TIMKEN

TIMKEN® SAF SPLIT-BLOCK MOUNTED SPHERICAL ROLLER BEARING CATALOG

ABOUT THE TIMKEN COMPANY

As a global leader in bearings and industrial motion systems, Timken focuses on precise solution design, materials and craftsmanship to deliver reliable and efficient performance that improves productivity and uptime. Timken offers a full range of bearings, gear drives, automated lubrication systems, belts, chains, couplings and linear motion products along with rebuild and repair services. Timken applies its proven expertise in metallurgy, tribology and industrial motion to create innovative approaches to customers' complex needs. Global availability of products and engineering talent, combined with exceptional service delivery across markets, makes Timken a preferred choice worldwide.

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TIMKEN® SAF SPLIT-BLOCK MOUNTED SPHERICAL ROLLER BEARING CATALOG INDEX

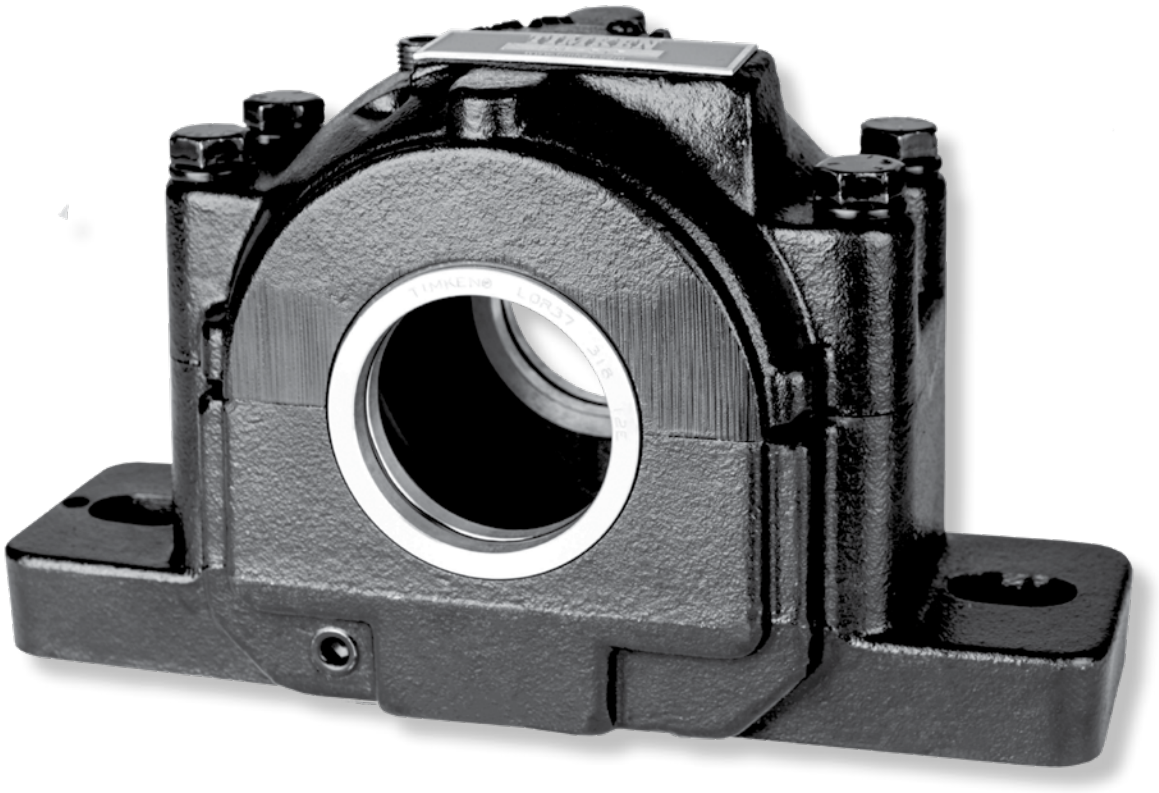
TIMKEN® SAF SPLIT-BLOCK MOUNTED SPHERICAL ROLLER BEARINGS

Timken's split-block spherical pillow blocks combine rugged cast-iron or cast-steel housings with high-capacity spherical roller bearings to meet the toughest demands of heavy industry. The convenient split-housing design simplifies assembly and service. Each pillow block contains an advanced-design spherical roller bearing with improved geometry and raceway finish for optimal load capacity and service life. Timken manufactures pillow blocks in two main styles: SAF and SDAF. The larger SDAF block is suggested for extremely heavy duty applications.

Updates are made periodically to this catalog. Visit www.timken.com for the most recent version of the Timken® SAF Split-Block Mounted Spherical Roller Bearing Catalog.

TYPICAL INDUSTRIES AND APPLICATIONS

Common uses include processing and material handling equipment found in many industries, including power generation (coal), mining, aggregate, cement, metal mills, pulp, paper and other forestry operations, water treatment and food processing. Applications include conveyors, movable bridges/heavy structures, industrial fans and blowers.



HOW TO USE THIS CATALOG

We designed this catalog to help you find the Timken bearings best suited to your equipment needs and specifications. Timken offers an extensive range of bearings and accessories in both imperial and metric sizes. For your convenience, size ranges are indicated in millimeters and inches. Contact your Timken engineer to learn more about our complete line for the special needs of your application.

This publication contains dimensions, tolerances and load ratings, as well as engineering sections describing mounting and fitting practices for shafts and housings, internal clearances, materials and other bearing features.

It provides valuable assistance in the initial consideration of the type and characteristics of the bearings that may best suit your particular needs.

ISO, as used in this publication, refers to the International Organization for Standardization and JIS refers to the Japanese Industrial Standards.

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SHELF LIFE AND STORAGE OF GREASE-LUBRICATED BEARINGS AND COMPONENTS

To help you get the most value from our products, Timken provides guidelines for the shelf life of grease-lubricated ball and roller bearings, components and assemblies. Shelf life information is based on Timken and industry test data and experience.

SHELF LIFE

Shelf life should be distinguished from lubricated bearing/component design life as follows:

Shelf life of the grease-lubricated bearing/component represents the period of time prior to use or installation.

The shelf life is a portion of the anticipated aggregate design life. It is impossible to accurately predict design life due to variations in lubricant bleed rates, oil migration, operating conditions, installation conditions, temperature, humidity and extended storage.

TIMKEN IS NOT RESPONSIBLE FOR THE SHELF LIFE OF ANY BEARING/COMPONENT LUBRICATED BY ANOTHER PARTY.

European REACH compliance

Timken lubricants, greases and similar products sold in standalone containers or delivery systems are subject to the European REACH (Registration, Evaluation, Authorization and Restriction of CHemicals) directive. For import into the European Union, Timken can sell and provide only those lubricants and greases that are registered with ECHA (European CHemical Agency). For further information, please contact your Timken engineer.

STORAGE

Timken suggests the following storage guidelines for our finished products (bearings, components and assemblies, referred to as "products"):

- Unless directed otherwise by Timken, products should be kept in their original packaging until they are ready to be placed into service
- Do not remove or alter any labels or stencil markings on the packaging
- Products should be stored in such a way that the packaging is not pierced, crushed or otherwise damaged
- After a product is removed from its packaging, it should be placed into service as soon as possible
- When removing a product that is not individually packaged from a bulk pack container, the container should be resealed immediately after the product is removed
- The storage area temperature should be maintained between 0° C and 40° C; temperature fluctuations should be minimized
- The relative humidity should be maintained below 60 percent and the surfaces should be dry
- The storage area should be kept free from airborne contaminants such as, but not limited to, dust, dirt, harmful vapors, etc.
- The storage area should be isolated from undue vibration
- Extreme conditions of any kind should be avoided

Due to the fact that Timken is not familiar with your particular storage conditions, we strongly suggest following these guidelines. However, you may be required by circumstances or applicable government requirements to adhere to stricter storage requirements.

Be careful in selecting lubrication, however, since different lubricants are often incompatible.

When you receive a bearing shipment, do not remove products from their packaging until they are ready for mounting so they do not become corroded or contaminated.

Store bearings and bearing housings in an appropriate atmosphere so they remain protected for the intended period.

WARNING
Failure to observe the following warnings could create a risk of death or serious injury.

Proper maintenance and handling practices are critical. Always follow installation instructions and maintain proper lubrication.

Never spin a bearing with compressed air. The components may be forcefully expelled.

Overheated bearings can ignite explosive atmospheres. Special care must be taken to properly select, install, maintain and lubricate mounted bearings that are used in or near atmospheres that may contain explosive levels of combustible gases or accumulations of dust such as grain, coal, or other combustible materials. Consult your equipment designer or supplier for installation and maintenance instructions.

If hammer and bar are used for installation or removal of a part, use a mild steel bar (e.g., 1010 or 1020 grade). Mild steel bars are less likely to cause release of high speed fragments from the hammer or bar or the part being installed or removed.

Ungrounded bearings can create static electricity that can ignite in an explosive atmosphere such as combustible gases or accumulations of dust such as grain, coal, or other combustible materials. Proper dissipation of such potential static electricity discharge must be assured to prevent any such explosion.

Tensile stresses can be very high in tightly fitted bearing components. Attempting to remove such components by cutting the inner ring may result in a sudden shattering of the component, causing fragments of metal to be forcefully expelled.

Always use properly guarded presses or bearing pullers to remove bearings from shafts, and always use suitable personal protective equipment, including safety glasses.

For additional Timken product warnings, visit www.timken.com/warnings.

CAUTION
Failure to observe the following cautions could result in property damage.

The products cataloged are application specific. Any use in applications other than those intended could lead to equipment failure or to reduced equipment life.

Use of improper bearing fits may cause damage to equipment.

Do not use damaged mounted bearings.

Do not use damaged bearings. The use of a damaged bearing can result in equipment damage.

NOTE

Do not use excessive force when mounting or dismounting the unit.

Follow all tolerance, fit, and torque recommendations.

Always follow the Original Equipment Manufacturer's installation and maintenance guidelines.

Ensure proper alignment.

Never weld mounted bearings.

Do not heat components with an open flame.

Do not operate at bearing temperatures above 121° C (250° F).

DISCLAIMER

This catalog is provided solely to give you analysis tools and data to assist you in your product selection. Product performance is affected by many factors beyond the control of Timken. Therefore, you must validate the suitability and feasibility of all product selections.

Timken products are sold subject to Timken terms and conditions of sale, which include our limited warranty and remedy. You can find these at https://www.timken.com/legal-notices/termsandconditionsofsale/.

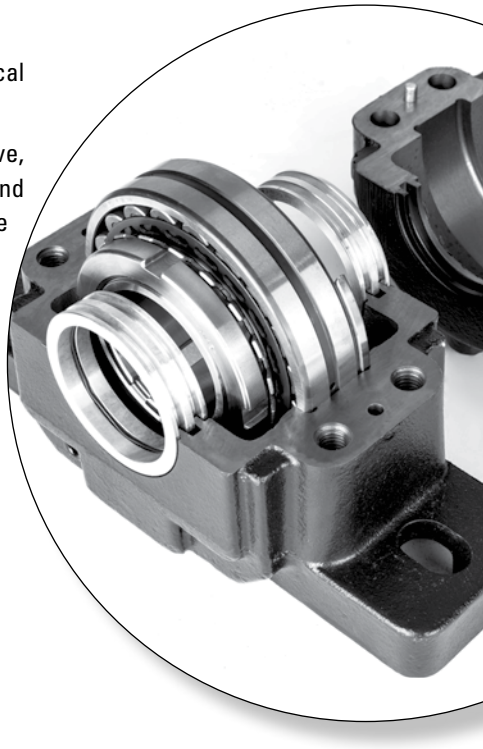
Please consult with your Timken engineer for more information and assistance. Every reasonable effort has been made to ensure the accuracy of the information in this writing, but no liability is accepted for errors, omissions or for any other reason.

ENGINEERING

Timken offers a full range of SAF split-block mounted spherical roller bearings.

This engineering section is not intended to be comprehensive, but does serve as a useful guide in spherical roller bearing and SAF pillow block housing selection. This section does provide some spherical roller bearing details to help in selection and mounting. For more information about spherical roller bearings, please refer to the Spherical Roller Bearing Catalog (order number 10446).

The following topics are covered within this engineering section:



SPHERICAL ROLLER BEARING MOUNTING, FITTING, SETTING AND INSTALLATION

MOUNTING

Spherical roller bearings can be mounted individually, but most often are mounted in combination with another spherical roller bearing or a cylindrical roller bearing.

With spherical roller bearings, typically one bearing is fixed axially and the other is mounted with loose fits and axial space. This allows movement or float for environmental conditions such as uneven thermal growth between shaft and housing. In SAF housings, a stabilizing ring, sometimes called a locating ring, is provided. When this ring is installed in the assembly, it creates a fixed bearing. When it is removed, and the bearing is properly located in the housing, the bearing can float freely.

Fig. 1 shows a fixed SAF housing with a stabilizing ring installed and a float bearing without the stabilizing ring.

FITTING PRACTICE

Tables 3 through 5 on pages 15 through 21 list the recommended fitting practice for spherical roller bearing inner rings on shafts. The tables assume:

- The bearing is of normal precision.
- The shaft is solid and made from steel.
- The bearing seats are ground or accurately turned to less than approximately 1.6 Ra finish.

The suggested fit symbols are in accordance with ISO 286. For help with recommended fitting practice, contact your Timken engineer.

As a general guideline, rotating inner rings should be applied with an interference fit. Loose fits may permit the inner rings to creep or turn, and wear the shaft and the backing shoulder. This wear may result in excessive bearing looseness and possible bearing and shaft damage. Additionally, abrasive metal particles resulting from creep or turning may enter into the bearing and cause damage and vibration.

The load conditions and bearing envelope dimensions should be used to select the suggested shaft fit from the tables.

Timken SAF housings are supplied with a predetermined loose fit practice for the bearing O.D. Contact your Timken engineer if you require the specific fit practice used for a given SAF housing.

⚠ WARNING

Failure to observe the following warnings could create a risk of death or serious injury.

Proper maintenance and handling practices are critical. Always follow installation instructions and maintain proper lubrication.

Overheated bearings can ignite explosive atmospheres. Special care must be taken to properly select, install, maintain, and lubricate mounted bearings that are used in or near atmospheres that may contain explosive levels of combustible gases or accumulations of dust such as from grain, coal, or other combustible materials. Consult your equipment designer or supplier for installation and maintenance instructions.

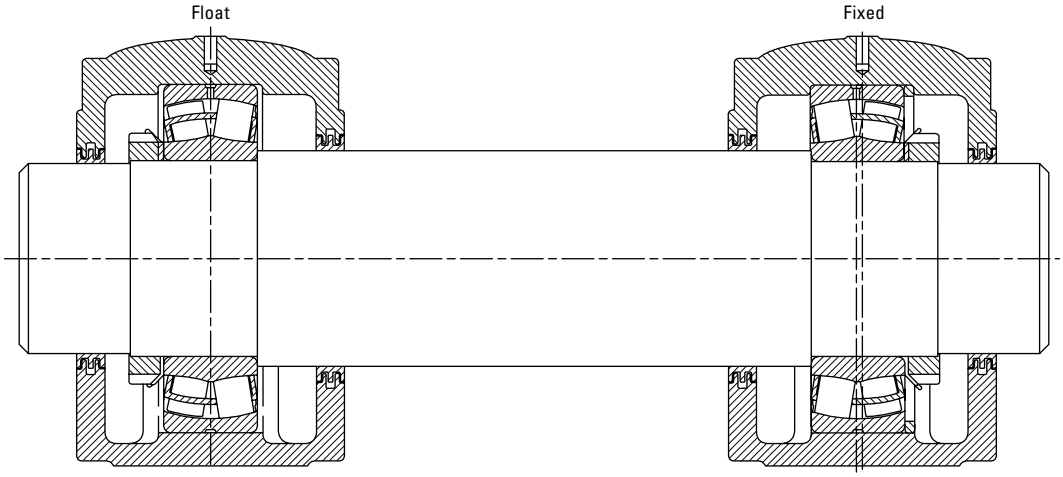


Fig. 1. Spherical roller bearing direct mounting.

