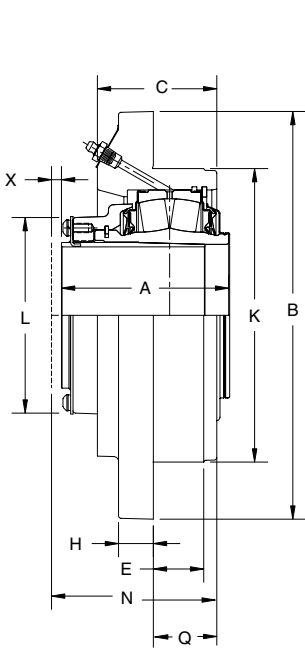
DIMENSION



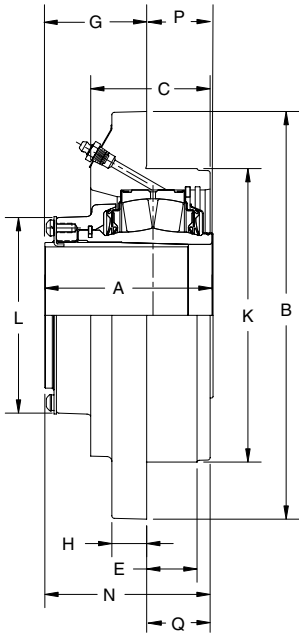
IMPERIAL - IP Piloted Flange 2-11/16 THRU 5 INCH



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



EXPANSION



NON-EXPANSION

NOTE: See page B10-48 for 1-1/8 thru 2-1/2 inch

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Piloted Flange 2-11/16 THRU 5 INCH

Bearing	Shaft Size Inch	TRIDENT Seal				Labyrinth Seal			
		Non-Expansion		Expansion		Non-Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22215	2-11/16	069822	FC-IP-211R	069854	FC-IP-211RE	069886	FC-IP-211L	069918	FC-IP-211LE
	2-3/4	069823	FC-IP-212R	069855	FC-IP-212RE	069887	FC-IP-212L	069919	FC-IP-212LE
	2-15/16	069824	FC-IP-215R	069856	FC-IP-215RE	069888	FC-IP-215L	069920	FC-IP-215LE
	3	069825	FC-IP-300R	069857	FC-IP-300RE	069889	FC-IP-300L	069921	FC-IP-300LE
22218	3-3/16	069826	FC-IP-303R	069858	FC-IP-303RE	069890	FC-IP-303L	069922	FC-IP-303LE
	3-1/4	069827	FC-IP-304R	069859	FC-IP-304RE	069891	FC-IP-304L	069923	FC-IP-304LE
	3-7/16	069828	FC-IP-307R	069860	FC-IP-307RE	069892	FC-IP-307L	069924	FC-IP-307LE
	3-1/2	069829	FC-IP-308R	069861	FC-IP-308RE	069893	FC-IP-308L	069925	FC-IP-308LE
22220	3-11/16	069830	FC-IP-311R	069862	FC-IP-311RE	069894	FC-IP-311L	069926	FC-IP-311LE
	3-15/16	069831	FC-IP-315R	069863	FC-IP-315RE	069895	FC-IP-315L	069927	FC-IP-315LE
	4	069832	FC-IP-400R	069864	FC-IP-400RE	069896	FC-IP-400L	069928	FC-IP-400LE
22222	4-7/16	069833	FC-IP-407R	069865	FC-IP-407RE	069897	FC-IP-407L	069929	FC-IP-407LE
	4-1/2	069834	FC-IP-408R	069866	FC-IP-408RE	069898	FC-IP-408L	069930	FC-IP-408LE
22226	4-15/16	069835	FC-IP-415R	069867	FC-IP-415RE	069899	FC-IP-415L	069931	FC-IP-415LE
	5	069836	FC-IP-500R	069868	FC-IP-500RE	069900	FC-IP-500L	069932	FC-IP-500LE

Metric shaft sizes available upon request

SHAFT SIZE	A	B	C	D	DD	E	F BOLT DIA.	G	H	K*	L	M	N	P	Q	X TOTAL EXP
2-11/16 2-3/4 2-15/16 3	3-1/2	8-3/4	2-5/8	5-19/64	7-1/2	1-1/4	5/8	1-15/16	3/4	6.375	4-9/32	5/8 - 11	3-9/16	1-9/16	1-5/8	1/4
3-3/16 3-1/4 3-7/16 3-1/2	4-11/64	10 1/4	3	6-3/32	8-5/8	1-17/64	3/4	2-17/32	15/16	7.375	5	3/4 - 10	4-1/16	1-41/64	1-33/64	1/4
3-11/16 3-15/16 4	4-45/64	10-7/8	3-1/2	6-5/8	9-3/8	1-15/32	3/4	2-57/64	1-1/8	8.125	5-9/16	3/4 - 10	4-25/32	1-13/16	1-29/32	5/16
4-7/16 4 1/2	5-15/64	13-1/2	4	5-7/8	11-3/4	1-29/64	3/4**	3-9/16	1	10.250	6-7/16	3/4 - 10	5-35/64	1-43/64	1-63/64	3/8
4-15/16 5	5-63/64	14-3/4	4-3/8	6-3/8	12-3/4	1-45/64	7/8**	3-55/64	1-1/4	11.000	7-5/8	3/4 - 10	6-9/32	2-1/8	2-27/64	3/8

* +0.000", -0.002"

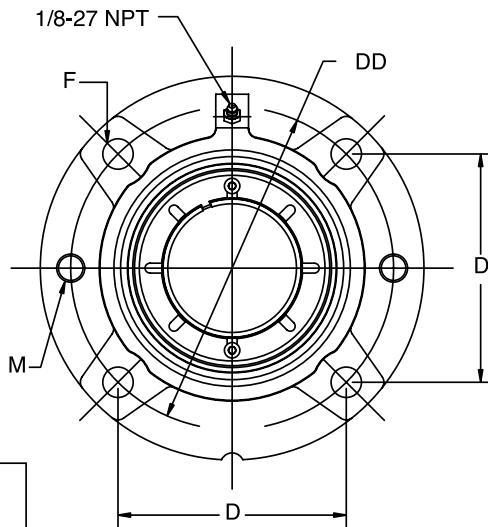
** 6 equally spaced mounting holes

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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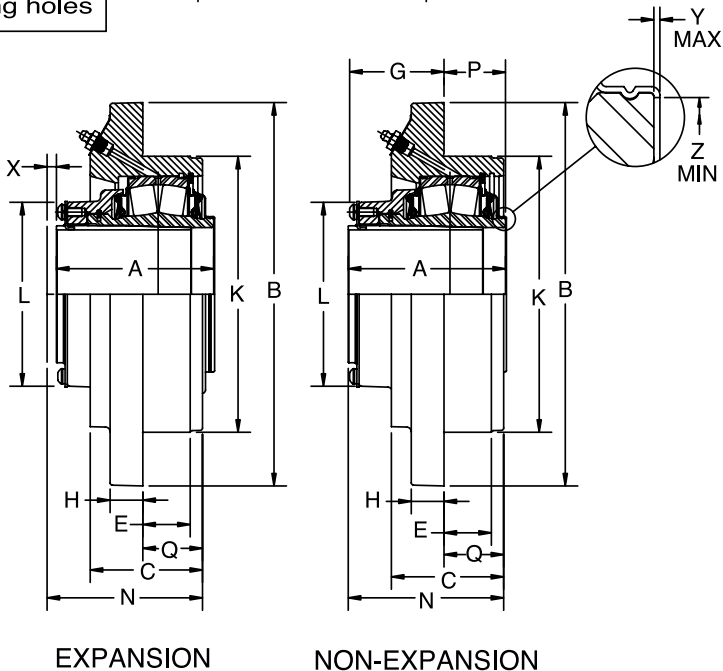
DIMENSION



IMPERIAL - IP Piloted Flange with Type E Dimensions



Note: 4-7/16 thru 4-15/16 sizes have 6 evenly spaced mounting holes



EXPANSION

NON-EXPANSION

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Piloted Flange with Type E Dimensions