TAPERED BORE DESIGNS

Typically, tapered bore bearings are selected to simplify shaft mounting and dismounting. Since the spherical roller bearing is not separable, mounting can be simplified by use of an adapter sleeve with a cylindrical bore and tapered O.D. A tapered bore roller bearing also can be mounted directly onto a tapered shaft.

Bearings with a tapered bore typically require a tighter fit on the shaft than bearings with a cylindrical bore. A locknut is typically used to drive the inner ring up a tapered shaft sleeve. The locknut position is then secured by use of a lockwasher or lockplate. Timken offers a wide range of accessories to ease the assembly of spherical roller bearings with a tapered bore (see page 13). For approximating the clearance loss for axial drive-up, an 85 percent radial loss approximation can be used. That is, the radial clearance loss per axial drive-up can roughly be approximated as 71 µm/mm for a 1:12 tapered. Table 2 on page 9 provides a direct relation between suggested RIC (radial internal clearance) reduction due to installation and the corresponding axial displacement of the inner ring.

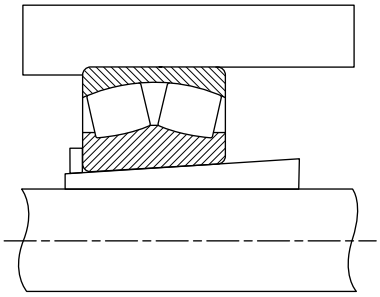


Fig. 2. Spherical roller bearing mounted with an adapter sleeve.

SETTING

To achieve appropriate operating clearance, attention must be paid to the effects that fitting practice and thermal gradients have within the bearing.

FITTING PRACTICE

- An interference fit between the inner ring and a solid steel shaft will reduce the radial clearance within the bearing by approximately 80 percent of the fit.
- Spherical roller bearings with a tapered bore require a slightly greater interference fit on the shaft than a cylindrical bore bearing.

NOTE

It is critical to select the RIC that allows for this reduction.

THERMAL GRADIENTS

- Thermal gradients within the bearing are primarily a function of the bearing rotational speed. As speed increases, thermal gradients increase, thermal growth occurs and the radial clearance is reduced.
- As a rule of thumb, radial clearance should be increased for speeds in excess of 70 percent of the speed rating.

For help selecting the correct radial internal clearance for your application, consult with your Timken engineer.

Radial internal clearance tolerances are listed in tables 1 and 2 for spherical roller bearings.

Spherical roller bearings are ordered with a specified standard or non-standard radial internal clearance value. The standard radial internal clearances are designated as C2, C0 (normal), C3, C4 or C5 and are in accordance with ISO 5753. C2 represents the minimum clearance and C5 represents the maximum clearance. Non-standardized values also are available by special request.

The clearance required for a given application depends on the desired operating precision, the rotational speed of the bearing, and the fitting practice used. SAF housings are supplied with a C3 clearance bearing, though other clearances may be ordered for specific applications, such as a C4 clearance for a paper machine dryer. Typically, larger clearance reduces the operating load zone of the bearing, increases the maximum roller load, and reduces the bearing's expected life. However, a spherical roller bearing that has been put into a preload condition can experience premature bearing damage caused by excessive heat generation and/or material fatigue. As a general guideline, spherical roller bearings should not operate in a preloaded condition.

TABLE 1. RADIAL INTERNAL CLEARANCE LIMITS – SPHERICAL ROLLER BEARINGS – CYLINDRICAL BORE

Bore (Nominal)		Cylindrical Bore						Typical Reduction of RIC Due to Installation		Typical RIC After Installation
			Normal CO		C4					
			Min.	Max.	Min.	Max.				
		C2		C3		C5				
Over	Incl.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
20 0.9449	**30** 1.1811	**0.015** 0.0006	**0.025** 0.001	**0.04** 0.0016	**0.055** 0.0022	**0.075** 0.003	**0.095** 0.0037	**0.015** 0.0006	**0.02** 0.0008	**0.015** 0.0006
30 1.1811	**40** 1.5748	**0.015** 0.0006	**0.03** 0.0012	**0.045** 0.0018	**0.06** 0.0024	**0.08** 0.0031	**1** 0.0039	**0.02** 0.0008	**0.025** 0.001	**0.015** 0.0006
40 1.5748	**50** 1.9685	**0.02** 0.0008	**0.035** 0.0014	**0.055** 0.0022	**0.075** 0.003	**0.1** 0.0039	**0.125** 0.0049	**0.025** 0.001	**0.03** 0.0012	**0.02** 0.0008
50 1.9685	**65** 2.5591	**0.02** 0.0008	**0.04** 0.0016	**0.065** 0.0026	**0.09** 0.0035	**0.12** 0.0047	**0.15** 0.0059	**0.03** 0.0012	**0.038** 0.0015	**0.025** 0.001
65 2.5591	**80** 3.1496	**0.03** 0.0012	**0.05** 0.002	**0.08** 0.0031	**0.11** 0.0043	**0.145** 0.0057	**0.18** 0.0071	**0.038** 0.0015	**0.051** 0.002	**0.025** 0.001
80 3.1496	**100** 3.9370	**0.035** 0.0014	**0.06** 0.0024	**0.1** 0.0039	**0.135** 0.0053	**0.18** 0.0071	**0.225** 0.0089	**0.046** 0.0018	**0.064** 0.0025	**0.036** 0.0014
100 3.9370	**120** 4.7244	**0.04** 0.0016	**0.075** 0.003	**0.12** 0.0047	**0.16** 0.0063	**0.21** 0.0083	**0.26** 0.0102	**0.051** 0.002	**0.071** 0.0028	**0.051** 0.002
120 4.7244	**140** 5.5118	**0.05** 0.002	**0.095** 0.0037	**0.145** 0.0057	**0.19** 0.0075	**0.24** 0.0094	**0.3** 0.0118	**0.064** 0.0025	**0.089** 0.0035	**0.056** 0.0022
140 5.5118	**160** 6.2992	**0.06** 0.0024	**0.11** 0.0043	**0.17** 0.0067	**0.22** 0.0087	**0.28** 0.011	**0.35** 0.0138	**0.076** 0.003	**0.102** 0.004	**0.056** 0.0022
160 6.2992	**180** 7.0866	**0.065** 0.0026	**0.12** 0.0047	**0.18** 0.0071	**0.24** 0.0094	**0.31** 0.0122	**0.39** 0.0154	**0.076** 0.003	**0.114** 0.0045	**0.061** 0.0024
180 7.0866	**200** 7.8740	**0.07** 0.0028	**0.13** 0.0051	**0.2** 0.0079	**0.26** 0.0102	**0.34** 0.0134	**0.43** 0.0169	**0.089** 0.0035	**0.127** 0.005	**0.071** 0.0028
200 7.8740	**225** 8.8582	**0.08** 0.0031	**0.14** 0.0055	**0.22** 0.0087	**0.29** 0.0114	**0.38** 0.015	**0.47** 0.0185	**0.102** 0.004	**0.14** 0.0055	**0.076** 0.003
225 8.8582	**250** 9.8425	**0.09** 0.0035	**0.15** 0.0059	**0.24** 0.0094	**0.32** 0.0126	**0.42** 0.0165	**0.52** 0.0205	**0.114** 0.0045	**0.152** 0.006	**0.089** 0.0035
250 9.8425	**280** 11.0236	**0.1** 0.0039	**0.17** 0.0067	**0.26** 0.0102	**0.35** 0.0138	**0.46** 0.0181	**0.57** 0.0224	**0.114** 0.0045	**0.165** 0.0065	**0.102** 0.004
280 11.0236	**315** 12.4016	**0.11** 0.0043	**0.19** 0.0075	**0.28** 0.011	**0.37** 0.0146	**0.5** 0.0197	**0.63** 0.0248	**0.127** 0.005	**0.178** 0.007	**0.102** 0.004
315 12.4016	**355** 13.9764	**0.12** 0.0047	**0.2** 0.0079	**0.31** 0.0122	**0.41** 0.0161	**0.55** 0.0217	**0.69** 0.0272	**0.14** 0.0055	**0.19** 0.0075	**0.114** 0.0045
355 13.9764	**400** 15.7480	**0.13** 0.0051	**0.22** 0.0087	**0.34** 0.0134	**0.45** 0.0177	**0.6** 0.0236	**0.75** 0.0295	**0.152** 0.006	**0.203** 0.008	**0.127** 0.005
400 15.7480	**450** 17.7165	**0.14** 0.0055	**0.24** 0.0094	**0.37** 0.0146	**0.5** 0.0197	**0.66** 0.026	**0.82** 0.0323	**0.165** 0.0065	**0.216** 0.0085	**0.152** 0.006
450 17.7165	**500** 19.6850	**0.14** 0.0055	**0.26** 0.0102	**0.41** 0.0161	**0.55** 0.0217	**0.72** 0.0283	**0.9** 0.0354	**0.178** 0.007	**0.229** 0.009	**0.165** 0.0065
500 19.6850	**560** 22.0472	**0.15** 0.0059	**0.28** 0.011	**0.44** 0.0173	**0.6** 0.0236	**0.78** 0.0307	**1** 0.0394	**0.203** 0.008	**0.254** 0.01	**0.178** 0.007
560 22.0472	**630** 24.8031	**0.17** 0.0067	**0.31** 0.0122	**0.48** 0.0189	**0.65** 0.0256	**0.85** 0.0335	**1.1** 0.0433	**0.229** 0.009	**0.279** 0.011	**0.203** 0.008
630 24.8031	**710** 27.9528	**0.19** 0.0075	**0.35** 0.0138	**0.53** 0.0209	**0.7** 0.0276	**0.92** 0.0362	**1.19** 0.0469	**0.254** 0.01	**0.305** 0.012	**0.203** 0.008
710 27.9528	**800** 31.4961	**0.21** 0.0083	**0.39** 0.0154	**0.58** 0.0228	**0.77** 0.0303	**1.01** 0.0398	**1.3** 0.0512	**0.279** 0.011	**0.356** 0.014	**0.229** 0.009
800 31.4961	**900** 35.4331	**0.23** 0.0091	**0.43** 0.0169	**0.65** 0.0256	**0.86** 0.0339	**1.12** 0.0441	**1.44** 0.0567	**0.305** 0.012	**0.381** 0.015	**0.252** 0.01
900 35.4331	**1000** 39.3701	**0.26** 0.0102	**0.48** 0.0189	**0.71** 0.028	**0.93** 0.0366	**1.22** 0.048	**1.57** 0.0618	**0.356** 0.014	**0.432** 0.017	**0.279** 0.011

NOTE: Tolerance and shaft diameters are shown in the table as variances from nominal bearing bore.

TABLE 2. RADIAL INTERNAL CLEARANCE LIMITS – SPHERICAL ROLLER BEARINGS – TAPERED BORE

Bore (Nominal)		Radial Internal Clearance Prior To Mounting						Suggested Reduction of RIC Due to Installation		Axial Displacement of Inner Ring for RIC Reduction – Tapered Shaft[1][2]				Minimum Permissible RIC After Installation[1]		
				Normal CO		C4				1:12 Taper		1:30 Taper				
		C2		C3		C5										
Over	Incl.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	CO	C3	C4
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
20	**30**	**0.020**	**0.030**	**0.040**	**0.055**	**0.075**	**0.095**	**0.015**	**0.020**	**0.230**	**0.300**	**–**	**–**	**0.015**	**0.025**	**0.040**
0.9449	1.1811	0.0008	0.0012	0.0016	0.0022	0.0030	0.0037	0.0006	0.0008	0.0091	0.0118	–	–	0.0006	0.0010	0.0016
30	**40**	**0.025**	**0.035**	**0.050**	**0.065**	**0.085**	**0.105**	**0.020**	**0.025**	**0.300**	**0.380**	**–**	**–**	**0.015**	**0.025**	**0.040**
1.1811	1.5748	0.0010	0.0014	0.0020	0.0026	0.0033	0.0041	0.0008	0.0010	0.0118	0.0150	–	–	0.0006	0.0010	0.0016
40	**50**	**0.030**	**0.045**	**0.060**	**0.080**	**0.100**	**0.130**	**0.025**	**0.030**	**0.380**	**0.460**	**–**	**–**	**0.02**	**0.030**	**0.050**
1.5748	1.9685	0.0012	0.0018	0.0024	0.0031	0.0039	0.0051	0.0010	0.0012	0.0150	0.0181	–	–	0.0008	0.0012	0.0020
50	**65**	**0.040**	**0.055**	**0.075**	**0.095**	**0.120**	**0.160**	**0.030**	**0.038**	**0.460**	**0.560**	**–**	**–**	**0.025**	**0.040**	**0.060**
1.9685	2.5591	0.0016	0.0022	0.0030	0.0037	0.0047	0.0063	0.0012	0.0015	0.0181	0.0220	–	–	0.0010	0.0015	0.0025
65	**80**	**0.050**	**0.070**	**0.0950**	**0.120**	**0.150**	**0.200**	**0.038**	**0.051**	**0.560**	**0.760**	**–**	**–**	**0.025**	**0.045**	**0.075**
2.5591	3.1496	0.0020	0.0028	0.0037	0.0047	0.0059	0.0079	0.0015	0.0020	0.0220	0.0299	–	–	0.0010	0.0017	0.0030
80	**100**	**0.055**	**0.080**	**0.110**	**0.140**	**0.180**	**0.230**	**0.046**	**0.064**	**0.680**	**0.970**	**–**	**–**	**0.036**	**0.050**	**0.075**
3.1496	3.9370	0.0022	0.0030	0.0043	0.0055	0.0071	0.0091	0.0018	0.0025	0.0268	0.0382	–	–	0.0014	0.0020	0.0030
100	**120**	**0.065**	**0.100**	**0.135**	**0.170**	**0.220**	**0.280**	**0.051**	**0.071**	**0.760**	**1.070**	**1.900**	**2.540**	**0.051**	**0.060**	**0.100**
3.9370	4.7244	0.0026	0.0039	0.0053	0.0067	0.0087	0.0110	0.0020	0.0028	0.0299	0.0421	0.0748	0.1000	0.0020	0.0025	0.0040
120	**140**	**0.080**	**0.120**	**0.160**	**0.200**	**0.260**	**0.330**	**0.064**	**0.089**	**0.890**	**1.270**	**2.290**	**3.050**	**0.056**	**0.075**	**0.115**
4.7244	5.5118	0.0031	0.0047	0.0063	0.0079	0.0102	0.0130	0.0025	0.0035	0.0350	0.0500	0.0902	0.1201	0.0022	0.0030	0.0045
140	**160**	**0.090**	**0.130**	**0.180**	**0.230**	**0.300**	**0.380**	**0.076**	**0.102**	**1.140**	**1.520**	**2.670**	**3.430**	**0.056**	**0.075**	**0.125**
5.5118	6.2992	0.0035	0.0051	0.0071	0.0091	0.0118	0.0150	0.0030	0.0040	0.0449	0.0598	0.1051	0.1350	0.0022	0.0030	0.0050
160	**180**	**0.100**	**0.140**	**0.200**	**0.260**	**0.340**	**0.430**	**0.076**	**0.114**	**1.140**	**1.650**	**2.670**	**4.060**	**0.061**	**0.090**	**0.150**
6.2992	7.0866	0.0039	0.0055	0.0079	0.0102	0.0134	0.0169	0.0030	0.0045	0.0449	0.0650	0.1051	0.1598	0.0024	0.0035	0.0060
180	**200**	**0.110**	**0.160**	**0.220**	**0.290**	**0.370**	**0.470**	**0.089**	**0.127**	**1.400**	**1.900**	**3.050**	**4.450**	**0.071**	**0.100**	**0.165**
7.0866	7.8740	0.0043	0.0063	0.0087	0.0114	0.0146	0.0185	0.0035	0.0050	0.0551	0.0748	0.1201	0.1752	0.0028	0.0040	0.0065
200	**225**	**0.120**	**0.180**	**0.250**	**0.320**	**0.410**	**0.520**	**0.102**	**0.140**	**1.520**	**2.030**	**3.560**	**4.830**	**0.076**	**0.115**	**0.180**
7.8740	8.8582	0.0047	0.0071	0.0098	0.0126	0.0161	0.0205	0.0040	0.0055	0.0598	0.0799	0.1402	0.1902	0.0030	0.0045	0.0070
225	**250**	**0.140**	**0.200**	**0.270**	**0.350**	**0.450**	**0.570**	**0.114**	**0.152**	**1.780**	**2.290**	**4.060**	**5.330**	**0.089**	**0.115**	**0.200**
8.8582	9.8425	0.0055	0.0079	0.0106	0.0138	0.0177	0.0224	0.0045	0.0060	0.0701	0.0902	0.1598	0.2098	0.0035	0.0045	0.0080
250	**280**	**0.150**	**0.220**	**0.300**	**0.390**	**0.490**	**0.620**	**0.114**	**0.165**	**1.780**	**2.540**	**4.060**	**5.840**	**0.102**	**0.140**	**0.230**
9.8425	11.0236	0.0059	0.0087	0.0118	0.0154	0.0193	0.0244	0.0045	0.0065	0.0701	0.1000	0.1598	0.2299	0.0040	0.0055	0.0090
280	**315**	**0.170**	**0.240**	**0.330**	**0.430**	**0.540**	**0.680**	**0.127**	**0.178**	**1.900**	**2.670**	**4.450**	**6.220**	**0.102**	**0.150**	**0.250**
11.0236	12.4016	0.0067	0.0094	0.0130	0.0169	0.0213	0.0268	0.0050	0.0070	0.0748	0.1051	0.1752	0.2449	0.0040	0.0060	0.0100
315	**355**	**0.190**	**0.270**	**0.360**	**0.470**	**0.590**	**0.740**	**0.140**	**0.190**	**2.030**	**2.790**	**4.830**	**6.600**	**0.114**	**0.165**	**0.280**
12.4016	13.9764	0.0075	0.0106	0.0142	0.0185	0.0232	0.0291	0.0055	0.0075	0.0799	0.1098	0.1902	0.2598	0.0045	0.0065	0.0110
355	**400**	**0.210**	**0.300**	**0.400**	**0.520**	**0.650**	**0.820**	**0.152**	**0.203**	**2.290**	**3.050**	**5.330**	**7.110**	**0.127**	**0.190**	**0.330**
13.9764	15.7480	0.0083	0.0118	0.0157	0.0205	0.0256	0.0323	0.0060	0.0080	0.0902	0.1201	0.2098	0.2799	0.0050	0.0075	0.0130
400	**450**	**0.230**	**0.330**	**0.440**	**0.570**	**0.720**	**0.910**	**0.165**	**0.216**	**2.540**	**3.300**	**5.840**	**7.620**	**0.152**	**0.230**	**0.360**
15.7480	17.7165	0.0091	0.0130	0.0173	0.0224	0.0283	0.0358	0.0065	0.0085	0.1000	0.1299	0.2299	0.3000	0.0060	0.0090	0.0140
450	**500**	**0.260**	**0.370**	**0.490**	**0.630**	**0.790**	**1.000**	**0.178**	**0.229**	**2.670**	**3.430**	**6.220**	**8.000**	**0.165**	**0.270**	**0.410**
17.7165	19.6850	0.0102	0.0146	0.0193	0.0248	0.0311	0.0394	0.0070	0.0090	0.1051	0.1350	0.2449	0.3150	0.0065	0.0105	0.0160
500	**560**	**0.290**	**0.410**	**0.540**	**0.680**	**0.870**	**1.100**	**0.203**	**0.254**	**3.050**	**3.810**	**7.110**	**8.890**	**0.178**	**0.290**	**0.440**
19.6850	22.0472	0.0114	0.0161	0.0213	0.0268	0.0343	0.0433	0.0080	0.0100	0.1201	0.1500	0.2799	0.3500	0.0070	0.0115	0.0175
560	**630**	**0.320**	**0.460**	**0.600**	**0.760**	**0.980**	**1.230**	**0.229**	**0.279**	**3.430**	**4.190**	**8.000**	**9.780**	**0.203**	**0.320**	**0.510**
22.0472	24.8031	0.0126	0.0181	0.0236	0.0299	0.0386	0.0484	0.0090	0.0110	0.1350	0.1650	0.3150	0.3850	0.0080	0.0125	0.0200
630	**710**	**0.350**	**0.510**	**0.670**	**0.850**	**1.090**	**1.360**	**0.254**	**0.305**	**3.810**	**4.570**	**8.890**	**10.670**	**0.203**	**0.370**	**0.550**
24.8031	27.9528	0.0138	0.0201	0.0264	0.0335	0.0429	0.0535	0.0100	0.0120	0.1500	0.1799	0.3500	0.4201	0.0080	0.0145	0.0215
710	**800**	**0.390**	**0.570**	**0.750**	**0.960**	**1.220**	**1.500**	**0.279**	**0.356**	**4.190**	**5.330**	**9.780**	**12.450**	**0.229**	**0.390**	**0.610**
27.9528	31.4961	0.0154	0.0224	0.0295	0.0378	0.0480	0.0591	0.0110	0.0140	0.1650	0.2098	0.3850	0.4902	0.0090	0.0155	0.0240
800	**900**	**0.440**	**0.640**	**0.840**	**1.070**	**1.370**	**1.690**	**0.305**	**0.381**	**4.570**	**5.720**	**10.670**	**13.330**	**0.252**	**0.460**	**0.690**
31.4961	35.4331	0.0173	0.0252	0.0331	0.0421	0.0539	0.0665	0.0120	0.0150	0.1799	0.2252	0.4201	0.5248	0.0100	0.0180	0.0270
900	**1000**	**0.490**	**0.710**	**0.930**	**1.190**	**1.520**	**1.860**	**0.356**	**0.432**	**5.330**	**6.480**	**12.450**	**15.110**	**0.279**	**0.490**	**0.750**
35.4331	39.3701	0.0193	0.0280	0.0366	0.0469	0.0598	0.0732	0.0140	0.0170	0.2100	0.2551	0.4902	0.5949	0.0110	0.0195	0.0300
1000	**1120**	**0.530**	**0.770**	**1.030**	**1.300**	**1.670**	**2.050**	**0.400**	**0.480**	**6.100**	**7.240**	**14.220**	**16.890**	**0.280**	**0.550**	**0.810**
39.3701	44.0950	0.0209	0.0303	0.0406	0.0512	0.0657	0.0807	0.0160	0.0190	0.2400	0.2850	0.5600	0.6650	0.0110	0.0215	0.0320
1120	**1250**	**0.570**	**0.830**	**1.120**	**1.420**	**1.830**	**2.250**	**0.430**	**0.500**	**6.480**	**7.620**	**15.110**	**17.780**	**0.330**	**0.610**	**0.910**
44.0950	49.2130	0.0224	0.0327	0.0441	0.0559	0.0720	0.0886	0.0170	0.0200	0.2550	0.3000	0.5950	0.7000	0.0130	0.0240	0.0360

Note: Axial displacement values apply to solid steel shafts or hollow shafts with bore diameter less than half the shaft diameter. For shaft materials other than steel, or for thin-walled shafts, please consult your Timken sales engineer.

[1]This displacement is valid for assembly of tapered bore bearings and is measured starting from a line-to-line fit of the bearing bore to the tapered shaft.

[2]1:12 Taper used for 213, 222, 223, 230, 231, 232, 233, 238, 239 series. 1:30 Taper used for 240, 241, 242 series. For sleeve mounting, multiply axial displacement values by 1.1 for 1:12 Taper or by 1.05 for 1:30 Taper. For questions on tapered shaft data, consult your Timken sales engineer.

EXAMPLE #1 – Calculating RIC Reduction Using a Spherical Roller Bearing with Tapered Bore

Given bearing number 22328K C3 (140 mm bore with C3 clearance) is to be mounted on a tapered shaft. Using a set of feeler gages, RIC is measured at (see fig. 3):

RIC = 0.178 mm (0.007 in.)

Suggested reduction of RIC due to installation = 0.064 mm – 0.089 mm (0.0025 in. – 0.0035 in.), found in table 2 on page 9.

Calculate the clearance after mounting (see fig. 4):

0.178 mm – 0.076 mm = 0.102 mm *or*

(0.007 in. – 0.003 in. = 0.004 in.)

For this example, the value of 0.076 mm (0.003 in.) was obtained by taking the mid-range value of the upper and lower limits found in the tables on pages 8 and 9.

Therefore, the locknut should be tightened until RIC reaches 0.102 mm (0.004 in.).

Fig. 3. Measure RIC before installation.

Fig. 4. During mounting, the RIC should be checked at the unloaded roller.

It also should be noted that the value obtained by reading the suggested RIC after installation directly from the table is 0.056 mm (0.0022 in.). This differs from the value calculated in the example. The value taken directly from the table is provided as a minimum value. It is not suggested to use a calculated value that falls below this minimum.

EXAMPLE #2 – Calculating RIC Reduction Using a Spherical Roller Bearing with Cylindrical Bore

Observations:

- Bearing 22230EM, nominal 150 mm (5.0955 in.) bore and 270 mm (10.6299 in.) O.D., standard class, operating at 1200 RPM.
- Float bearing position so the stationary O.D. should be free to move in SAF housing, with the stabilizing ring removed.
- With shaft/inner ring rotation and the moderate loading 0.09C, the bore should be tight fit.

We can use the nominal fit charts on page 15 (shaft fit) to help guide our ISO fit selection.

Shaft Fit at 150 mm Bore: ISO p6

From the shaft fit chart at 150 mm nominal bore at p6 (page 20), the shaft tolerance is nominal +0.043 to +0.068 mm (+0.0017 to +0.0027 in.). Therefore we have the following bore range:

max. shaft = 150.068 mm (5.0955 in.)

min. shaft = 150.043 mm (5.0945 in.)

This yields a shaft fit:

max. fit = max. shaft - min. bore
= 150.068 - 149.075
= 0.093 mm (0.0037 in.) tight

min. fit = min. shaft - max. bore
= 150.043 - 150.000
= 0.043 mm (0.0017 in.) tight

For the primary selection of RIC, the major parameters are the bearing speed and the fits. For our example, we know that the shaft fit is 0.043 mm (0.0017 in.) tight to 0.093 mm (0.0037 in.) tight.

We know the housing fit is loose. We also know that the bearing speed is 1200 RPM or 60 percent of the speed rating.

As a general rule of thumb, we increase the clearance for operating speeds that exceed 70 percent of the speed rating, due to concerns over internal heat generation and thermal growth. In this case, we are at 60 percent of the speed rating, so normal clearance, ISO CO or the SAF standard C3, can be selected.

Observing the RIC chart on page 8, we find for 150 mm nominal bore at CO, the RIC will be 0.110 mm to 0.170 mm (0.0043 in. to 0.0067 in.). We also note that the minimum recommended RIC (installed) is 0.056 mm (0.0022 in.).

Also from page 8, we note that we get an approximate reduction of RIC that is 80 percent of interference fit on a solid housing. Since we have a loose housing fit, there will be no RIC reduction from that fit.

Shaft fit RIC reductions and clearance:

For a 150 mm nominal bore at C3, the RIC will be 0.115 to 0.165 mm (0.0045 to 0.0065 in.). Recalculating shaft fit RIC reduction and clearance:

max. clearance = max. RIC - min. fit reduction
= 0.165 - 0.034 = 0.131 mm (0.0052 in.)

min. clearance = min. RIC - max. fit reduction
= 0.115 - 0.074 = 0.041 mm (0.0016 in.)

Since the minimum mounted clearance is less than the minimum suggested RIC of 0.056 mm (0.0022 in.), the C3 RIC clearance limit needs to be reevaluated.

INSTALLATION

When using a tight fit inner ring, the method of assembly will depend on whether the bearing has a cylindrical or tapered bore.

CLEANLINESS

- Choose a clean environment, free from dust and moisture.
- The installer should make every effort to ensure cleanliness by use of protective screens and clean cloths.

PLAN THE WORK

- Know your plans in advance and have the necessary tools at hand. This reduces the amount of time for the job and decreases the chance for dirt to get into the bearing.

INSPECTION AND PREPARATION

- All component parts of the machine should be on hand and thoroughly cleaned before proceeding.
- Housings should be cleaned, including blowing out the oil holes.
- Do not use air hose on bearings.
- If blind holes are used, insert a magnetic rod to remove metal chips that might be lodged there during fabrication.
- Shaft shoulders and spacer rings contacting the bearing should be square with the shaft axis.
- The shaft fillet must be small enough to clear the radius of the bearing.
- On original installations, all component parts should be checked against the detail specification prints for dimensional accuracy. Shaft and housing should be carefully checked for size and form (roundness, etc.).

⚠ WARNING

Failure to observe the following warnings could create a risk of death or serious injury.

Proper maintenance and handling practices are critical. Always follow installation instructions and maintain proper lubrication.

⚠ CAUTION

Failure to follow these cautions could create a risk of injury.

Remove oil or rust inhibitor from parts before heating, to avoid fire and fumes.

SHAFT AND HOUSING FINISH

- Shaft surfaces on which the bearing will be mounted must be clean and free from nicks and burrs.
- For applications with stationary housing and rotating shaft, it is suggested that the bearing seat on the shaft be ground to 1.6 µm (65 µin.) Ra maximum.
- If it is impractical to use a ground finish, a machined finish of 3.2 µm (125 µin.) Ra is acceptable in many cases, but the amount of interference fit should be slightly increased.

INSTALLING CYLINDRICAL BORE BEARINGS

Heat expansion method

- Most applications require a tight interference fit on the shaft.
- Mounting is simplified by heating the bearing to expand it sufficiently to slide easily onto the shaft.
- Two methods of heating are commonly used:

1. Tank of heated oil.
   - Accomplished by heating the bearing in a tank of oil that has a high flash point (see fig. 5).
   - The oil temperature should not be allowed to exceed 121° C (250° F). A temperature of 93° C (200° F) is sufficient for most applications.
   - The bearing should be heated for 20 or 30 minutes, or until it is expanded sufficiently to slide onto the shaft easily.
   - The oil bath is shown in fig. 5. The bearing should not be in direct contact with the heat source.
   - The usual arrangement is to have a screen several inches from the bottom of the tank. Small support blocks separate the bearing from the screen.
   - It is important to keep the bearing away from any localized high-heat source that may raise its temperature excessively, resulting in ring hardness reduction.
   - Flame-type burners are commonly used. An automatic device for temperature control is desirable.
   - If safety regulations prevent the use of an open heated oil bath, a mixture of 15 percent soluble-oil water may be used. This mixture may be heated to a maximum of 93° C (200° F) without being flammable.

2. Induction heating.
   - The induction heating process can be used for mounting bearings.
   - Induction heating is rapid. Care must be taken to prevent bearing temperature from exceeding 93° C (200° F).
   - Trial runs with the unit and bearing are usually necessary to obtain proper timing.
- Thermal crayons melted at predetermined temperatures or thermal gun can be used to check the bearing temperature.
- While the bearing is hot, it should be positioned squarely against the shoulder.
- Lockwashers and locknuts or clamping plates are then installed to hold the bearing against the shoulder of the shaft.
- As the bearing cools, the locknut or clamping plate should be tightened.
- For more information see the Timken Spherical Roller Bearing Catalog (order no. 10446), found on www.timken.com.

NOTE

Never use steam or hot water when cleaning the bearings because these methods can create rust or corrosion.

Never expose any surface of a bearing to the flame of a torch.