Bearing Series	Shaft Size*	TRIDENT SEAL				Labyrinth Seal			
		Non Expansion		Expansion		Non Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22208	1-3/8	069808	FC-IP-106R	069840	FC-IP-106RE	069872	FC-IP-106L	069904	FC-IP-106LE
	1-7/16	069809	FC-IP-107R	069841	FC-IP-107RE	069873	FC-IP-107L	069905	FC-IP-107LE
22209	1-1/2	071576	EFC-IP-108R	071579	EFC-IP-108RE	071582	EFC-IP-108L	071585	EFC-IP-108LE
	1-5/8	069811	FC-IP-110R	069843	FC-IP-110RE	069875	FC-IP-110L	069907	EC-IP-110LE
	1-11/16	069812	FC-IP-111R	069844	FC-IP-111RE	069876	FC-IP-111L	069908	EC-IP-111LE
22210	1-3/4	071577	EFC-IP-112R	071580	EFC-IP-112RE	071583	EFC-IP-112L	071586	EFC-IP-112LE
	1-7/8	069814	FC-IP-114R	069846	FC-IP-114RE	069878	FC-IP-114L	069910	FC-IP-114LE
	1-15/16	069815	FC-IP-115R	069847	FC-IP-115RE	069879	FC-IP-115L	069911	FC-IP-115LE
	2	069816	FC-IP-200R	069848	FC-IP-200RE	069880	FC-IP-200L	069912	FC-IP-200LE
22211	2-3/16	069817	FC-IP-203R	069849	FC-IP-203RE	069881	FC-IP-203L	069913	FC-IP-203LE
22213	2-1/4	071578	EFC-IP-204R	071581	EFC-IP-204RE	071584	EFC-IP-204L	071587	EFC-IP-204LE
	2-7/16	069820	FC-IP-207R	069852	FC-IP-207RE	069884	FC-IP-207L	069916	FC-IP-207LE
	2-1/2	069821	FC-IP-208R	069853	FC-IP-208RE	069885	FC-IP-208L	069917	FC-IP-208LE

*CONSULT DODGE FOR SIZES NOT LISTED

SHAFT SIZE	A	B #	C #	D	DD	E #	F BOLT DIA.	G	H #	K ##	L	M	N	P	Q #	X TOTAL EXP.	Y	Z
1-3/8 1-7/16	2.63	5.25	1.84	3.09	4.375	0.75	3/8	1.39	0.50	3.625	2.72	3/8-16	2.61	1.23	1.22	0.19	0.020	1.80
1-1/2 1-5/8 1-11/16	2.81	6.13	1.91	3.63	5.125	0.88	7/16	1.61	0.50	4.250	3.00	7/16-14	2.86	1.20	1.26	0.25	0.020	2.08
1-3/4 1-7/8 1-15/16 2	2.86	6.38	2.00	3.80	5.375	0.88	7/16	1.59	0.56	4.500	3.28	7/16-14	2.86	1.26	1.26	0.25	0.020	2.30
2-3/16	3.03	7.13	2.19	4.25	6.000	1.00	1/2	1.66	0.56	5.000	3.50	1/2-13	3.08	1.38	1.42	0.25	0.025	2.59
2-1/4 2-7/16 2-1/2	3.42	7.63	2.50	4.59	6.500	1.00	1/2	1.88	0.63	5.500	3.88	1/2-13	3.44	1.55	1.56	0.25	0.025	2.94

- +0.000

-0.002

- REFERENCE DIMENSION ONLY

NOTE(S): "P" AND "G" DIMENSIONS ARE FOR NON-EXPANSION ONLY

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

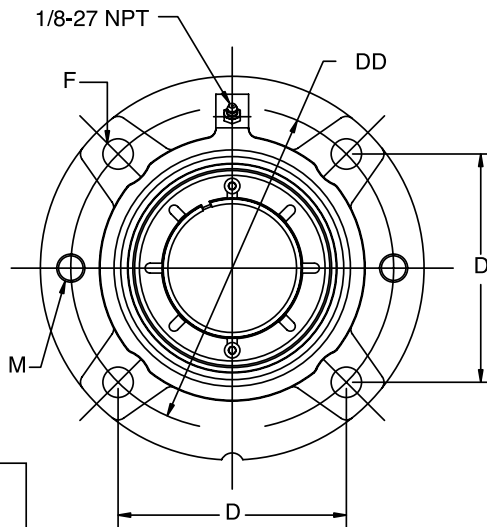
** 4-7/16 THRU 5" HAVE (6) EQUALLY SPACED MOUNTING HOLES

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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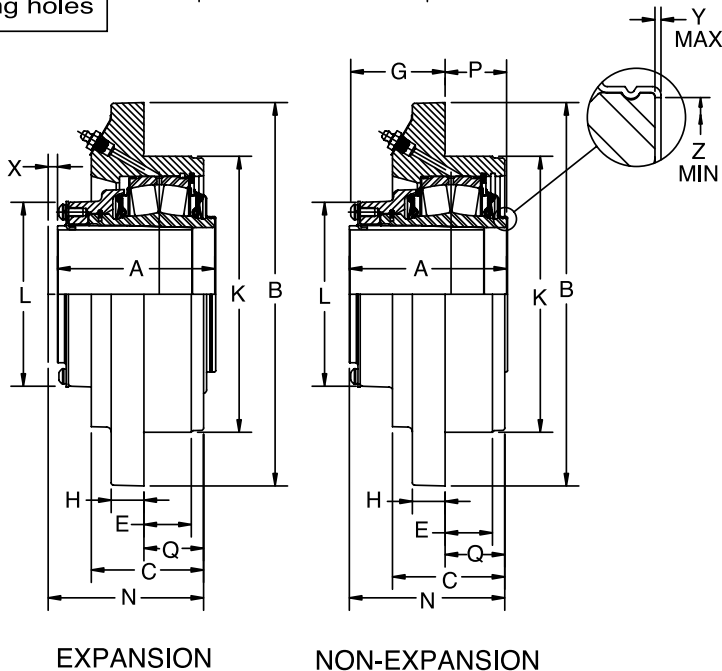
DIMENSION



IMPERIAL - IP Piloted Flange with Type E Dimension



Note: 4-7/16 thru 4-15/16 sizes have 6 evenly spaced mounting holes



IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Piloted Flange with Type E Dimension

Bearing Series	Shaft Size*	TRIDENT SEAL				Labyrinth Seal			
		Non Expansion		Expansion		Non Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22215	2-11/16	069822	FC-IP-211R	069854	FC-IP-211RE	069886	FC-IP-211L	069918	FC-IP-211LE
	2-3/4	069823	FC-IP-212R	069855	FC-IP-212RE	069887	FC-IP-212L	069919	FC-IP-212LE
	2-15/16	069824	FC-IP-215R	069856	FC-IP-215RE	069888	FC-IP-215L	069920	FC-IP-215LE
	3	069825	FC-IP-300R	069857	FC-IP-300RE	069889	FC-IP-300L	069921	FC-IP-300LE
22218	3-3/16	069826	FC-IP-303R	069858	FC-IP-303RE	069890	FC-IP-303L	069922	FC-IP-303LE
	3-1/4	069827	FC-IP-304R	069859	FC-IP-304RE	069891	FC-IP-304L	069923	FC-IP-304LE
	3-7/16	069828	FC-IP-307R	069860	FC-IP-307RE	069892	FC-IP-307L	069924	FC-IP-307LE
	3-1/2	069829	FC-IP-308R	069861	FC-IP-308RE	069893	FC-IP-308L	069925	FC-IP-308LE
22220	3-15/16	069831	FC-IP-315R	069863	FC-IP-315RE	069895	FC-IP-315L	069927	FC-IP-315LE
	4	069832	FC-IP-400R	069864	FC-IP-400RE	069896	FC-IP-400L	069928	FC-IP-400LE
22222	4-7/16	071272	EFC-IP-407R	071276	EFC-IP-407RE	071280	EFC-IP-407L	071284	EFC-IP-407LE
	4-1/2	071273	EFC-IP-408R	071277	EFC-IP-408RE	071281	EFC-IP-408L	071285	EFC-IP-408LE
22226	4-15/16	071274	EFC-IP-415R	071278	EFC-IP-415RE	071282	EFC-IP-415L	071286	EFC-IP-415LE
	5	071275	EFC-IP-500R	071279	EFC-IP-500RE	071283	EFC-IP-500L	071287	EFC-IP-500LE

*CONSULT DODGE FOR SIZES NOT LISTED

SHAFT SIZE	A	B #	C #	D	DD	E #	F BOLT DIA.	G	H #	K ##	L	M	N	P	Q #	X TOTAL EXP.	Y	Z
2-11/16 2-3/4 2-15/16 3	3.50	8.75	2.63	5.30	7.500	1.25	5/8	1.94	0.75	6.375	4.28	5/8-11	3.56	1.56	1.63	0.25	0.025	3.47
3-3/16 3-1/4 3-7/16 3-1/2	4.17	10.25	3.00	6.09	8.625	1.26	3/4	2.53	0.94	7.375	5.00	3/4-10	4.06	1.64	1.52	0.25	0.025	4.05
3-15/16 4	4.70	10.88	3.50	6.63	9.375	1.47	3/4	2.89	1.13	8.125	5.56	3/4-10	4.78	1.81	1.91	0.31	0.025	4.50
4-7/16 4-1/2	5.23	13.50	4.58	5.88	11.750	1.45	3/4 **	3.03	0.94	10.250	6.44	3/4-10	5.66	2.20	2.63	0.38	0.036	5.00
4-15/16 5	5.98	14.75	4.88	6.38	12.750	1.70	7/8 **	3.40	1.25	11.000	7.63	3/4-10	6.41	2.59	3.01	0.38	0.036	5.84

- +0.000

-0.002

- REFERENCE DIMENSION ONLY

NOTE(S): "P" AND "G" DIMENSIONS ARE FOR NON-EXPANSION ONLY

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

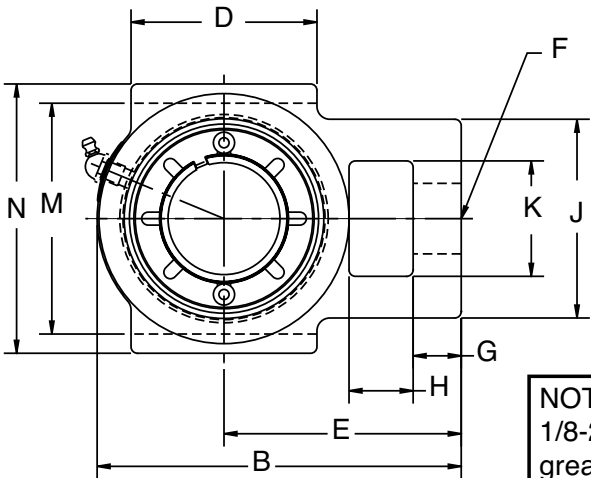
** 4-7/16 THRU 5 HAVE (6) EQUALLY SPACED MOUNTING HOLES

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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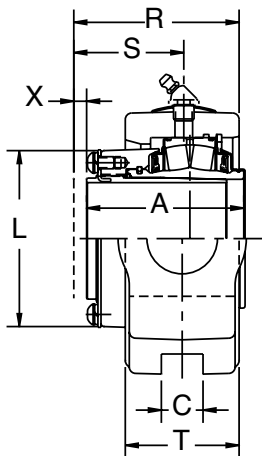
DIMENSION



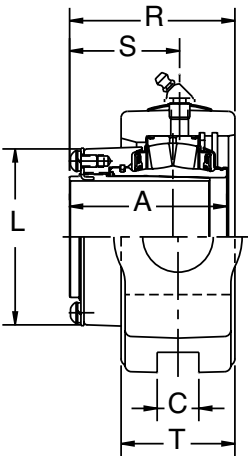
IMPERIAL - IP Wide Slot Take-Up
1-1/8 THRU 2-1/4 INCH



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



EXPANSION



NON-EXPANSION

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Wide Slot Take-Up 1-1/8 THRU 2-1/4 INCH

Bearing	Shaft Size Inch	Take-Up Frame	TRIDENT Seal			
			Non-Expansion		Expansion	
			Part No.	Part Name	Part No.	Part Name
22208	1 - 1/8	CP-308	069340	WSTU-IP-102R	069368	WSTU-IP-102RE
	1 - 3/16		069341	WSTU-IP-103R	069369	WSTU-IP-103RE
	1 - 1/4		069342	WSTU-IP-104R	069370	WSTU-IP-104RE
	1 - 3/8		069343	WSTU-IP-106R	069371	WSTU-IP-106RE
	1 - 7/16		069344	WSTU-IP-107R	069372	WSTU-IP-107RE
	1 - 1/2		069345	WSTU-IP-108R	069373	WSTU-IP-108RE
22209	1 - 5/8	CP-400	069346	WSTU-IP-110R	069374	WSTU-IP-110RE
	1 - 11/16		069347	WSTU-IP-111R	069375	WSTU-IP-111RE
	1 - 3/4		069348	WSTU-IP-112R	069376	WSTU-IP-112RE
22210	1 - 7/8	CP-400	069349	WSTU-IP-114R	069377	WSTU-IP-114RE
	1 - 15/16		069350	WSTU-IP-115R	069378	WSTU-IP-115RE
	2		069351	WSTU-IP-200R	069379	WSTU-IP-200RE
22211	2 - 3/16	CP-408	069352	WSTU-IP-203R	069380	WSTU-IP-203RE
	2 - 1/4		069353	WSTU-IP-204R	069381	WSTU-IP-204RE

Metric shaft sizes available upon request

See Page B15-20 for CP. Take-Up Frame

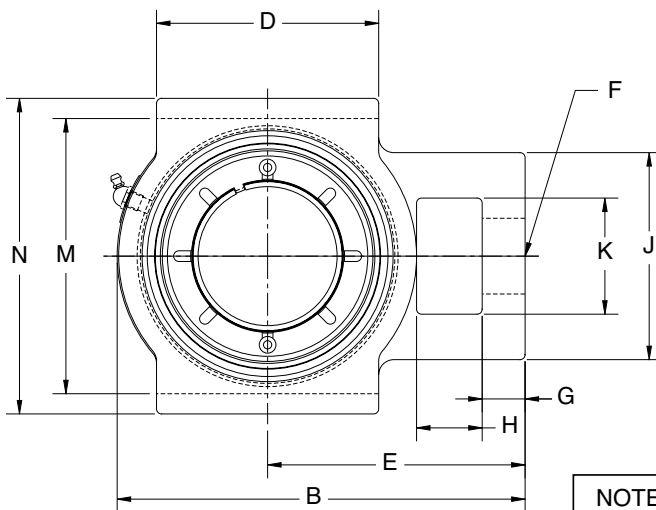
SHAFT SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	X TOTAL EXP
1 - 1/8																	
1 - 3/16																	
1 - 1/4	2 - 5/8	5 - 1/16	17/32	2 - 3/4	3 - 3/16	7/8	11/16	5/8	2 - 7/16	1 - 7/16	2 - 23/32	3 - 1/2	4 - 1/8	2 - 53/64	1 - 47/64	2 - 1/16	3/16
1 - 3/8																	
1 - 7/16																	
1 - 1/2																	
1 - 5/8																	
1 - 11/16	2 - 13/16	5 - 15/16	11/16	3 - 1/8	3 - 13/16	1 - 1/8	15/16	3/4	3 - 5/16	1 - 15/16	3	4	4 - 3/4	2 - 31/32	1 - 63/64	2 - 1/32	1/4
1 - 3/4																	
1 - 7/8																	
1 - 15/16	2 - 55/64	6 - 3/16	11/16	3 - 5/8	3 - 15/16	1 - 1/8	15/16	3/4	3 - 5/16	1 - 15/16	3 - 9/32	4	4 - 3/4	2 - 15/16	2	2	1/4
2																	
2 - 3/16	3 - 1/32	7 - 1/16	13/16	3 - 5/8	4 - 5/8	1 - 3/8	15/16	1 - 1/4	3 - 7/8	2 - 1/4	3 - 1/2	4 - 1/2	5 - 1/4	3 - 3/16	2 - 7/64	2 - 7/32	1/4
2 - 1/4																	

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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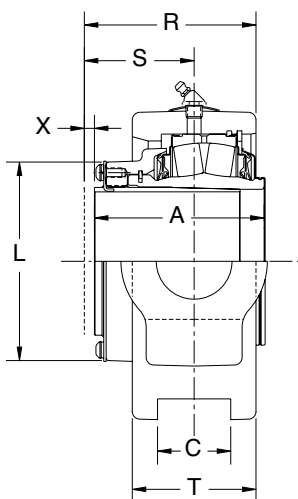
DIMENSION