Do not heat bearing beyond 149° C (300° F).

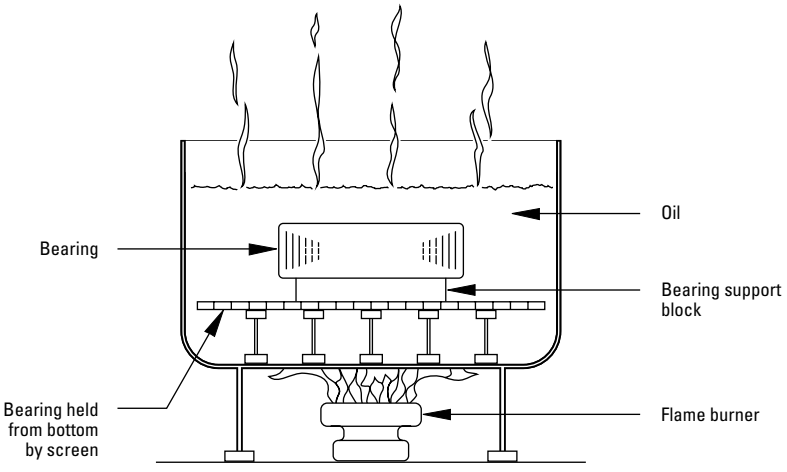


Fig. 5. Heat expansion method.

Arbor press method

- An alternate method of mounting, generally used only on smaller size bearings, is to press the bearing onto the shaft or into the housing. This can be done by using an arbor press and a mounting tube as shown in fig. 6.
- The tube should be made from soft steel with an inside diameter slightly larger than the shaft.
- The O.D. of the tube should not exceed the shaft backing diameter given in the Timken Spherical Roller Bearing Catalog (order no. 10446), found on www.timken.com.
- The tube should be faced square at both ends. It should be thoroughly clean inside and out, and long enough to clear the end of the shaft after the bearing is mounted.
- If the outer ring is being pressed into the housing, the O.D. of the mounting tube should be slightly smaller than the housing bore. The I.D. should not be less than the suggested housing backing diameter in the table of dimensions available in the Timken Spherical Roller Bearing Catalog (order no. 10446), found on www.timken.com.
- Coat the shaft with a light machine oil to reduce the force needed for a press fit.
- Carefully place the bearing on the shaft, making sure it is square with the shaft axis.
- Apply steady pressure from the arbor ram to drive the bearing firmly against the shoulder.

NOTE

Never attempt a press fit on a shaft by applying pressure to the outer ring or a press fit in a housing by applying pressure to the inner ring.

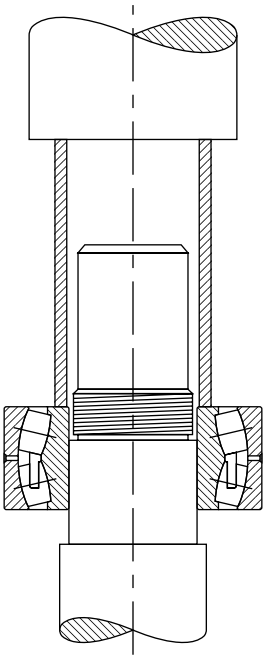


Fig. 6. Arbor press method.

Mounting tapered bore spherical roller bearings

- Use a feeler gage with the thinnest blade of 0.038 mm (0.0015 in.).
- Place the bearing in an upright position with the inner and outer ring faces parallel.
- Place thumbs on the inner ring bore and oscillate the inner ring the distance of two or three roller spacings.
- Position the individual roller assemblies so that a roller is at the top of the inner ring on both sides of the bearing.
- With the roller in the correct position, insert a thin blade of the feeler gage between the roller and the outer ring, as shown in fig. 7.
- Move the feeler gage carefully along the top roller between the roller and outer ring raceway. Repeat this procedure using thicker feeler gage blades until one is found that will not go through.
- The blade thickness that preceded the no-go blade is a measure of RIC before installation.
- Start the mounting procedure by lubricating the tapered shaft with a light coat of machine oil.
- Slide the bearing onto the shaft as far as it will go by hand.
- As the locknut is tightened, the interference fit builds up, resulting in expansion of the inner ring.
- Periodically measure to keep track of the reduction in RIC.
- Continue the procedure until the proper amount of reduction is obtained. Do not exceed suggested amount of reduction.
- As a final check, make sure the remaining RIC equals or exceeds the minimum mounted clearance shown in table 2 on page 9.
- During mounting, the RIC should be checked at the unloaded roller. If this is at the bottom, make sure that the roller is raised to seat firmly at the inboard position of the inner ring.
- When the suggested amount of RIC reduction has been accomplished, the bearing is properly fitted.
- Complete the procedure by peening the lockwasher tang into the locknut slot or securing the lockplate.

Fig. 7. Measure RIC before installation.

SHAFT FITS FOR CYLINDRICAL BORE BEARINGS

This chart is a guideline for specifying shaft fits related to particular operating conditions. Please contact your Timken engineer for more information.

TABLE 3. RADIAL SPHERICAL ROLLER BEARING SHAFT FITS

	Conditions	Examples	Shaft Dia.		Tolerance Symbol[1]	Remarks
			mm in.			
Stationary inner ring load	The inner ring not to be easily displaced on the shaft	Wheel on non-rotating shaft	All diameters		g6	
		Tension pulleys and rope sheaves			h6	
Rotating inner ring load or indeterminate load direction	Light and variable loads P ≤ 0.07C	Electrical apparatus, machine tools, pumps, ventilators, industrial trucks	over	incl.	k6	In very accurate applications, k5 and m5 are used instead of k6 and m6 respectively.
			18 0.7087	**100** 3.9370		
			100 3.9370	**200** 7.8740	m6	
	Normal and heavy loads P > 0.07C ≤ 0.25C	Applications in general, electrical motors, turbines, pumps, combustion engines, gear transmissions, woodworking machines	**18** 0.7087	**65** 2.5590	m5	
			65 2.5590	**100** 3.9370	m6	
			100 3.9370	**140** 5.5118	n6	
			140 5.5118	**280** 11.0236	p6	
			280 11.0236	**500** 19.6850	r6	
			500 19.6850	**and up**	r7	
	Very heavy loads and shock loads P > 0.25C	Journal boxes for locomotives and other heavy rail vehicles, traction motors	**18** 0.7087	**65** 2.5590	m6	Bearings with greater clearance than normal must be used.
			65 2.5590	**100** 3.9370	n6	
			100 3.9370	**140** 5.5118	p6	
			140 5.5118	**200** 7.8740	r6	
			200 7.8740	**500** 19.6850	r7	
BEARINGS WITH TAPERED BORE AND ADAPTER SLEEVE						
	All loads	Applications in general	All diameters			See tables for Reduction of RIC on pages 8 and 9.

[1]For solid steel shaft. See tables on pages 16 through 21 for tolerance value.
NOTE: Tolerance and shaft diameters are shown in the table as variances from nominal bearing bore.

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions in table 3 on page 15.

FITTING PRACTICE TABLES

TABLE 4. SPHERICAL ROLLER BEARINGS - SHAFT TOLERANCES (CLASSES g6, h5, h6, j5, j6, k5, k6, m5)

Bearing Bore			g6			h6			h5			j5		
Nominal (Max.)		Tolerance[1]	Shaft Dia.		Fit	Shaft Dia.		Fit	Shaft Dia.		Fit	Shaft Dia.		Fit
Over	Incl.		Max.	Min.		Max.	Min.		Max.	Min.		Max.	Min.	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
					0.025L			**0.016L**						**0.005L**
30.000	**50.000**	**-0.014**	**-0.009**	**-0.025**	**0.003T**	**0.000**	**-0.016**	**0.012T**	–	–	–	**+0.006**	**-0.005**	**0.018T**
1.1811	1.9685	-0.0006	-0.0004	-0.0010	0.0010L	0.0000	-0.0006	0.0006L				+0.0002	-0.0002	0.0002L
					0.0001T			0.0005T						0.0007T
					0.029L			**0.019L**						**0.007L**
50.000	**80.000**	**-0.015**	**-0.010**	**-0.029**	**0.005T**	**0.000**	**-0.019**	**0.015T**	–	–	–	**+0.006**	**-0.007**	**0.021T**
1.9685	3.1496	-0.0006	-0.0004	-0.0011	0.0011L	0.0000	-0.0007	0.0007L				+0.0002	-0.0003	0.0003L
					0.0002T			0.0006T						0.0008T
					0.034L			**0.022L**						**0.009L**
80.000	**120.000**	**-0.020**	**-0.012**	**-0.034**	**0.008T**	**0.000**	**-0.022**	**0.020T**	–	–	–	**+0.006**	**-0.009**	**0.026T**
3.1496	4.7244	-0.0008	-0.0005	-0.0013	0.0013L	0.0000	-0.0009	0.0009L				+0.0002	-0.0004	0.0004L
					0.0003T			0.0008T						0.0010T
					0.039L			**0.025L**						**0.011L**
120.000	**180.000**	**-0.025**	**-0.014**	**-0.039**	**0.011T**	**0.000**	**-0.025**	**0.025T**	–	–	–	**+0.007**	**-0.011**	**0.032T**
4.7244	7.0866	-0.0010	-0.0006	-0.0015	0.0015L	0.0000	-0.0010	0.0010L				+0.0003	-0.0004	0.0004L
					0.0004T			0.0010T						0.0013T
					0.044T			**0.029L**						**0.013L**
180.000	**200.000**	**-0.030**	**-0.015**	**-0.044**	**0.015T**	**0.000**	**-0.029**	**0.030T**	–	–	–	**+0.007**	**-0.013**	**0.037T**
7.0866	7.8740	-0.0012	-0.0006	-0.0017	0.0017L	0.0000	-0.0011	0.0011L				+0.0003	-0.0005	0.0005L
					0.0006T			0.0012T						0.0015T
					0.044T			**0.029L**						**0.013L**
200.000	**225.000**	**-0.030**	**-0.015**	**-0.044**	**0.015T**	**0.000**	**-0.029**	**0.030T**	–	–	–	**+0.007**	**-0.013**	**0.037T**
7.8740	8.8583	-0.0012	-0.0006	-0.0017	0.0017L	0.0000	-0.0011	0.0011L				+0.0003	-0.0005	0.0005L
					0.0006T			0.0012T						0.0015T
					0.044T			**0.029L**						**0.013L**
225.000	**250.000**	**-0.030**	**-0.015**	**-0.044**	**0.015T**	**0.000**	**-0.029**	**0.030T**	–	–	–	**+0.007**	**-0.013**	**0.037T**
8.8583	9.8425	-0.0012	-0.0006	-0.0017	0.0017L	0.0000	-0.0011	0.0011L				+0.0003	-0.0005	0.0005L
					0.0006T			0.0012T						0.0015T
					0.049L			**0.032L**						**0.016L**
250.000	**280.000**	**-0.035**	**-0.017**	**-0.049**	**0.018T**	**0.000**	**-0.032**	**0.035T**	–	–	–	**+0.007**	**-0.016**	**0.042T**
9.8425	11.0236	-0.0014	-0.0007	-0.0019	0.0019L	0.0000	-0.0013	0.0013L				+0.0003	-0.0006	0.0006L
					0.0007T			0.0014T						0.0017T
					0.049L			**0.032L**						**0.016L**
280.000	**315.000**	**-0.035**	**-0.017**	**-0.049**	**0.018T**	**0.000**	**-0.032**	**0.035T**	–	–	–	**+0.007**	**-0.016**	**0.042T**
11.0236	12.4016	-0.0014	-0.0007	-0.0019	0.0019L	0.0000	-0.0013	0.0013L				+0.0003	-0.0006	0.0006L
					0.0007T			0.0014T						0.0017T
					0.054L			**0.036L**						**0.018L**
315.000	**355.000**	**-0.040**	**-0.018**	**-0.054**	**0.022T**	**0.000**	**-0.036**	**0.040T**	–	–	–	**+0.007**	**-0.018**	**0.047T**
12.4016	13.9764	-0.0016	-0.0007	-0.0021	0.0021L	0.0000	-0.0014	0.0014L				+0.0003	-0.0007	0.0007L
					0.0009T			0.0016T						0.0019T

[1]Tolerance range is from +0 to value listed.

NOTE: Tolerance and shaft diameters are shown in the table as variances from nominal bearing bore.

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions in table 3 on page 15.

j6			k5			k6			m5		
Shaft Dia.		Fit	Shaft Dia.		Fit	Shaft Dia.		Fit	Shaft Dia.		Fit
Max.	Min.		Max.	Min.		Max.	Min.		Max.	Min.	
mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.	mm in.
+0.011	**-0.005**	**0.005L** **0.023T**	**+0.013**	**+0.002**	**0.002T** **0.025T**	**+0.018**	**+0.002**	**0.002T** **0.030T**	**+0.020**	**+0.009**	**0.009T** **0.032T**
+0.0004	-0.0002	0.0002L 0.00085T	+0.0005	+0.0001	0.0001T 0.0010T	+0.0007	+0.0001	0.0001T 0.0012T	+0.0008	+0.0004	0.0004T 0.00125T
+0.012	**-0.007**	**0.007L** **0.027T**	**+0.015**	**+0.002**	**0.002T** **0.030T**	**+0.021**	**+0.002**	**0.002T** **0.036T**	**+0.024**	**+0.011**	**0.011T** **0.039T**
+0.0005	-0.0003	0.0003L 0.0011T	+0.0006	+0.0001	0.0001T 0.0012T	+0.0008	+0.0001	0.0001T 0.0014T	+0.0009	+0.0004	0.0004T 0.0015T
+0.013	**-0.009**	**0.009L** **0.033T**	**+0.018**	**+0.003**	**0.003T** **0.038T**	**+0.025**	**+0.003**	**0.003T** **0.045T**	**+0.028**	**+0.013**	**0.013T** **0.048T**
+0.0005	-0.0004	0.0004L 0.0013T	+0.0007	+0.0001	0.0001T 0.0015T	+0.0010	+0.0001	0.0001T 0.0018T	+0.0011	+0.0005	0.0005T 0.0019T
+0.014	**-0.011**	**0.011L** **0.039T**	**+0.021**	**+0.003**	**0.003T** **0.046T**	**+0.028**	**+0.003**	**0.003T** **0.053T**	**+0.033**	**+0.015**	**0.015T** **0.058T**
+0.0006	-0.0004	0.0004L 0.0016T	+0.0008	+0.0001	0.0001T 0.0018T	+0.0011	+0.0001	0.0001T 0.0021T	+0.0013	+0.0006	0.0006T 0.0023T
+0.016	**-0.013**	**0.013L** **0.046T**	**+0.024**	**+0.004**	**0.004T** **0.054T**	–	–	–	**+0.037**	**+0.017**	**0.017T** **0.067T**
+0.0006	-0.0005	0.0005L 0.0018T	+0.0009	+0.0002	0.0002T 0.0021T				+0.0015	+0.0007	0.0007T 0.0027T
+0.016	**-0.013**	**0.013L** **0.046T**	**+0.024**	**+0.004**	**0.004T** **0.054T**	–	–	–	**+0.037**	**+0.017**	**0.017T** **0.067T**
+0.0006	-0.0005	0.0005L 0.0018T	+0.0009	+0.0002	0.0002T 0.0021T				+0.0015	+0.0007	0.0007T 0.0027T
+0.016	**-0.013**	**0.013L** **0.046T**	**+0.024**	**+0.004**	**0.004T** **0.054T**	–	–	–	**+0.037**	**+0.017**	**0.017T** **0.067T**
+0.0006	-0.0005	0.0005L 0.0018T	+0.0009	+0.0002	0.0002T 0.0021T				+0.0015	+0.0007	0.0007T 0.0027T
+0.016	**-0.016**	**0.016L** **0.051T**	**+0.027**	**+0.004**	**0.004T** **0.062T**	–	–	–	**+0.043**	**+0.020**	**0.020T** **0.078T**
+0.0006	-0.0006	0.0006L 0.0020T	+0.0011	+0.0002	0.0002T 0.0025T				+0.0017	+0.0008	0.0008T 0.0031T
+0.016	**-0.016**	**0.016L** **0.051T**	**+0.027**	**+0.004**	**0.004T** **0.062T**	–	–	–	**+0.043**	**+0.020**	**0.020T** **0.078T**
+0.0006	-0.0006	0.0006L 0.0020T	+0.0011	+0.0002	0.0002T 0.0025T				+0.0017	+0.0008	0.0008T 0.0031T
+0.018	**-0.018**	**0.018L** **0.058T**	**+0.029**	**+0.046**	**0.004T** **0.069T**	–	–	–	**+0.046**	**+0.021**	**0.021T** **0.086T**
+0.0007	-0.0007	0.0007L 0.0023T	+0.0011	+0.0002	0.0002T 0.0027T				+0.0018	+0.0008	0.0008T 0.0034T

[(1)]Tolerance range is from +0 to value listed.
NOTE: Tolerance and shaft diameters are shown in the table as variances from nominal bearing bore.