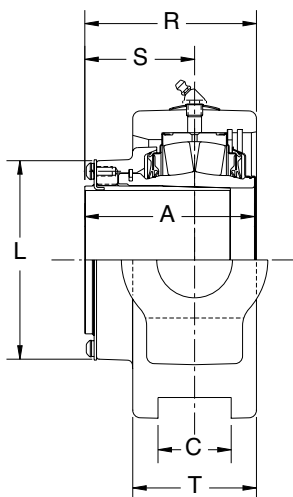
IMPERIAL - IP Wide Slot Take-Up 2-3/8 THRU 4 INCH



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



EXPANSION



NON-EXPANSION

NOTE: See page B10-58 for 1-1/8 thru 2-1/4 inch

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL - IP Wide Slot Take-Up 2-3/8 THRU 4 INCH

Bearing	Shaft Size Inch	Take-Up Frame	TRIDENT Seal			
			Non-Expansion		Expansion	
			Part No.	Part Name	Part No.	Part Name
22213	2 - 3/8	CP-502	069354	WSTU-IP-206R	069382	WSTU-IP-206RE
	2 - 7/16		069355	WSTU-IP-207R	069383	WSTU-IP-207RE
	2 - 1/2		069356	WSTU-IP-208R	069384	WSTU-IP-208RE
22215	2 - 11/16	CP-515	069357	WSTU-IP-211R	069385	WSTU-IP-211RE
	2 - 3/4		069358	WSTU-IP-212R	069386	WSTU-IP-212RE
	2 - 15/16		069359	WSTU-IP-215R	069387	WSTU-IP-215RE
	3		069360	WSTU-IP-300R	069388	WSTU-IP-300RE
22218	3 - 3/16	CP-613	069361	WSTU-IP-303R	069389	WSTU-IP-303RE
	3 - 1/4		069362	WSTU-IP-304R	069390	WSTU-IP-304RE
	3 - 7/16		069363	WSTU-IP-307R	069391	WSTU-IP-307RE
	3 - 1/2		069364	WSTU-IP-308R	069392	WSTU-IP-308RE
22220	3 - 11/16	CP-810	069365	WSTU-IP-311R	069393	WSTU-IP-311RE
	3 - 15/16		069366	WSTU-IP-315R	069394	WSTU-IP-315RE
	4		069367	WSTU-IP-400R	069395	WSTU-IP-400RE

Metric shaft sizes available upon request

See Page B15-20 for CP Take-U Frame

SHAFT SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	X TOTAL EXP
2 - 3/8																	
2 - 7/16	3 - 27/64	7 - 11/16	1 - 1/16	4 - 3/8	5	1 - 3/8	1 - 1/16	1 - 1/4	4 - 1/4	2 - 1/2	3 - 7/8	5 - 1/8	5 - 7/8	3 - 7/16	2 - 7/32	2 - 7/16	1/4
2 - 1/2																	
2 - 11/16																	
2 - 3/4	3 - 1/2	8 - 7/8	1 - 13/16	4 - 1/2	5 - 3/4	1 - 5/8	1 - 1/8	1 - 1/2	4 - 7/8	2 - 3/4	4 - 9/32	5 - 15/16	6 - 11/16	3 - 43/64	2 - 9/32	2 - 11/16	1/4
2 - 15/16																	
3																	
3 - 3/16																	
3 - 1/4	4 - 5/32	10 - 1/16	1 - 13/16	5 - 1/2	6 - 3/8	1 - 7/8	1 - 1/16	1 - 5/8	5 - 1/8	2 - 7/8	5	6 - 13/16	7 - 13/16	4 - 7/32	2 - 11/16	3 - 1/16	1/4
3 - 7/16																	
3 - 1/2																	
3 - 11/16																	
3 - 15/16	4 - 45/64	12 - 9/16	2 - 1/16	7	8 - 3/8	2 - 1/8	2 - 1/16	2 - 1/8	6	3 - 3/8	5 - 9/16	8 - 5/8	9 - 7/16	4 - 51/64	3 - 3/64	3 - 7/16	5/16
4																	

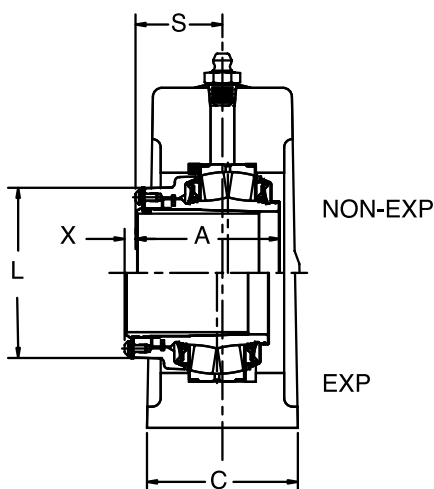
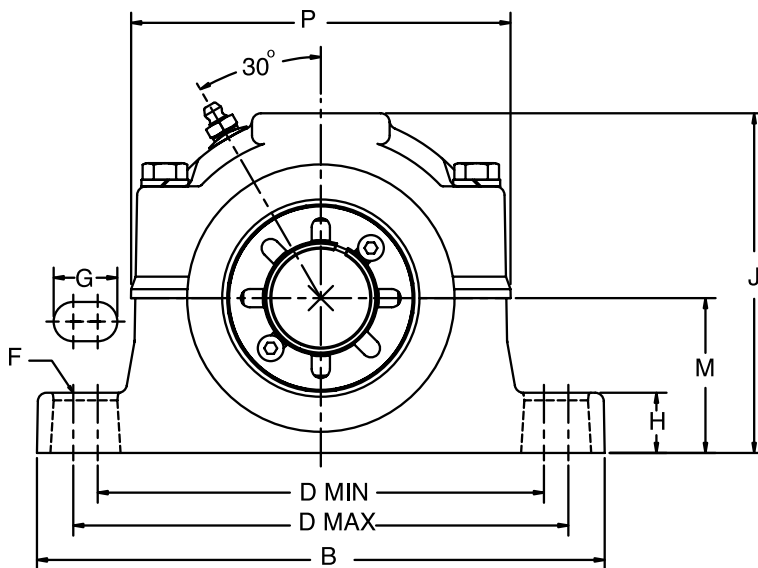
IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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DIMENSION



IMPERIAL ISAF

1-7/16 THRU 3-7/16 INCH - 2-BOLT



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

CONTACT SEAL

NOTE: See page B10-62 for 2-7/16 thru 7 inch

IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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IMPERIAL ISAF

1-7/16 THRU 3-7/16 INCH - 2-BOLT

Bearing	Shaft Size Inch	TRIDENT Seal				Labyrinth Seal			
		Non-Expansion		Expansion		Non-Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22208	1-7/16	070054	P2B509-ISAF-107R	070064	P2B509-ISAF-107RE	070074	P2B509-ISAF-107L	070084	P2B509-ISAF-107LE
22209	1-11/16	070055	P2B510-ISAF-111R	070065	P2B510-ISAF-111RE	070075	P2B510-ISAF-111L	070085	P2B510-ISAF-111LE
22210	1-15/16	070056	P2B511-ISAF-115R	070066	P2B511-ISAF-115RE	070076	P2B511-ISAF-115L	070086	P2B511-ISAF-115LE
22211	2-3/16	070057	P2B513-ISAF-203R	070067	P2B513-ISAF-203RE	070077	P2B513-ISAF-203L	070087	P2B513-ISAF-203LE
22213	2-7/16	070951	P2B515-ISAF-207R	070955	P2B515-ISAF-207RE	070959	P2B515-ISAF-207L	070963	P2B515-ISAF-207LE
22215	2-11/16	070952	P2B516-ISAF-211R	070956	P2B516-ISAF-211RE	070960	P2B516-ISAF-211L	070964	P2B516-ISAF-211LE
22215	2-15/16	070953	P2B517-ISAF-215R	070957	P2B517-ISAF-215RE	070961	P2B517-ISAF-215L	070965	P2B517-ISAF-215LE
22218	3-7/16	070954	P2B520-ISAF-307R	070958	P2B520-ISAF-307RE	070962	P2B520-ISAF-307L	070966	P2B520-ISAF-307LE

Metric shaft sizes available upon request

Shaft Size	SAF Series	A	B	C	D		F Bolts	G
					Min	Max		
1-7/16	509	2-5/8	8-1/4	2-3/16	6-1/4	7	1/2	15/16
1-11/16	510	2-13/16	8-1/4	2-3/8	6-1/2	7	1/2	7/8
1-15/16	511	2-55/64	9-5/8	2-3/4	7-3/8	8-1/4	5/8	1-13/64
2-3/16	513	3-1/32	11	3-1/4	8-21/32	9-1/2	5/8	1-5/32
2-7/16	515	3-27/64	11-1/8	3-1/8	8-5/8	9-5/8	5/8	1-1/8
2-11/16	516	3-1/2	12-19/32	3-1/2	9-7/8	11	3/4	1-5/16
2-15/16	517	3-1/2	12-19/32	3-1/2	9-7/8	11	3/4	1-5/16
3-7/16	520	4-5/32	15-23/64	4-11/32	11-13/16	13-1/8	7/8	1-5/8

Shaft Size	SAF Series	H	J	L	M	P	S	X Expansion
1-7/16	509	7/8	4-15/16	2-23/32	2-1/4	5-33/64	1-17/32	7/32
1-11/16	510	1-1/32	5-29/64	3	2-1/2	5-13/16	1-47/64	7/32
1-15/16	511	1-1/32	5-31/32	3-9/32	2-3/4	6-3/8	1-47/64	17/64
2-3/16	513	1-1/32	6-11/32	3-1/2	3	6-31/32	1-7/8	7/32
2-7/16	515	1-1/4	6-55/64	3-7/8	3-1/4	7-27/64	2-1/16	5/16
2-11/16	516	1	7-1/2	4-9/32	3-1/2	8-5/16	2-5/32	15/64
2-15/16	517	1-1/4	7-3/4	4-9/32	3-3/4	8-5/16	2-5/32	15/64
3-7/16	520	1-21/32	9-1/4	5	4-1/2	10-1/8	2-31/64	3/8

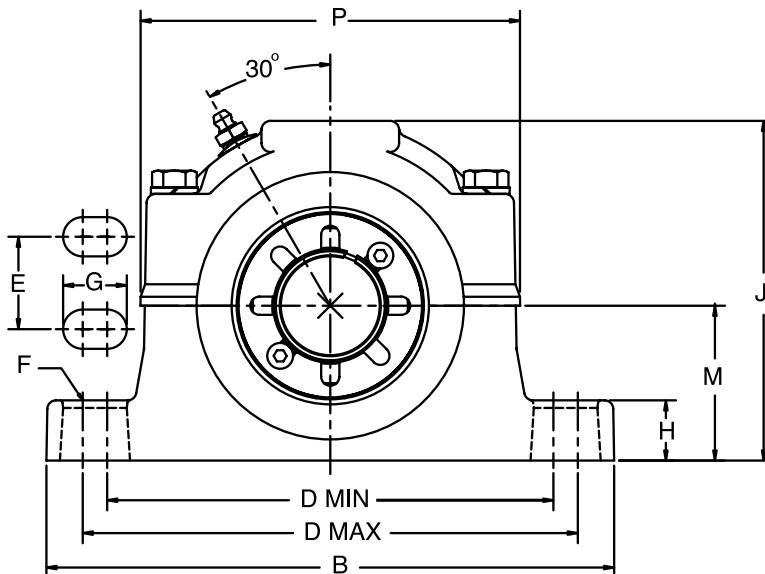
IMPERIAL FEATURES PAGE B10-3	IMPERIAL SPECIFICATION PAGE B10-6	IMPERIAL NOMENCLATURE PAGE B10-9	IMPERIAL SELECTION PAGE B10-12
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DIMENSION

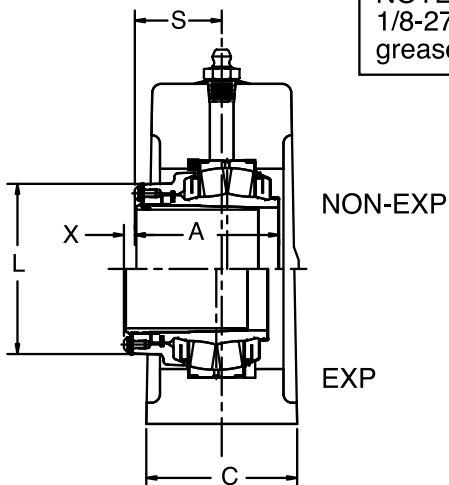


IMPERIAL ISAF

2-7/16 THRU 7 INCH - 4-BOLT



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



LABYRINTH SEAL

NOTE: See page B10-60 for 1-1/8 thru 2-3/16 inch

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IMPERIAL ISAF 2-7/16 THRU 7 INCH - 4-BOLT

Bearing	Shaft Size Inch	TRIDENT Seal				Labyrinth Seal			
		Non-Expansion		Expansion		Non-Expansion		Expansion	
		Part No.	Part Name	Part No.	Part Name	Part No.	Part Name	Part No.	Part Name
22213	2-7/16	070058	P4B515-ISAF-207R	070068	P4B515-ISAF-207RE	070078	P4B515-ISAF-207L	070088	P4B515-ISAF-207LE
22215	2-11/16	070094	P4B516-ISAF-211R	070095	P4B516-ISAF-211RE	070096	P4B516-ISAF-211L	070097	P4B516-ISAF-211LE
22215	2-15/16	070059	P4B517-ISAF-215R	070069	P4B517-ISAF-215RE	070079	P4B517-ISAF-215L	070089	P4B517-ISAF-215LE
22218	3-7/16	070060	P4B520-ISAF-307R	070070	P4B520-ISAF-307RE	070080	P4B520-ISAF-307L	070090	P4B520-ISAF-307LE
22220	3-15/16	070061	P4B522-ISAF-315R	070071	P4B522-ISAF-315RE	070081	P4B522-ISAF-315L	070091	P4B522-ISAF-315LE
22222	4-7/16	070062	P4B526-ISAF-407R	070072	P4B526-ISAF-407RE	070082	P4B526-ISAF-407L	070092	P4B526-ISAF-407LE
22226	4-15/16	070063	P4B528-ISAF-415R	070073	P4B528-ISAF-415RE	070083	P4B528-ISAF-415L	070093	P4B528-ISAF-415LE
22228	5-7/16	037850	P4B532-ISAF-507R	037854	P4B532-ISAF-507RE	037901	P4B532-ISAF-507L	037902	P4B532-ISAF-507LE
	5-1/2	037903	P4B532-ISAF-508R	037904	P4B532-ISAF-508RE	037905	P4B532-ISAF-508L	037906	P4B532-ISAF-508LE
22232	5-15/16	037851	P4B534-ISAF-515R	037855	P4B534-ISAF-515RE	037907	P4B534-ISAF-515L	037908	P4B534-ISAF-515LE
	6	037909	P4B534-ISAF-600R	037910	P4B534-ISAF-600RE	037911	P4B534-ISAF-600L	037912	P4B534-ISAF-600LE
22236	6-7/16	037852	P4B536-ISAF-607R	037856	P4B536-ISAF-607RE	037913	P4B536-ISAF-607L	037914	P4B536-ISAF-607LE
	6-1/2	037915	P4B536-ISAF-608R	037916	P4B536-ISAF-608RE	037917	P4B536-ISAF-608L	037918	P4B536-ISAF-608LE
22236	6-15/16	037853	P4B538-ISAF-615R	037857	P4B538-ISAF-615RE	037919	P4B538-ISAF-615L	037920	P4B538-ISAF-615LE
	7	037921	P4B538-ISAF-700R	037922	P4B538-ISAF-700RE	037923	P4B538-ISAF-700L	037924	P4B538-ISAF-700LE

See Page B10-65 for dimensions

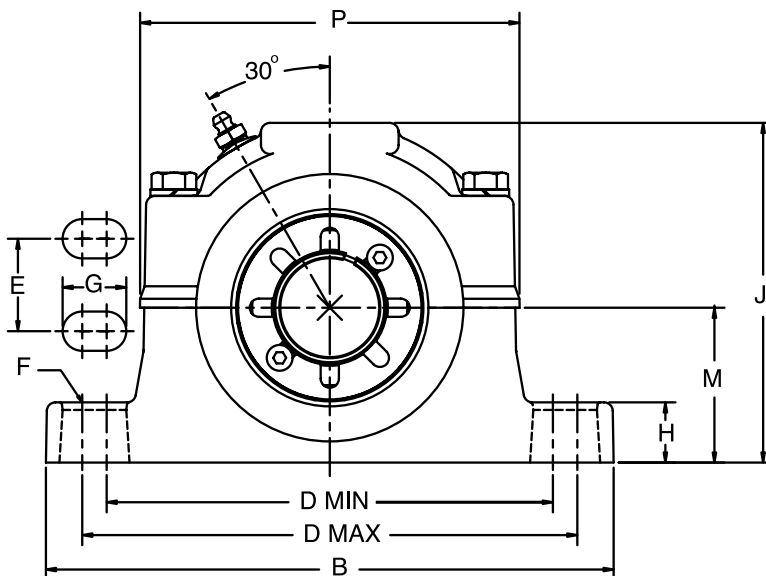
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DIMENSION