Continued on next page.

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions in table 3 on page 15.

TABLE 4. SPHERICAL ROLLER BEARINGS - SHAFT TOLERANCES (CLASSES g6, h5, h6, j5, j6, k5, k6, m5) *– continued*

Bearing Bore			g6			h6			h5			j5		
Nominal (Max.)		Tolerance[1]	Shaft Dia.		Fit	Shaft Dia.		Fit	Shaft Dia.		Fit	Shaft Dia.		Fit
Over	Incl.		Max.	Min.		Max.	Min.		Max.	Min.		Max.	Min.	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
					0.054L			**0.036L**						**0.018L**
355.000	**400.000**	**-0.040**	**-0.018**	**-0.054**	**0.022T**	**0.000**	**-0.036**	**0.040T**	–	–	–	**+0.007**	**-0.018**	**0.047T**
13.9764	15.7480	-0.0016	-0.0007	-0.0021	0.0021L	0.0000	-0.0014	0.0014L				+0.0003	-0.0007	0.0007L
					0.0009T			0.0016T						0.0019T
					0.060L			**0.040L**						**0.020L**
400.000	**450.000**	**-0.045**	**-0.020**	**-0.060**	**0.025T**	**0.000**	**-0.040**	**0.045T**	–	–	–	**+0.007**	**-0.020**	**0.052T**
15.7480	17.7165	-0.0018	-0.0008	-0.0024	0.0024L	0.0000	-0.0016	0.0016L				+0.0003	-0.0008	0.0008L
					0.0010T			0.0018T						0.0021T
					0.060L			**0.040L**						**0.020L**
450.000	**500.000**	**-0.045**	**-0.020**	**-0.060**	**0.025T**	**0.000**	**-0.040**	**0.045T**	–	–	–	**+0.007**	**-0.020**	**0.052T**
17.7165	19.6850	-0.0018	-0.0008	-0.0024	0.0024L	0.0000	-0.0016	0.0016L				+0.0003	-0.0008	0.0008L
					0.0010T			0.0018T						0.0020T

[1]Tolerance range is from +0 to value listed.
NOTE: Tolerance and shaft diameters are shown in the table as variances from nominal bearing bore.

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions in table 3 on page 15.

j6			k5			k6			m5		
Shaft Dia.		Fit	Shaft Dia.		Fit	Shaft Dia.		Fit	Shaft Dia.		Fit
Max.	Min.		Max.	Min.		Max.	Min.		Max.	Min.	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
		0.018L			**0.004T**						**0.021T**
+0.018	**-0.018**	**0.058T**	**+0.029**	**+0.004**	**0.069T**	–	–	–	**+0.046**	**+0.021**	**0.086T**
+0.0007	-0.0007	0.0007L	+0.0011	+0.0002	0.0002T				+0.0018	+0.0008	0.0008T
		0.0023T			0.0027T						0.0034T
		0.020L			**0.005T**						**0.023T**
+0.020	**-0.020**	**0.065T**	**+0.032**	**+0.005**	**0.077T**	–	–	–	**+0.050**	**+0.023**	**0.095T**
+0.0008	-0.0008	0.0008L	+0.0013	+0.0002	0.0002T				+0.0020	+0.0009	0.0009T
		0.0026T			0.0031T						0.0037T
		0.020L			**0.005T**						**0.023T**
+0.020	**-0.020**	**0.065T**	**+0.032**	**+0.005**	**0.077T**	–	–	–	**+0.050**	**+0.023**	**0.095T**
+0.0008	-0.0008	0.0008L	+0.0013	+0.0002	0.0002T				+0.0020	+0.0009	0.0009T
		0.0026T			0.0031T						0.0037T

(1)Tolerance range is from +0 to value listed.
NOTE: Tolerance and shaft diameters are shown in the table as variances from nominal bearing bore.

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions in table 3 on page 15.

TABLE 5. SPHERICAL ROLLER BEARINGS - SHAFT TOLERANCES (CLASSES m6, n6, p6, r6, r7)

Bearing Bore			m6			n6			p6			r6			r7		
Nominal (Max.)		Tolerance[1]	Shaft Dia.		Fit	Shaft Dia.		Fit	Shaft Dia.		Fit	Shaft Dia.		Fit	Shaft Dia.		Fit
Over	Incl.		Max.	Min.		Max.	Min.		Max.	Min.		Max.	Min.		Max.	Min.	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
					0.009T												
30.000	**50.000**	**-0.014**	**+0.025**	**+0.009**	**0.037T**	–	–	–	–	–	–	–	–	–	–	–	–
1.1811	1.9685	-0.0006	+0.0010	+0.0004	0.0004T												
					0.0145T												
					0.011T			**0.020T**									
50.000	**80.000**	**-0.015**	**+0.030**	**+0.011**	**0.045T**	**+0.039**	**+0.020**	**0.054T**	–	–	–	–	–	–	–	–	–
1.9685	3.1496	-0.0006	+0.0012	+0.0004	0.0004T	+0.0015	+0.0008	0.0008T									
					0.0018T			0.0021T									
					0.013T			**0.023T**			**0.037T**						
80.000	**120.000**	**-0.020**	**+0.035**	**+0.013**	**0.055T**	**+0.045**	**+0.023**	**0.065T**	**+0.059**	**+0.037**	**0.079T**	–	–	–	–	–	–
3.1496	4.7244	-0.0008	+0.0014	+0.0005	0.0005T	+0.0018	+0.0009	0.0009T	+0.0023	+0.0015	0.0015T						
					0.0022T			0.0026T			0.0031T						
					0.015T			**0.027T**			**0.043T**			**0.065T**			
120.000	**180.000**	**-0.025**	**+0.040**	**+0.015**	**0.065T**	**+0.052**	**+0.027**	**0.077T**	**+0.068**	**+0.043**	**0.093T**	**+0.090**	**+0.065**	**0.115T**	–	–	–
4.7244	7.0866	-0.0010	+0.0016	+0.0006	0.0006T	+0.0020	+0.0011	0.0011T	+0.0027	+0.0017	0.0017T	+0.0035	+0.0026	0.0026T			
					0.0026T			0.0030T			0.0037T			0.0045T			
					0.017T			**0.031L**			**0.050T**			**0.077T**			
180.000	**200.000**	**-0.030**	**+0.046**	**+0.017**	**0.076T**	**+0.060**	**+0.031**	**0.090T**	**+0.079**	**+0.050**	**0.109T**	**+0.106**	**+0.077**	**0.136T**	–	–	–
7.0866	7.8740	-0.0012	+0.0018	+0.0007	0.0007T	+0.0024	+0.0012	0.0012L	+0.0031	+0.0020	0.0020T	+0.0042	+0.0030	0.0030T			
					0.0030T			0.0036T			0.0043T			0.0054T			
					0.017T			**0.031L**			**0.050T**			**0.080T**			**0.080T**
200.000	**225.000**	**-0.030**	**+0.046**	**+0.017**	**0.076T**	**+0.060**	**+0.031**	**0.090T**	**+0.079**	**+0.050**	**0.109T**	**+0.109**	**+0.080**	**0.139T**	**+0.126**	**+0.080**	**0.156T**
7.8740	8.8583	-0.0012	+0.0018	+0.0007	0.0007T	+0.0024	+0.0012	0.0012L	+0.0031	+0.0020	0.0020T	+0.0043	+0.0031	0.0031T	+0.0050	+0.0031	0.0031T
					0.0030T			0.0036T			0.0043T			0.0055T			0.0062T
					0.017T			**0.031L**			**0.050T**			**0.084T**			**0.084T**
225.000	**250.000**	**-0.030**	**+0.046**	**+0.017**	**0.076T**	**+0.060**	**+0.031**	**0.090T**	**+0.079**	**+0.050**	**0.109T**	**+0.113**	**+0.084**	**0.143T**	**+0.130**	**+0.084**	**0.160T**
8.8583	9.8425	-0.0012	+0.0018	+0.0007	0.0007T	+0.0024	+0.0012	0.0012L	+0.0031	+0.0020	0.0020T	+0.0044	+0.0033	0.0033T	+0.0051	+0.0033	0.0033T
					0.0030T			0.0036T			0.0043T			0.0056T			0.0063T
					0.020T			**0.034T**			**0.056T**			**0.094T**			**0.094T**
250.000	**280.000**	**-0.035**	**+0.052**	**+0.020**	**0.087T**	**+0.066**	**+0.034**	**0.101T**	**+0.088**	**+0.056**	**0.123T**	**+0.126**	**+0.094**	**0.161T**	**+0.146**	**+0.094**	**0.181T**
9.8425	11.0236	-0.0014	+0.0020	+0.0008	0.0008T	+0.0026	+0.0013	0.0013T	+0.0035	+0.0022	0.0022T	+0.0050	+0.0037	0.0037T	+0.0057	+0.0037	0.0037T
					0.0034T			0.0040T			0.0049T			0.0064T			0.0071T
					0.020T			**0.034T**			**0.056T**			**0.098T**			**0.098T**
280.000	**315.000**	**-0.035**	**+0.052**	**+0.020**	**0.087T**	**+0.066**	**+0.034**	**0.101T**	**+0.088**	**+0.056**	**0.123T**	**+0.130**	**+0.098**	**0.165T**	**+0.150**	**+0.098**	**0.185T**
11.0236	12.4016	-0.0014	+0.0020	+0.0008	0.0008T	+0.0026	+0.0013	0.0013T	+0.0035	+0.0022	0.0022T	+0.0051	+0.0039	0.0039T	+0.0059	+0.0039	0.0039T
					0.0034T			0.0040T			0.0049T			0.0065T			0.0073T
					0.021T			**0.037T**			**0.062T**			**0.108T**			**0.108T**
315.000	**355.000**	**-0.040**	**+0.057**	**+0.021**	**0.097T**	**+0.073**	**+0.037**	**0.113T**	**+0.098**	**+0.062**	**0.138T**	**+0.144**	**+0.108**	**0.184T**	**+0.165**	**+0.108**	**0.205T**
12.4016	13.9764	-0.0016	+0.0022	+0.0008	0.0008T	+0.0029	+0.0015	0.0015T	+0.0039	+0.0024	0.0024T	+0.0057	+0.0043	0.0043T	+0.0065	+0.0043	0.0043T
					0.0038T			0.0045T			0.0055T			0.0073T			0.0081T

[1]Tolerance range is from +0 to value listed.

NOTE: Tolerance and shaft diameters are shown in the table as variances from nominal bearing bore.

Continued on next page.

These charts are guidelines for specifying shaft and housing fits related to particular operating conditions in table 3 on page 15.

Continued from previous page.

Bearing Bore			m6			n6			p6			r6			r7		
Nominal (Max.)		Tolerance[1]	Shaft Dia.		Fit	Shaft Dia.		Fit	Shaft Dia.		Fit	Shaft Dia.		Fit	Shaft Dia.		Fit
Over	Incl.		Max.	Min.		Max.	Min.		Max.	Min.		Max.	Min.		Max.	Min.	
mm in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.	**mm** in.
								0.037T			**0.062T**			**0.114T**			**0.114T**
355.000	**400.000**	**-0.040**	–	–	–	**+0.073**	**+0.037**	**0.113T**	**+0.098**	**+0.062**	**0.138T**	**+0.150**	**+0.114**	**0.190T**	**+0.171**	**+0.114**	**0.211T**
13.9764	15.7480	-0.0016				+0.0029	+0.0015	0.0015T	+0.0039	+0.0024	0.0024T	+0.0059	+0.0045	0.0045T	+0.0067	+0.0045	0.0045T
								0.0045T			0.0055T			0.0075T			0.0083T
								0.040T			**0.068T**			**0.126T**			**0.126T**
400.000	**450.000**	**-0.045**	–	–	–	**+0.080**	**+0.040**	**0.125T**	**+0.108**	**+0.068**	**0.153T**	**+0.166**	**+0.126**	**0.211T**	**+0.189**	**+0.126**	**0.234T**
15.7480	17.7165	-0.0018				+0.0031	+0.0016	0.0016T	+0.0043	+0.0027	0.0027T	+0.0065	+0.0050	0.0050T	+0.0074	+0.0050	0.0050T
								0.0049T			0.0061T			0.0083T			0.0092T
								0.040T			**0.068T**			**0.132T**			**0.132T**
450.000	**500.000**	**-0.045**	–	–	–	**+0.080**	**+0.040**	**0.125T**	**+0.108**	**+0.068**	**0.153T**	**+0.172**	**+0.132**	**0.217T**	**+0.195**	**+0.132**	**0.240T**
17.7165	19.6850	-0.0018				+0.0031	+0.0016	0.0016T	+0.0043	+0.0027	0.0027T	+0.0068	+0.0052	0.0052T	+0.0077	+0.0052	0.0052T
								0.0049T			0.0061T			0.0086T			0.0095T

[1]Tolerance range is from +0 to value listed.

NOTE: Tolerance and shaft diameters are shown in the table as variances from nominal bearing bore.

SAF LUBRICATION

To help maintain a bearing's antifriction characteristics, lubrication is needed to:

- Minimize rolling resistance caused by deformation of the rolling elements and raceway under load by separating the mating surfaces.
- Minimize sliding friction occurring between rolling elements, raceways and cage.
- Transfer heat (with oil lubrication).
- Protect from corrosion and, with grease lubrication, from contaminant ingress.

GREASE LUBRICATIONS FOR BEARING/HOUSING ASSEMBLIES

Polyurea and lithium-based greases are normally preferred for general-purpose bearing lubrication and are advantageous in high moisture applications. Both greases have good water-resistant characteristics.

Frictional torque is influenced by the quantity and the quality of lubricant present. Excessive quantities of grease cause churning. The adverse effects of churn are accelerated with increases in operating speed. The churn results in excessive temperatures, separation of the grease components, and breakdown in lubrication values. In normal-speed applications, the housings should be kept approximately one-third to one-half full. Only in low-speed applications may the housing be entirely filled with grease. This method of lubrication is a safeguard against the entry of foreign matter, where sealing provisions are inadequate for exclusion of contaminants or moisture.

GENERAL-PURPOSE INDUSTRIAL GREASE

Polyurea and lithium-based greases are typical of greases that can be used to lubricate many Timken bearing applications in all types of standard equipment.

Special consideration should be given to applications where speed, load, temperature or environmental conditions are extreme.

Lithium greases, lithium complex greases, or calcium sulfonate thickened grease are suitable for most centralized, single-point, or manually lubricated product. They should be a smooth, homogeneous and uniform, premium-quality product composed of mineral or synthetic oil, a thickener and appropriate inhibitors (see table 6).