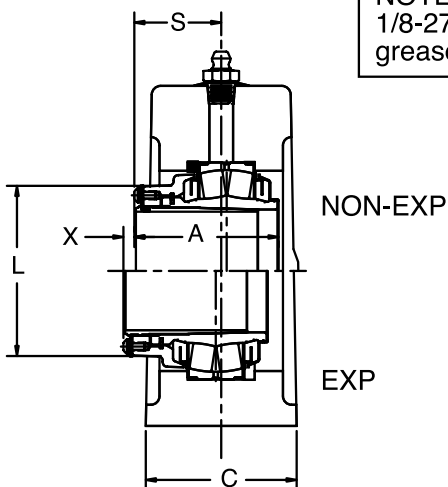


IMPERIAL ISAF

2-7/16 THRU 7 INCH - 4-BOLT



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



LABYRINTH SEAL

IMPERIAL FEATURES
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IMPERIAL SELECTION
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IMPERIAL ISAF 2-7/16 THRU 7 INCH - 4-BOLT

Shaft Size	SAF Series	A	B	C	D		E	F Bolts	G
					Min	Max			
2-7/16	515	3-27/64	11-1/8	3-1/8	8-5/8	9-5/8	1-7/8	1/2	1-1/8
2-11/16	516	3-1/2	12-19/32	3-1/2	9-7/8	11	2-1/8	5/8	1-5/16
2-15/16	517	3-1/2	12-19/32	3-1/2	9-7/8	11	2-1/8	5/8	1-5/16
3-7/16	520	4-5/32	15-23/64	4-11/32	11-13/16	13-1/8	2-3/8	3/4	1-5/8
3-15/16	522	4-45/64	16-1/2	4-3/4	12-19/32	14-1/2	2-3/4	3/4	1-53/64
4-7/16	526	5-15/64	18-3/8	5-1/8	14-1/2	16	3-1/4	7/8	1-3/4
4-15/16 5-7/16	528	5-63/64	19-45/64	5-7/8	15-5/8	17-3/8	3-3/8	1	2
5-1/2 5-15/16	532	6-11/64	21-21/32	6-1/4	17-3/8	19-1/4	3-3/4	1	2-1/16
6 6-7/16	534	7-5/64	24-3/4	6-3/4	19-3/8	21-5/8	4-1/4	1	2-1/4
6-1/2 6-15/16	536	7-25/64	26-3/4	7-1/8	20-7/8	23-5/8	4-5/8	1	2-1/2
7	538	7-25/64	28	7-1/2	21-5/8	24-3/8	4-1/2	1-1/4	2-3/4

Shaft Size	SAF Series	H	J	L	M	P	S	X Expansion
2-7/16	515	1-1/4	6-55/64	3-7/8	3-1/4	7-27/64	2-1/16	5/16
2-11/16	516	1	7-1/2	4-9/32	3-1/2	8-5/16	2-5/32	15/64
2-15/16	517	1-1/4	7-3/4	4-9/32	3-3/4	8-5/16	2-5/32	15/64
3-7/16	520	1-21/32	9-1/4	5	4-1/2	10-1/8	2-31/64	3/8
3-15/16	522	1-25/32	10-3/16	5-9/16	4-15/16	10-23/32	2-55/64	3/8
4-7/16	526	2-1/16	11-21/32	6-7/16	6	12-15/32	3-3/32	3/8
4-15/16 5-7/16	528	2-1/16	12-13/32	7-5/8	6	13-3/8	3-11/16	3/8
5-1/2 5-15/16	532	2-11/32	12-1/2	8-3/4	6-11/16	13-3/8	3-41/64	3/8
6 6-7/16	534	2-7/8	13-11/16	10-1/4	7-1/16	15-3/32	4-7/64	3/8
6-1/2 6-15/16	536	3	15-1/8	11-13/32	7-1/2	17-3/8	4-11/32	3/8
7	538	3-1/8	15-1/2	11-13/32	7-7/8	17-3/8	4-11/32	3/8

See page B10-63 for part number

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DIMENSION



IMPERIAL ISAF

How to Order ISAF Smart Stock Selections

Step 1: The Housing Choices

ISAF housings with embedded thermocoupled probe and adapter plate

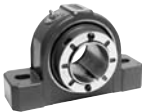
Shaft Size	Series	Drilled Housing Part Numbers For Temperature and/or Vibration Part #
207	515	063765
215	517	063766
307	520	063767
315	522	063768
407	526	063769
415	528	063770

Step 2: Bearing Insert

Select insert based on shaft size and seal choice.
Locknut contains 4 holes for prox target attachment.

Shaft Size	TRIDENT Seal	Labyrinth Seals
207	070895	070927
215	070899	070931
307	070903	070935
315	070906	070938
407	048385	048389
415	048386	048390

* For additional details on DODGE Smart Bearings, see brochure DMR 2026-6



IMPERIAL ISAF
How to Order ISAF Smart Stock Selections

Step 3: The Sensor Choices

For speed monitoring, select prox cover and prox kit, either AC for PLC monitoring or DC for EZ Link. Add the Cable Connector kit for EZ Link speed monitoring

For temperature monitoring select the Thermocouple Transmitter kit **055931**

For temperature and vibration monitoring select **067576**

To monitor temperature, vibration, and speed select EZ Link.

Prox Covers		
Shaft Size	Housing Series	Part Number
207	515	063771
215	517	063772
307	520	063773
315	522	063774
407	526	063775
415	528	063776

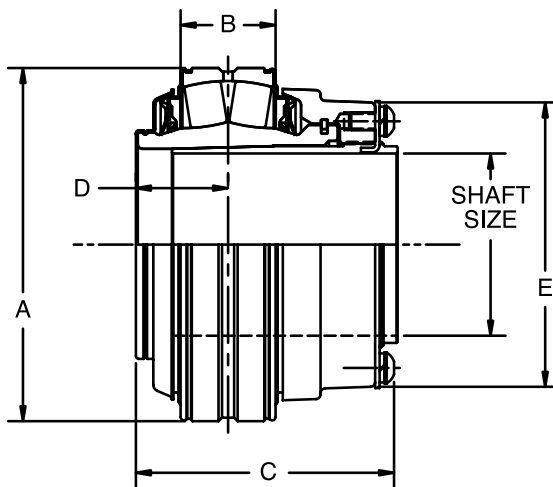
ISAF Sensor Kits	Part Number
AC Prox	055940
DC Prox	055945
Thermocouple Transmitter	055931
EZLINK	059652
Cable Connector Kit	063694
4-20 ma Accelerometer and Thermocouple	067576