TABLE 6. SUGGESTED LITHIUM SOAP, LITHIUM COMPLEX AND CALCIUM SULFONATE GREASE PROPERTIES

Thickener type	Lithium Complex, or equivalent
Consistency	NLGI No.1 or No. 2
Additives	Anti-wear, corrosion and oxidation inhibitors
Base oil	Mineral oil or synthetic
Viscosity at 40° C	ISO VG 150-220
Viscosity index	80 min.
Pour point	-18° C (0° F) max.

They should not contain materials that are corrosive or abrasive to roller bearings. The grease should have excellent mechanical and chemical stability. The grease should contain inhibitors to provide long-term protection against oxidation in high-performance applications and protect the bearings from corrosion in the presence of moisture. The suggested base oil viscosity covers a fairly wide range. Lower viscosity products should be used in high-speed and/or lightly loaded applications to minimize heat generation and torque. Higher viscosity products should be used in moderate- to low-speed applications and under heavy loads to maximize lubricant film thickness. Speed ratings are listed for each size/class part number in the Spherical Roller Bearing Catalog (order no. 10446) on pages 59-88. When application speeds exceed 70 percent of grease speed rating, consider increasing RIC by one ISO clearance range (CNormal to C3). Table 7 is provided as a reference for typical grease thickener compatibilities. Consult your lubricant supplier for further information for your specific requirement. For general industrial applications, consider a grease that is NLGI No. 1 or No. 2, with a ISO 150 to 220 viscosity grade.

NOTE

Mixing greases can result in improper bearing lubrication. Always follow the specific lubrication instructions of your equipment supplier.

TABLE 7. GREASE COMPATIBILITY CHART

■ = Best Choice
■ = Compatible
■ = Borderline
■ = Incompatible

	Al Complex	Ba Complex	Ca Stearate	Ca 12 Hydroxy	Ca Complex	Ca Sulfonate	Non-Soap Clay	Li Stearate	Li 12 Hydroxy	Li Complex	Polyurea	Polyurea S S
Aluminum Complex	■	■	■	■	■	■	■	■	■	■	■	■
Timken Food Safe	■	■	■	■	■	■	■	■	■	■	■	■
Barium Complex	■	■	■	■	■	■	■	■	■	■	■	■
Calcium Stearate	■	■	■	■	■	■	■	■	■	■	■	■
Calcium 12 Hydroxy	■	■	■	■	■	■	■	■	■	■	■	■
Calcium Complex	■	■	■	■	■	■	■	■	■	■	■	■
Calcium Sulfonate	■	■	■	■	■	■	■	■	■	■	■	■
Timken Premium Mill Timken Heavy-Duty Moly	■	■	■	■	■	■	■	■	■	■	■	■
Clay Non-Soap	■	■	■	■	■	■	■	■	■	■	■	■
Lithium Stearate	■	■	■	■	■	■	■	■	■	■	■	■
Lithium 12 Hydroxy	■	■	■	■	■	■	■	■	■	■	■	■
Lithium Complex	■	■	■	■	■	■	■	■	■	■	■	■
Polyurea Conventional	■	■	■	■	■	■	■	■	■	■	■	■
Polyurea Shear Stable	■	■	■	■	■	■	■	■	■	■	■	■
Timken Multi-Use	■	■	■	■	■	■	■	■	■	■	■	■
Timken All -Purpose Timken Synthetic	■	■	■	■	■	■	■	■	■	■	■	■
Timken Pillow Block	■	■	■	■	■	■	■	■	■	■	■	■

APPLICATION CONSIDERATIONS

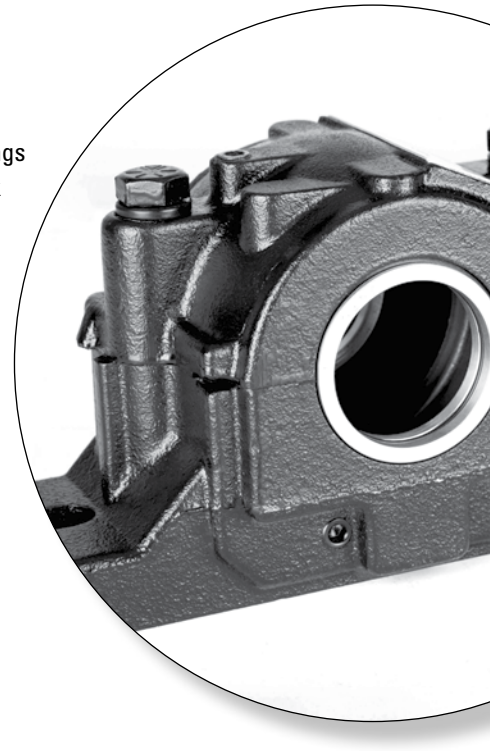
For higher-speed applications (operating at 75 percent of the grease speed rating or more), a grease with a lighter base oil viscosity (ISO 100-150) can be considered. Conversely, for lower-speed applications, a grease with a heavier base oil viscosity (ISO 320-460) can be considered. For lower-speed applications operating at colder start-up temperatures (>-18° C [0° F]), consider a softer grease (NLGI grade 1) with an approved EP additive. The lighter grade will allow more grease flow into the bearing contact area and the EP additive will reduce wear during start-up. An ISO 460 base oil viscosity also can be considered.

When lower-speed applications operate at higher temperatures (>149° C [300° F]), consult a local Timken engineer.

GREASE FILL

For normal industrial applications, fill the bearing void to 100 percent full and the housing void to 40 – 60 percent full. For high-speed applications, fill the bearing void to 100 percent full and the housing void to 30 – 40 percent full. The free volume of the bearing can be estimated by first calculating the solid ring volume of the bearing. Then, weigh the bearing and divide the weight by the density of steel. This actual volume can then be subtracted from the solid ring volume. The resultant value is an estimate of the free volume of the bearing available for grease fill. When the grease volume is determined for the application, multiplying this value by the density of the grease will yield the approximate weight of the grease fill. After weighing the grease required, apply approximately 75 percent of the amount into the cage and roller assembly. The remaining amount of grease should then be applied to both inner and outer rings in equal amounts. The preservatives applied to bearing components are compatible with nearly all industrial greases and should not be wiped or cleaned prior to packing the bearing. If in doubt, contact a local Timken engineer.

SAF SPLIT-BLOCK MOUNTED SPHERICAL ROLLER BEARINGS



SAF split-block mounted spherical roller bearings combine rugged cast-iron or steel housings with high-capacity bearings to meet the toughest demands of industry. Each pillow block contains an advanced-design spherical roller bearing with improved geometry and raceway finish for maximized load capacity and service life. Integrated housing and bearing features enhance unit lubrication characteristics. Multiple sealing options protect against contamination.

SAF MOUNTED BEARING NOMENCLATURE

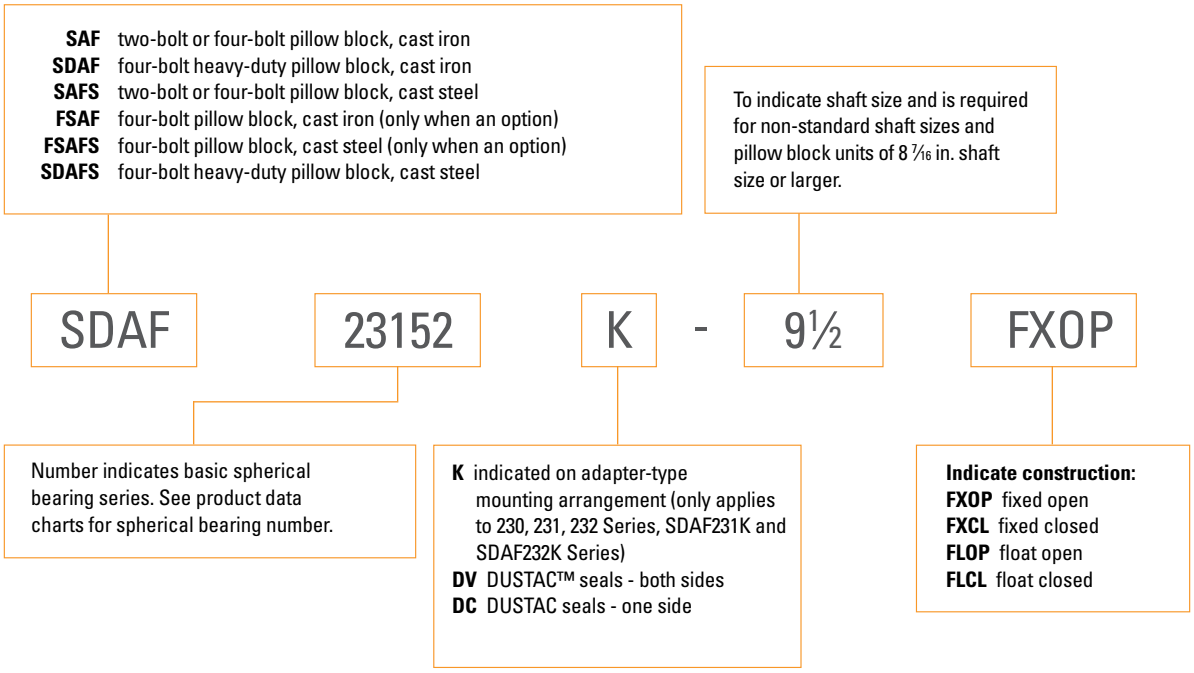


Fig. 8. Pillow blocks.

Additional sizes available.

Standard housing material is cast iron. Cast steel (i.e. SAFS) and ductile iron (i.e. SAFD) housings are also available.

Notes: Assemblies and housings in the FXOP construction are typically stocked items. To create the float open (FLOP) version, order the FXOP version and remove the stabilizing ring from the housing.

If a closed end housing is required, order the FXOP version and order the appropriate end plug separately to create the fixed closed (FXCL) or float closed (FLCL) versions (remove stabilizing ring for FLCL).

In some cases FXCL, FLCL, and FLOP units are stocked, contact Timken Customer Service for details.

Example: To create SAF 22515 FLCL, order Timken SAF 22515 FXOP and EPS 4 and then assemble without the stabilizing ring from the housing.

SAF MOUNTED BEARING INTRODUCTION

Timken's capabilities in engineering and manufacturing heavy-duty pillow blocks provide important user benefits. In addition, Timken's worldwide sales organization is staffed with experienced engineers who are available for consultation on any pillow block or bearing application. Our expert engineering assistance also is available for applications involving shaft sizes 1016 mm (40 in.) and larger, such as BOF trunnions, bridge blocks and ball mills. If your design calls for shaft sizes or loads not listed in this catalog, contact your Timken engineer for information about availability of special units.

- **Sizes:** 35-300 mm shafts (1 3⁄8 up to 11 7⁄8 in.). Special shaft sizes up to 1000 mm (39 3⁄8 in.) and beyond.
- **Applications:** Conveyors, ball mills, casters, rolling mills, heavy movable structures.
- **Features:** Split construction for convenient assembly and disassembly. These units include pry tool slots and the exclusive Pry-Lug fulcrum, which simplifies bearing inspection, service and replacement.
- **Benefits:** Caps can be removed easily and quickly without damage to the bearing or housing.

DESIGN AND CONSTRUCTION

Timken supplies pillow blocks equipped with either tapered bore bearings with adapters for mounting on straight shafts or cylindrical bore bearings for assembly on shouldered shafts.

Timken uses a system of doweling caps and bases together at an early stage of manufacturing, so that they remain a single unit during machining. They are not interchangeable as separate parts and become precisely mated components, helping to ensure a precise fit. Timken manufactures pillow blocks in two styles: SAF and SDAF. The larger SDAF block is suggested for extreme-duty applications.

Standard caps and bases are made from high-grade, stress-relieved cast iron. They also are available in cast steel.

All Timken® split pillow blocks are designed for four-bolt mounting. Certain smaller sizes are normally furnished for two-bolt mounting. These assemblies are indicated in the following tables and can be ordered with an optional four-bolt base.

Four cap bolts are used in most Timken pillow blocks in order to equalize the pressure between the cap and the base, helping to prevent lubricant loss.

The illustration below shows all parts of a pillow block assembly that are described throughout this section.

Fig. 9.

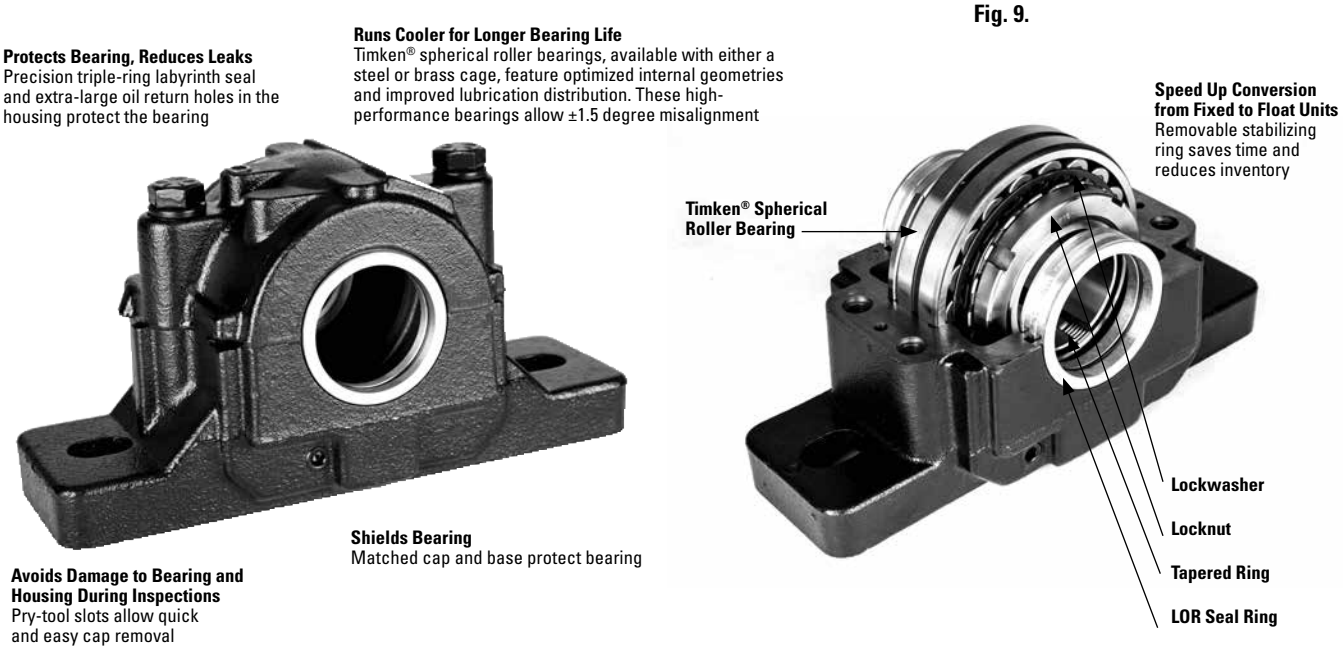


Fig. 10. SAF mounted bearing components and features.

MOUNTING

ADAPTER VERSUS STRAIGHT BORE

Usually a spherical roller bearing pillow block assembly is mounted on a straight shaft using a tapered bore bearing and adapter assembly. Standard commercial shafting can be used without additional machining. (Suggested inch shaft diameters are shown in table 8 on page 58.) Adapter mount also permits maximum flexibility in the axial positioning of the bearing on the shaft and will accommodate light locational thrust loads. Timken pillow blocks for tapered bore and adapter-mounted bearings are available in series 225, 226, 230, 231K and 232K.

Adapter-mounted spherical roller bearings require the correct removal of diametral clearance from the bearing to prevent relative rotation between inner race and sleeve or shaft. For proper shaft mounting of adapter-type spherical roller bearings, see page 6.

When application conditions produce heavy thrust loads, or a need exists for exact axial location or a positive shaft interference fit, a direct straight bore mounting may be the best option. This requires a shouldered shaft, machined for proper fit, and a straight bore bearing. Timken pillow block assemblies for straight bore applications are available in series 222, 223, 231 and 232.

Suggested fits for shafts in cylindrical bore spherical roller bearings are shown in the engineering section of this catalog in table 1 on page 8. For applications involving heavy shock, vibration, unbalanced rotating loads or other non-standard conditions, consult your Timken engineer.

FIXED AND FLOAT PILLOW BLOCKS

Any style of Timken split pillow blocks can be easily installed at either the float or fixed position on the shaft. For the fixed position, a stabilizing ring is added between the bearing outer-face ring and the housing shoulder to positively locate the shaft and prevent axial movement.

Some applications require centering of the bearing in its housing. To accomplish this, two special-width stabilizing rings can be ordered.

In the float position, the ring is not used, allowing the bearing to move axially (a maximum of $^{3}/_{8}$ in.) to compensate for thermal expansion or contraction of the shaft.

Pillow blocks ordered by the numbers in the dimension tables are fixed units. To order float units, specify by adding suffix float or FL to the pillow block number.

CLOSED-END INSTALLATIONS

In some applications, the shaft end is designed to terminate inside the pillow block. For this design, positive fitting end-cap inserts are available to help seal out contaminants and retain lubricant. Timken heavy-duty end plugs include O-rings for positive sealing.

Designers and installers need to make sure the shaft end does not contact the closure. A minimum of $^{1}/_{8}$ in. clearance at maximum thermal expansion is suggested between the end of the shaft and the closure. Dimension Y in the tables defines the maximum permissible length of the shaft from the centerline of the pillow block housing. If end closure is desired, specify by adding CL (one end closed) to the pillow block assembly number.

NOTE

Failure to employ proper mounting procedures can cause heating and reduced bearing performance.

LUBRICATION

Timken pillow block housings are designed for grease and oil-bath lubrication. They also can be modified easily to accommodate circulating oil- or oil/air-mist systems. Grease fittings or sight gages are available upon request.

A lubrication groove and oil holes are provided in the bearing outer ring. This feature, designated by adding suffix W33 to the bearing number, should be specified whenever re-ordering bearings for pillow blocks. In most cases, the fresh lubricant is fed directly to the center of the bearing between the rows of rollers and distributed to the rest of the bearing. This helps ensure the used lubricant is purged from the bearing.

SEALS

Precision triple-ring labyrinth seals are supplied with all Timken split pillow blocks to help exclude foreign matter and retain lubricants. The pillow block base includes extra-large oil return holes at the bottom of the seal grooves to help prevent leakage past the seals.

For extremely contaminated or abrasive environments, the DUSTAC™ seal offers protection against concentrations of dust or abrasive material that a labyrinth seal cannot keep out. See page 62 for further information on DUSTAC.

LABYRINTH SEALS

A single metal ring that interconnects with the grooves in the housing to form a labyrinth gap. The inside diameter contains an O-ring that creates an interference fit so the ring will rotate with the shaft. Developed for high-speed applications and in moderately contaminated environments. Adding grease to the gap between the LOR seal and the housing increases sealing effectiveness.

TACONITE SEALS

A combination of a labyrinth seal and V-ring seal. Two separate metal ring components, inner and outer, have interconnecting grooves that form a labyrinth gap. The outer metal ring contains an O-ring on its outside diameter that provides an interference fit to the groove in the housing. The inside diameter contains an O-ring that creates an interference fit so the ring will rotate with the shaft. Performs well in highly contaminated environments like mining operations.

END COVERS

In some applications, the shaft end is designed to terminate inside the pillow block. For this design, positive fitting end-cover inserts are available to help seal out contaminants and retain lubricant, providing additional protection to the bearing.

LOAD RATINGS AND LIFE

Load ratings for the spherical roller bearings that are used in pillow blocks are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446). Life calculation formulas are found in the Engineering Manual (order no. 10424) available on www.timken.com.

In addition to individual bearing selection, the ability of the pillow block to carry the operating load should be considered.

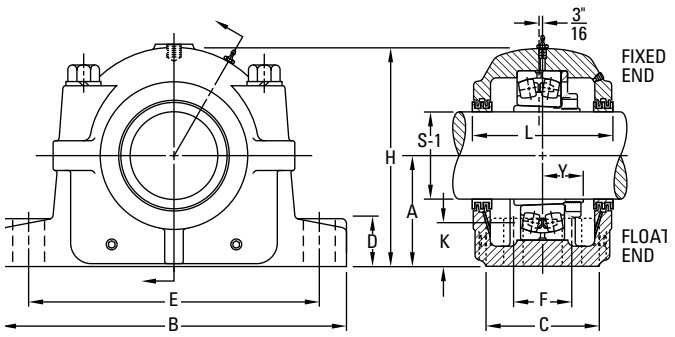
It should be noted that the load rating figures supplied in this catalog are applicable only when the load direction is generally toward the base of the pillow block. If the pillow block must be mounted so the load can be applied in any other direction, consult your Timken engineer.

INCH TAPERED BORE MOUNTING SAF225 AND SAF226 SERIES

- The basic number for ordering complete pillow block assemblies is listed in the table below.
- Each assembly includes the housing cap and base, cap bolts, bearing, bearing adapter, locknut and lockwasher, stabilizing ring and triple-ring seals.
- If only the pillow block housing is desired, use the numbers listed in column headed Housing Only. These units include cap, base, cap bolts, triple-ring seals and stabilizing ring.
- Assemblies and pillow blocks described on this page constitute a fixed unit. To order float units, specify the part number plus the suffix float or FL.
- Assemblies shown are furnished in cast iron. If cast steel is desired, add the letter S to the alpha prefix (e.g., SAFS 22515).
- Four-bolt bases are standard on all assemblies unless as noted.
- If one end closed assembly is required, specify CL in assembly number when ordering.

Pillow Block Assembly[1]	Shaft Dia. S-1[2]	A	B	C	D	E		F	H
						Max.	Min.		
	in.	in.	in.	in.	in.	in.	in.	in.	in.
SERIES SAF225									
SAF22509	1 3/8 **1 7/16** 1 1/2	**2 1/4**	**8 1/4**	**2 3/8**	**13/16**	**7**	**6 1/4**	–	**4 3/8**
SAF22510	1 5/8 **1 11/16** 1 3/4	**2 1/2**	**8 1/4**	**2 3/8**	**15/16**	**7**	**6 1/2**	–	**4 3/4**
SAF22511	1 7/8 **1 15/16** 2	**2 3/4**	**9 5/8**	**2 3/4**	**15/16**	**7 7/8**	**7 3/8**	–	**5 11/32**
SAF22513	2 1/8 **2 3/16** 2 1/4	**3**	**11**	**3 1/8**	**1**	**9 1/2**	**8 1/8**	–	**5 25/32**
SAF22515	2 3/8 **2 7/16** 2 1/2	**3 1/4**	**11 1/4**	**3 1/8**	**1 1/8**	**9 5/8**	**8 5/8**	–	**6 3/8**
FSAF22515	2 3/8 **2 7/16** 2 1/2	**3 1/4**	**11 1/4**	**3 1/8**	**1 1/8**	**9 5/8**	**8 5/8**	**1 7/8**	**6 3/8**
SAF22516	2 5/8 **2 11/16** 2 3/4	**3 1/2**	**13**	**3 1/2**	**1 3/16**	**11**	**9 5/8**	–	**6 7/8**
FSAF22516	2 5/8 **2 11/16** 2 3/4	**3 1/2**	**13**	**3 1/2**	**1 3/16**	**11**	**9 5/8**	**2 1/8**	**6 7/8**
SAF22517	2 13/16 2 7/8 **2 15/16** 3	**3 3/4**	**13**	**3 1/2**	**1 1/4**	**11**	**9 7/8**	–	**7 1/4**
FSAF22517	2 13/16 2 7/8 **2 15/16** 3	**3 3/4**	**13**	**3 1/2**	**1 1/4**	**11**	**9 7/8**	**2 1/8**	**7 1/4**

[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies specify the shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only, specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.



K Oil Level	L	Y	Base Bolts Required No.	 Size	Bearing No.	Adapter Assembly No.[3]	Housing Only[4]	Stabilizing Ring 1 Req'd[5]	Triple Seal 2 Req'd	Assembly Wt.
in.	in.	in.		in.						lbs.
						SNW-09 x 1 3/8			LOR 16	
31/32	3 5/8	1 3/32	2	1/2	22209K	**SNW-09 x 1 7/16**	SAF509	SR-9-9	**LOR 17**	12
						SNW-09 x 1 1/2			LOR 18	
						SNW-10 x 1 5/8			LOR 19	
1 3/32	3 5/8	1 3/32	2	1/2	22210K	**SNW-10 x 1 11/16**	SAF510	SR-10-0	**LOR 20**	13
						SNW-10 x 1 3/4			LOR 21	
						SNW-11 x 1 7/8			LOR 23	
1 3/16	3 3/4	1 3/16	2	1/2	22211K	**SNW-11 x 1 15/16**	SAF 511	SR-11-0	**LOR 24**	16
						SNW-11 x 2			LOR 25	
						SNW-13 x 2 1/8			LOR 28	
1 1/8	4 5/16	1 7/32	2	1/2	22213K	**SNW-13 x 2 3/16**	SAF 513	SR-13-0	**LOR 29**	19.5
						SNW-13 x 2 1/4			LOR 30	
						SNW-15 x 2 3/8			LOR 35	
1 1/4	4 3/4	1 9/32	2	5/8	22215K	**SNW-15 x 2 7/16**	SAF515	SR-15-0	**LOR 37**	30
						SNW-15 x 2 1/2			LOR 39	
						SNW-15 x 2 3/8			LOR 35	
1 1/4	4 3/4	1 9/32	4	1/2	22215K	**SNW-15 x 2 7/16**	FSAF515	SR-15-0	**LOR 37**	30
						SNW-15 x 2 1/2			LOR 39	
						SNW-16 x 2 5/8			LOR 41	
1 11/32	4 7/8	1 21/64	2	3/4	22216K	**SNW-16 x 2 11/16**	SAF516	SR-16-13	**LOR 44**	37
						SNW-16 x 2 3/4			LOR 45	
						SNW-16 x 2 5/8			LOR 41	
1 11/32	4 7/8	1 21/64	4	5/8	22216K	**SNW-16 x 2 11/16**	FSAF516	SR-16-13	**LOR 44**	37
						SNW-16 x 2 3/4			LOR 45	
						SNW-17 x 2 13/16			LOR 51	
						SNW-17 x 2 7/8			LOR 52	
1 7/16	4 15/16	1 27/64	2	3/4	22217K	**SNW-17 x 2 15/16**	SAF517	SR-17-14	**LOR 53**	40
						SNW-17 x 3			LOR 54	
						SNW-17 x 2 13/16			LOR 51	
						SNW-17 x 2 7/8			LOR 52	
1 7/16	4 15/16	1 27/64	4	5/8	22217K	**SNW-17 x 2 15/16**	FSAF517	SR-17-14	**LOR 53**	40
						SNW-17 x 3			LOR 54	

[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies specify the shaft size.

Continued on next page.

[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.

[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.

[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only, specify the shaft size.

[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.

NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.

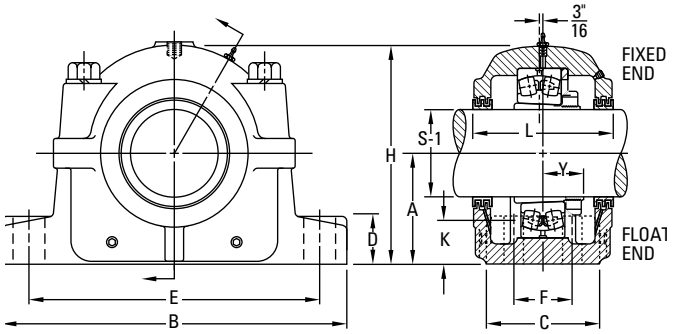
INCH TAPERED BORE MOUNTING SAF225 AND SAF226 SERIES – continued

- The basic number for ordering complete pillow block assemblies is listed in the table below.
- Each assembly includes the housing cap and base, cap bolts, bearing, bearing adapter, locknut and lockwasher, stabilizing ring and triple-ring seals.
- If only the pillow block housing is desired, use the numbers listed in column headed Housing Only. These units include cap, base, cap bolts, triple-ring seals and stabilizing ring.
- Assemblies and pillow blocks described on this page constitute a fixed unit. To order float units, specify the part number plus the suffix float or FL.
- Assemblies shown are furnished in cast iron. If cast steel is desired, add the letter S to the alpha prefix (e.g., SAFS 22515).
- Four-bolt bases are standard on all assemblies unless as noted.
- If one end closed assembly is required, specify CL in assembly number when ordering.

Continued from previous page.

Pillow Block Assembly[1]	Shaft Dia. S-1[2]	A	B	C	D	E		F	H
						Max.	Min.		
	in.	in.	in.	in.	in.	in.	in.	in.	in.
	3 1/16								
	3 1/8								
SAF22518	**3 3/16**	**4**	**13 3/4**	**3 7/8**	**1 1/2**	**11 5/8**	**10 3/8**	–	**7 3/4**
	3 1/4								
	3 1/16								
	3 1/8								
FSAF22518	**3 3/16**	**4**	**13 3/4**	**3 7/8**	**1 1/2**	**11 5/8**	**10 3/8**	**2 1/8**	**7 3/4**
	3 1/4								
	3 3/8								
SAF22520	**3 7/16**	**4 1/2**	**15 1/4**	**4 3/8**	**1 3/4**	**13 1/8**	**11 5/8**	–	**8 11/16**
	3 1/2								
	3 3/8								
FSAF22520	**3 7/16**	**4 1/2**	**15 1/4**	**4 3/8**	**1 3/4**	**13 1/8**	**11 5/8**	**2 3/8**	**8 11/16**
	3 1/2								
	3 13/16								
	3 7/8								
SAF22522	**3 15/16**	**4 15/16**	**16 1/2**	**4 3/4**	**2**	**14 1/2**	**12 5/8**	**2 3/4**	**9 9/16**
	4								
	4 1/16								
	4 1/8								
SAF22524	**4 3/16**	**5 1/4**	**16 1/2**	**4 3/4**	**2 1/8**	**14 1/2**	**13 1/4**	**2 3/4**	**10 1/4**
	4 1/4								
	4 5/16								
	4 3/8								
SAF22526	**4 7/16**	**6**	**18 3/8**	**5 1/8**	**2 3/8**	**16**	**14 5/8**	**3 1/4**	**11 9/16**
	4 1/2								
	4 13/16								
	4 7/8								
SAF22528	**4 15/16**	**6**	**20 1/8**	**5 7/8**	**2 3/8**	**17 1/8**	**16**	**3 3/8**	**11 3/4**
	5								
	5 1/8								
SAF22530	**5 3/16**	**6 5/16**	**21 1/4**	**6 1/4**	**2 1/2**	**18 1/4**	**17**	**3 3/4**	**12 1/2**
	5 1/4								

[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies specify the shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only, specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.