DIMENSION

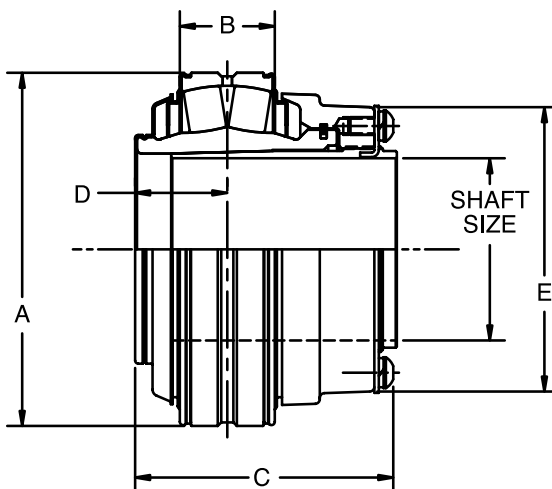


IMPERIAL Bearing Insert - For IP, IP-E and ISAF Housings 1-1/8 THRU 2-1/4 INCH

TRIDENT SEAL



LABYRINTH SEAL





IMPERIAL Bearing Insert - For IP, IP-E and ISAF Housings

1-1/8 THRU 2-1/4 PART NUMBERS

Bearing Series	Shaft Size - Inch	TRIDENT Seal		Labyrinth Seal	
		Part Number	Part Name	Part Number	Part Name
22208	1-1/8	070880	INS-IP-102R	070912	INS-IP-102L
	1-3/16	070881	INS-IP-103R	070913	INS-IP-103L
	1-1/4	070882	INS-IP-104R	070914	INS-IP-104L
	1-3/8	070883	INS-IP-106R	070915	INS-IP-106L
	1-7/16	070884	INS-IP-107R	070916	INS-IP-107L
	1-1/2	070885	INS-IP-108R	070917	INS-IP-108L
22209	1-1/2 *	071590	INS-IPE-108R	071593	INS-IPE-108L
	1-5/8	070886	INS-IP-110R	070918	INS-IP-110L
	1-11/16	070887	INS-IP-111R	070919	INS-IP-111L
	1-3/4	070888	INS-IP-112R	070920	INS-IP-112L
22210	1-3/4 *	071591	INS-IPE-112R	071594	INS-IPE-112L
	1-7/8	070889	INS-IP-114R	070921	INS-IP-114L
	1-15/16	070890	INS-IP-115R	070922	INS-IP-115L
	2	070891	INS-IP-200R	070923	INS-IP-200L
22211	2-3/16	070892	INS-IP-203R	070924	INS-IP-203L
	2-1/4	070893	INS-IP-204R	070925	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 1-3/16 1-1/4 1-3/8 1-7/16 1-1/2	3.1496	61/64	2-5/8	0.97	2-23/32
1-1/2 * 1-5/8 1-11/16 1-3/4	3.3465	61/64	2-13/16	0.954	3
1-3/4 * 1-7/8 1-15/16 2	3.5433	61/64	2-55/64	0.977	3-9/32
2-3/16 2-1/4	3.937	1-3/64	3-1/32	1.05	3-1/2

* Inserts for IMPERIAL-Type E dimensioned housings only

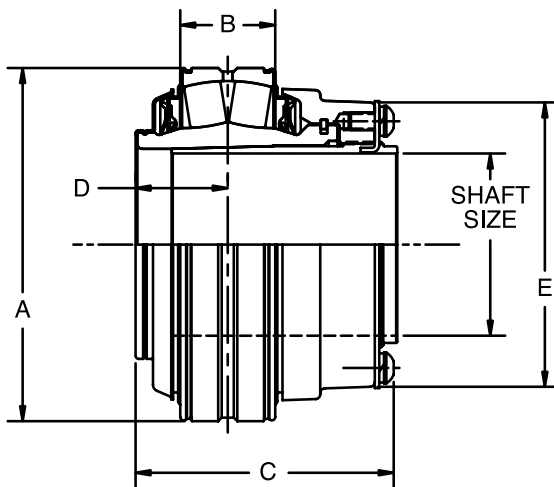
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DIMENSION

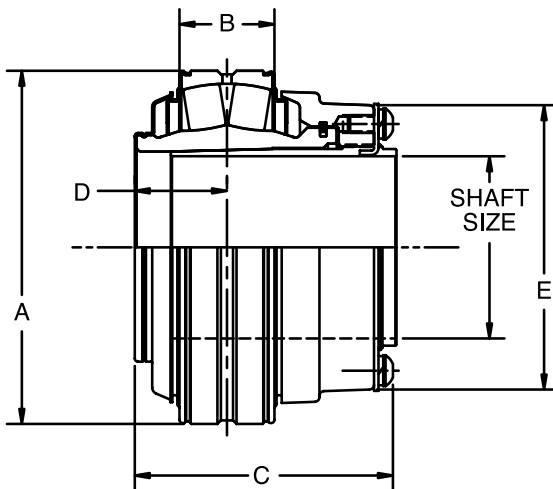


IMPERIAL Bearing Insert - For IP, IP-E and ISAF Housings 2-3/8 THRU 5 INCH

TRIDENT SEAL



LABYRINTH SEAL





IMPERIAL Bearing Insert - For IP, IP-E and ISAF Housings 2-3/8 THRU 5 INCH - PART NUMBERS

Bearing Series	Shaft Size	TRIDENT Seal		Labyrinth Seal	
		Part Number	Part Name	Part Number	Part Name
22213	2-1/4 *	071592	INS-IPE-204R	071595	INS-IPE-204L
	2-3/8	070894	INS-IP-206R	070926	INS-IP-206L
	2-7/16	070895	INS-IP-207R	070927	INS-IP-207L
	2-1/2	070896	INS-IP-208R	070928	INS-IP-208L
22215	2-11/16	070897	INS-IP-211R	070929	INS-IP-211L
	2-3/4	070898	INS-IP-212R	070930	INS-IP-212L
	2-15/16	070899	INS-IP-215R	070931	INS-IP-215L
	3	070900	INS-IP-300R	070932	INS-IP-300L
22218	3-3/16	070901	INS-IP-303R	070933	INS-IP-303L
	3-1/4	070902	INS-IP-304R	070934	INS-IP-304L
	3-7/16	070903	INS-IP-307R	070935	INS-IP-307L
	3-1/2	070904	INS-IP-308R	070936	INS-IP-308L
22220	3-11/16	070905	INS-IP-311R	070937	INS-IP-311L
	3-15/16	070906	INS-IP-315R	070938	INS-IP-315L
	4	070907	INS-IP-400R	070939	INS-IP-400L
22222	4-7/16	070908	INS-IP-407R	070940	INS-IP-407L
	4-1/2	070909	INS-IP-408R	070941	INS-IP-408L
22226	4-15/16	070910	INS-IP-415R	070942	INS-IP-415L
	5	070911	INS-IP-500R	070943	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	5.1181	1-9/32	3-1/2	1.219	4-9/32
2-3/4					
2-15/16					
3					
3-3/16	6.2992	1-5/8	4-11/64	1.483	5
3-1/4					
3-7/16					
3-1/2					
3-11/16	7.0866	1-7/8	4-45/64	1.646	5-9/16
3-15/16					
4					
4-7/16	7.8740	2-5/32	5-15/64	1.935	6-7/16
4-1/2					
4-15/16	9.0551	2-19/32	5-63/64	2.107	7-5/8
5					

* Insert for IMPERIAL-Type E dimensioned housings only

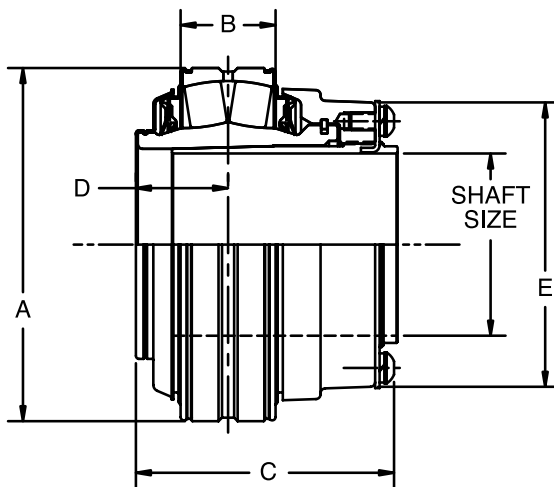
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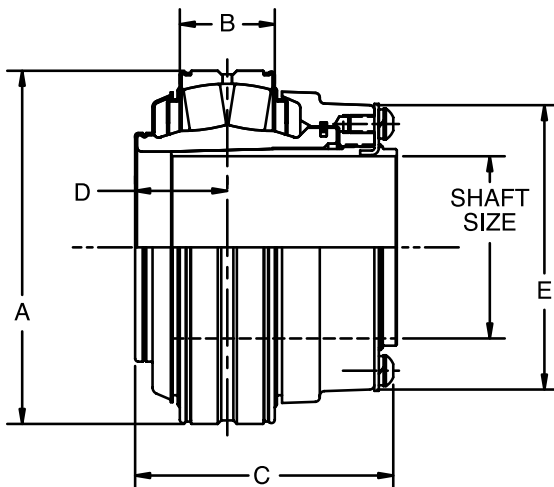


IMPERIAL Bearing Insert - For Large Bore ISAF Housings 5-7/16 THRU 7 INCH

TRIDENT SEAL



LABYRINTH SEAL





IMPERIAL Bearing Insert - For Large Bore ISAF Housings 5-7/16 THRU 7 INCH

Bearing Series	Shaft Size	TRIDENT Seal		Labyrinth Seal	
		Part Number	Part Name	Part Number	Part Name
22228	5-7/16	037925	INS-IP-507R	037933	INS-IP-507L
	5-1/2	037926	INS-IP-508R	037934	INS-IP-508L
22232	5-15/16	037927	INS-IP-515R	037935	INS-IP-515L
	6	037928	INS-IP-600R	037936	INS-IP-600L
22236	6-7/16	037929	INS-IP-607R	037937	INS-IP-607L
	6-1/2	037930	INS-IP-608R	037938	INS-IP-608L
	6-15/16	037931	INS-IP-615R	037939	INS-IP-615L
	7	037932	INS-IP-700R	037940	INS-IP-700L

Metric shaft sizes available upon request

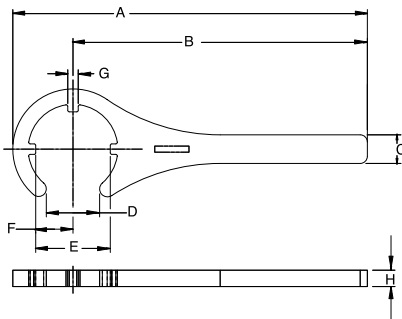
SHAFT SIZE	A	B	C	D	E
5-7/16 5-1/2	9.8425	2-3/4	6-11/64	2.337	8-3/4
5-15/16 6	11.4173	3-7/32	7-5/64	2.768	10-1/4
6-7/16 6-1/2 6-15/16 7	12.5984	3-15/32	7-25/64	2.862	11-13/32

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DIMENSION



IMPERIAL SPANNER WRENCH



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

IMPERIAL FEATURES
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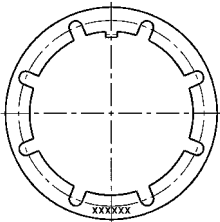
IMPERIAL SPECIFICATION
PAGE B10-6

IMPERIAL NOMENCLATURE
PAGE B10-9

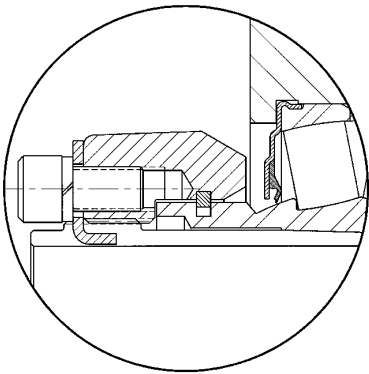
IMPERIAL SELECTION
PAGE B10-12



IMPERIAL LOCKPLATE KIT

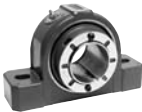


The Lockplate Kits consists of:
Lockplate
2 Socket Head Capscrews
2 Lockwashers

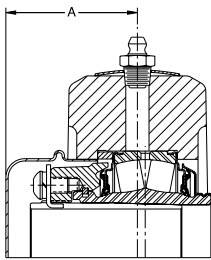
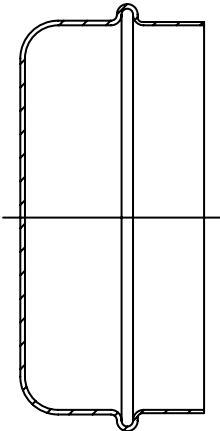
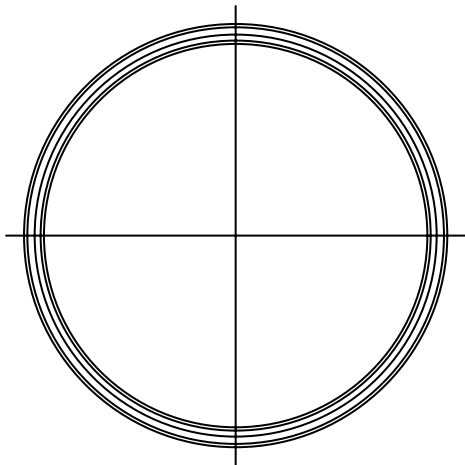


Shaft Size Inch	Part Number
1-7/16	048925
1-11/16	048926
1-15/16 2 SM	048927
2 LG 2-3/16	048928
2-3/8 2-7/16	048929
2-11/16 2-3/4 2-15/16	048930
3-7/16	048931
3-15/16	048932
4-7/16	048933
4-15/16	048934

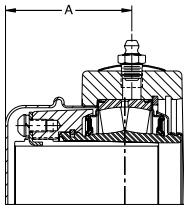
DIMENSION



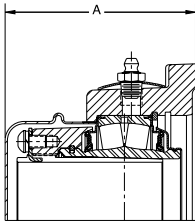
IMPERIAL End Cap



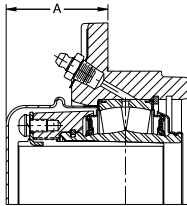
ISAF PILLOW BLOCK



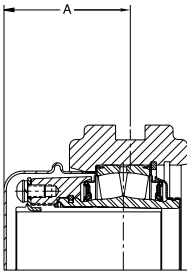
PILLOW BLOCK



FLANGE



PILOTED FLANGE



WS TAKE-UP

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End Caps For IMPERIAL, IMPERIAL-E and ISAF

Shaft Size	Housing Design			
	IMPERIAL		* E-IMPERIAL	
	Part #	Description	Part #	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

* End Covers for IMPERIAL with Type E dimensioned housing

"A" Dimension

SHAFT SIZE (IN)	IMPERIAL Pillow Block	*IMPERIAL-E Pillow Block	IMPERIAL Piloted Flange	*IMPERIAL-E Piloted Flange	IMPERIAL Flange	*IMPERIAL-E Flange	Wide Slot Take-up	ISAF
1-1/8 thru 1-1/2	1.97	1.83	1.61	1.61	3.06	3.39	2.00	1.98
*1-1/2 1- 5/8 1-11/16 1-3/4	2.16	2.20	1.77	1.77	3.27	4.01	2.13	2.14
*1-3/4 1-7/8 1-15/16 2	2.25	2.00	1.86	1.86	3.41	3.89	2.19	2.29
2-3/16 2-1/4	2.41	2.47	1.94	1.94	3.63	4.47	2.36	2.40
*2-1/4 2-3/8 2-7/16 2-1/2	2.44	2.44	2.09	2.09	3.95	4.63	2.44	2.65
2-11/16 thru 3	2.56	2.54	2.20	2.20	4.09	4.97	2.61	2.74
3-3/16 thru 3-1/2	2.94	2.91	2.78	2.78	4.73	5.65	2.94	3.18
3-11/16 thru 4	3.36	3.67	3.19	3.19	5.38	7.04	3.39	3.57
4-7/16 4-1/2	3.83	3.78	3.89	3.72	N/A	7.49	3.84	3.92
4-15/16 5	4.36	4.33	4.11	3.95	N/A	N/A	4.36	4.42

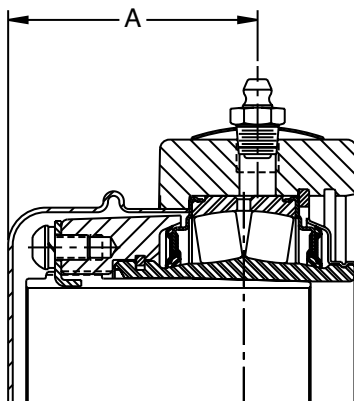
* IMPERIAL With Type E Dimensioned Housing

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DIMENSION



ISN End Cap



PILLOW BLOCK

SHAFT SIZE (mm)	End Cover P/N	Description	"A" Dimension
30	069960	IPEC08	49.5
35	069960	IPEC08	49.5
40	069961	IPEC09	55
45	069962	IPEC10	58.3
50	069962	IPEC10	58.3
55	069963	IPEC11	61.7
60	069964	IPEC13	66.3
65	069965	IPEC15	70
70	069965	IPEC15	70
75	069965	IPEC15	70
80	069966	S2IPEC18	78.3
85	069966	S2IPEC18	78.3
90	069967	S2IPEC20	91.2
100	069967	S2IPEC20	91.2
110	069968	S2IPEC22	97.7
115	069969	S2IPEC26	111.4
125	069969	S2IPEC26	111.4