K Oil Level	L	Y	Base Bolts Required No.	 Size	Bearing No.	Adapter Assembly No.[3]	Housing Only[4]	Stabilizing Ring 1 Req'd[5]	Triple Seal 2 Req'd	Assembly Wt.
in.	in.	in.		in.						lbs.
						SNW-18 x 3 1/16			LOR 67	
						SNW-18 x 3 1/8			LOR 68	
1 17/32	**6 1/4**	**1 37/64**	**2**	**3/4**	**22218K**	**SNW-18 x 3 3/16**	**SAF518**	**SR-18-15**	**LOR 69**	**49**
						SNW-18 x 3 1/4			LOR 70	
						SNW-18 x 3 1/16			LOR 67	
						SNW-18 x 3 1/8			LOR 68	
1 17/32	**6 1/4**	**1 37/64**	**4**	**5/8**	**22218K**	**SNW-18 x 3 3/16**	**FSAF518**	**SR-18-15**	**LOR 69**	**49**
						SNW-18 x 3 1/4			LOR 70	
						SNW-20 x 3 3/8			LOR 101	
1 3/4	**6**	**1 49/64**	**2**	**7/8**	**22220K**	**SNW-20 x 3 7/16**	**SAF520**	**SR-20-17**	**LOR 102**	**65**
						SNW-20 x 3 1/2			LOR 103	
						SNW-20 x 3 3/8			LOR 101	
1 3/4	**6**	**1 49/64**	**4**	**3/4**	**22220K**	**SNW-20 x 3 7/16**	**FSAF520**	**SR-20-17**	**LOR 102**	**65**
						SNW-20 x 3 1/2			LOR 103	
						SNW-22 x 3 13/16			LOR 107	
						SNW-22 x 3 7/8			LOR 108	
1 7/8	**6 3/8**	**1 61/64**	**4**	**3/4**	**22222K**	**SNW-22 x 3 15/16**	**SAF522**	**SR-22-19**	**LOR 109**	**81**
						SNW-22 x 4			LOR 110	
						SNW-24 x 4 1/16			LOR 111	
						SNW-24 x 4 1/8			LOR 112	
1 15/16	**7 3/8**	**2 3/32**	**4**	**3/4**	**22224K**	**SNW-24 x 4 3/16**	**SAF524**	**SR-24-20**	**LOR 113**	**94**
						SNW-24 x 4 1/4			LOR 114	
						SNW-26 x 4 5/16			LOR 115	
						SNW-26 x 4 3/8			LOR 116	
2 7/16	**8**	**2 17/64**	**4**	**7/8**	**22226K**	**SNW-26 x 4 7/16**	**SAF526**	**SR-26-0**	**LOR 117**	**137**
						SNW-26 x 4 1/2			LOR 118	
						SNW-28 x 4 13/16			LOR 120	
						SNW-28 x 4 7/8			LOR 121	
2 1/8	**7 3/4**	**2 13/32**	**4**	**1**	**22228K**	**SNW-28 x 4 15/16**	**SAF528**	**SR-28-0**	**LOR 122**	**159**
						SNW-28 x 5			LOR 123	
						SNW-30 x 5 1/8			LOR 124	
2 3/16	**8 3/8**	**2 37/64**	**4**	**1**	**22230K**	**SNW-30 x 5 3/16**	**SAF530**	**SR-30-0**	**LOR 125**	**189**
						SNW-30 x 5 1/4			LOR 126	

[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies specify the shaft size.

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[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.

[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.

[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only, specify the shaft size.

[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.

NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.

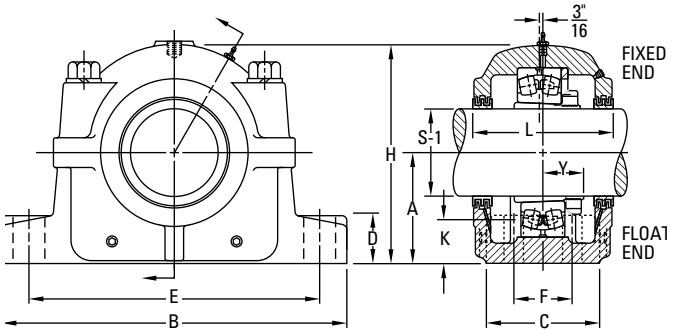
INCH TAPERED BORE MOUNTING SAF225 AND SAF226 SERIES – continued

- The basic number for ordering complete pillow block assemblies is listed in the table below.
- Each assembly includes the housing cap and base, cap bolts, bearing, bearing adapter, locknut and lockwasher, stabilizing ring and triple-ring seals.
- If only the pillow block housing is desired, use the numbers listed in column headed Housing Only. These units include cap, base, cap bolts, triple-ring seals and stabilizing ring.
- Assemblies and pillow blocks described on this page constitute a fixed unit. To order float units, specify the part number plus the suffix float or FL.
- Assemblies shown are furnished in cast iron. If cast steel is desired, add the letter S to the alpha prefix (e.g., SAFS 22515).
- Four-bolt bases are standard on all assemblies unless as noted.
- If one end closed assembly is required, specify CL in assembly number when ordering.

Continued from previous page.

Pillow Block Assembly[1]	Shaft Dia. S-1[2]	A	B	C	D	E		F	H
						Max.	Min.		
	in.	in.	in.	in.	in.	in.	in.	in.	in.
SAF22532	5 3/8 **5 7/16** 5 1/2	**6 11/16**	**22**	**6 1/4**	**2 5/8**	**19 1/4**	**17 3/8**	**3 3/4**	**13 5/16**
SAF22534	5 13/16 5 7/8 **5 15/16** 6	**7 1/16**	**24 3/4**	**6 3/4**	**2 3/4**	**21 5/8**	**19 3/8**	**4 1/4**	**14 9/16**
SAF22536	6 5/16 6 3/8 **6 7/16** 6 1/2	**7 1/2**	**26 3/4**	**7 1/8**	**3**	**23 5/8**	**20 7/8**	**4 5/8**	**15 1/2**
SAF22538	6 13/16 6 7/8 **6 15/16** 7	**7 7/8**	**28**	**7 1/2**	**3 1/8**	**24 3/8**	**21 5/8**	**4 1/2**	**15 11/16**
SAF22540	7 1/8 **7 3/16** 7 1/4	**8 1/4**	**29 1/2**	**8**	**3 3/8**	**25**	**22 1/2**	**5**	**17 3/16**
SAF22544	7 13/16 7 7/8 **7 15/16** 8	**9 1/2**	**32 3/4**	**8 3/4**	**3 3/4**	**27 7/8**	**24 3/4**	**5 1/4**	**19 5/8**
SERIES SAF226									
SAF22615	2 3/8 **2 7/16** 2 1/2	**4**	**13 3/4**	**3 7/8**	**1 5/8**	**11 5/8**	**10 3/8**	**2 1/8**	**7 9/16**
SAF22616	2 5/8 **2 11/16**	**4 1/4**	**14 1/4**	**3 7/8**	**1 3/4**	**12 5/8**	**10 5/8**	**2 1/8**	**8 1/4**

[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies specify the shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only, specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.



K Oil Level	L	Y	Base Bolts Required No.	 Size	Bearing No.	Adapter Assembly No.[3]	Housing Only[4]	Stabilizing Ring 1 Req'd[5]	Triple Seal 2 Req'd	Assembly Wt.
in.	in.	in.		in.						lbs.
2 3/16	**8 3/4**	**2 49/64**	**4**	**1**	**22232K**	SNW-32 x 5 3/8 **SNW-32 x 5 7/16** SNW-32 x 5 1/2	**SAF532**	**SR-32-0**	LOR 129 **LOR 130** LOR 131	**225**
2 5/16	**9 3/8**	**2 59/64**	**4**	**1**	**22234K**	SNW-34 x 5 13/16 SNW-34 x 5 7/8 **SNW-34 x 5 15/16** SNW-34 x 6	**SAF534**	**SR-34-0**	LOR 138 LOR 139 **LOR 140** LOR 141	**300**
2 9/16	**9 11/16**	**2 61/64**	**4**	**1**	**22236K**	SNW-36 x 6 5/16 SNW-36 x 6 3/8 **SNW-36 x 6 7/16** SNW-36 x 6 1/2	**SAF536**	**SR-36-30**	LOR 146 LOR 147 **LOR 148** LOR 149	**330**
2 5/8	**10 3/4**	**3 7/64**	**4**	**1 1/4**	**22238K**	SNW-38 x 6 13/16 SNW-38 x 6 7/8 **SNW-38 x 6 15/16** SNW-38 x 7	**SAF538**	**SR-38-32**	LOR 153 LOR 154 **LOR 155** LOR 156	**375**
2 11/16	**10 13/16**	**3 9/32**	**4**	**1 1/4**	**22240K**	SNW-40 x 7 1/8 **SNW-40 x 7 3/16** SNW-40 x 7 1/4	**SAF540**	**SR-40-34**	LOR 158 **LOR 159** LOR 160	**445**
3 3/8	**11 1/2**	**3 17/32**	**4**	**1 1/2**	**22244K**	SNW-44 x 7 13/16 SNW-44 x 7 7/8 **SNW-44 x 7 15/16** SNW-44 x 8	**SAF544**	**SR-44-38**	LOR 165 LOR 166 **LOR 167** LOR 168	**615**
1 19/32	**5 7/8**	**1 7/8**	**2, 4**	**3/4, 5/8**	**22315K**	SNW-115 x 2 3/8 **SNW-115 x 2 7/16** SNW-115 x 2 1/2	**SAF 615**	**SR-18-15**	LOR 36 **LOR 37** LOR 38	**52**
1 11/16	**6 1/2**	**1 15/16**	**2, 4**	**3/4, 5/8**	**22316K**	SNW-116 x 2 5/8 **SNW-116 x 2 11/16**	**SAF 616**	**SR-19-16**	LOR 43 **LOR 44**	**71**

[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies specify the shaft size.

Continued on next page.

[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.

[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.

[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only, specify the shaft size.

[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.

NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.

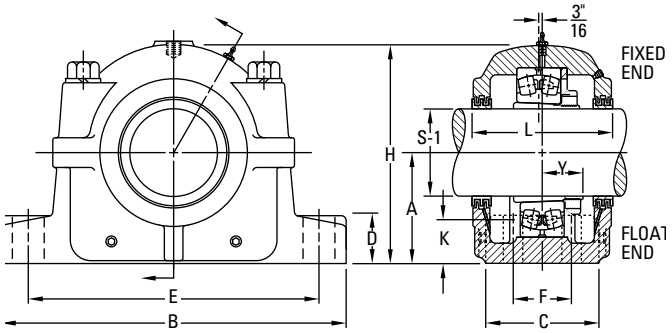
INCH TAPERED BORE MOUNTING SAF225 AND SAF226 SERIES – *continued*

- The basic number for ordering complete pillow block assemblies is listed in the table below.
- Each assembly includes the housing cap and base, cap bolts, bearing, bearing adapter, locknut and lockwasher, stabilizing ring and triple-ring seals.
- If only the pillow block housing is desired, use the numbers listed in column headed Housing Only. These units include cap, base, cap bolts, triple-ring seals and stabilizing ring.
- Assemblies and pillow blocks described on this page constitute a fixed unit. To order float units, specify the part number plus the suffix float or FL.
- Assemblies shown are furnished in cast iron. If cast steel is desired, add the letter S to the alpha prefix (e.g., SAFS 22515).
- Four-bolt bases are standard on all assemblies unless as noted.
- If one end closed assembly is required, specify CL in assembly number when ordering.

Continued from previous page.

Pillow Block Assembly[1]	Shaft Dia. S-1[2]	A	B	C	D	E		F	H
						Max.	Min.		
	in.	in.	in.	in.	in.	in.	in.	in.	in.
	2 3/4								
	2 13/16								
	2 7/8								
SAF22617	**2 15/16**	**4 1/2**	**15 1/4**	**4 3/8**	**1 3/4**	**13 1/8**	**11 5/8**	–	**8 11/16**
	3								
	2 13/16								
	2 7/8								
FSAF22617	**2 15/16**	**4 1/2**	**15 1/4**	**4 3/8**	**1 3/4**	**13 1/8**	**11 5/8**	**2 3/8**	**8 11/16**
	3								
	3 1/16								
	3 1/8								
SAF22618	**3 3/16**	**4 3/4**	**15 1/2**	**4 3/8**	**2**	**13 1/2**	**12**	**2 1/4**	**9 3/16**
	3 1/4								
	3 5/16								
	3 3/8								
SAF22620	**3 7/16**	**5 1/4**	**16 1/2**	**4 3/4**	**2 1/8**	**14 1/2**	**13 1/4**	**2 3/4**	**10 1/4**
	3 1/2								
	3 13/16								
	3 7/8								
SAF22622	**3 15/16**	**6**	**18 3/8**	**5 1/8**	**2 3/8**	**16**	**14 5/8**	**3 1/4**	**11 9/16**
	4								
	4 1/16								
	4 1/8								
SAF22624	**4 3/16**	**6 5/16**	**21 1/4**	**6 1/4**	**2 1/2**	**18 1/4**	**17**	**3 3/4**	**12 1/2**
	4 1/4								
	4 5/16								
	4 3/8								
SAF22626	**4 7/16**	**6 11/16**	**22**	**6 1/4**	**2 5/8**	**19 1/4**	**17 3/8**	**3 3/4**	**13 5/16**
	4 1/2								
	4 13/16								
	4 7/8								
SAF22628	**4 15/16**	**7 1/16**	**24 3/4**	**6 3/4**	**2 3/4**	**21 5/8**	**19 3/8**	**4 1/4**	**14 9/16**

[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies specify the shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only, specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.



K Oil Level	L	Y	Base Bolts Required No.	 Size	Bearing No.	Adapter Assembly No.[3]	Housing Only[4]	Stabilizing Ring 1 Req'd[5]	Triple Seal 2 Req'd	Assembly Wt.
in.	in.	in.		in.						lbs.
						SNW-116 x 2 3/4			LOR 45	
						SNW-117 x 2 13/16			LOR 182	
						SNW-117 x 2 7/8			LOR 183	
1 13/16	**6 5/8**	**1 57/64**	**2**	**7/8**	**22317K**	**SNW-117 x 2 15/16**	**SAF617**	**SR-20-17**	**LOR 184**	**81**
						SNW-117 x 3			LOR 185	
						SNW-117 x 2 13/16			LOR 182	
						SNW-117 x 2 7/8			LOR 183	
1 13/16	**6 5/8**	**1 57/64**	**4**	**3/4**	**22317K**	**SNW-117 x 2 15/16**	**FSAF617**	**SR-20-17**	**LOR 184**	**81**
						SNW-117 x 3			LOR 185	
						SNW-118 x 3 1/16			LOR 186	
						SNW-118 x 3 1/8			LOR 187	
2	**7**	**2 3/64**	**4**	**3/4**	**22318K**	**SNW-118 x 3 3/16**	**SAF618**	**SR-21-18**	**LOR 188**	**90**
						SNW-118 x 3 1/4			LOR 189	
						SNW-120 x 3 5/16			LOR 100	
						SNW-120 x 3 3/8			LOR 101	
2 1/8	**7 3/8**	**2 19/64**	**4**	**3/4**	**22320K**	**SNW-120 x 3 7/16**	**SAF620**	**SR-24-20**	**LOR 102**	**113**
						SNW-120 x 3 1/2			LOR 103	
						SNW-122 x 3 13/16			LOR 107	
						SNW-122 x 3 7/8			LOR 108	
2 1/2	**8**	**2 31/64**	**4**	**7/8**	**22322K**	**SNW-122 x 3 15/16**	**SAF622**	**SR-0-22**	**LOR 109**	**151**
						SNW-122 x 4			LOR 110	
						SNW-124 x 4 1/16			LOR 111	
						SNW-124 x 4 1/8			LOR 112	
2 9/16	**8 3/8**	**2 41/64**	**4**	**1**	**22324K**	**SNW-124 x 4 3/16**	**SAF624**	**SR-0-24**	**LOR 113**	**201**
						SNW-124 x 4 1/4			LOR 114	
						SNW-126 x 4 5/16			LOR 115	
						SNW-126 x 4 3/8			LOR 116	
2 5/8	**8 3/4**	**2 27/32**	**4**	**1**	**22326K**	**SNW-126 x 4 7/16**	**SAF626**	**SR-0-26**	**LOR 117**	**245**
						SNW-126 x 4 1/2			LOR 118	
						SNW-126 x 4 9/16			LOR 120	
						SNW-128 x 4 13/16			LOR 121	
2 11/16	**9 3/8**	**3 5/64**	**4**	**1**	**22328K**	**SNW-128 x 4 7/8**	**SAF628**	**SR-0-28**	**LOR 122**	**310**

[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies specify the shaft size.

Continued on next page.

[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.

[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.

[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only, specify the shaft size.

[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.

NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.

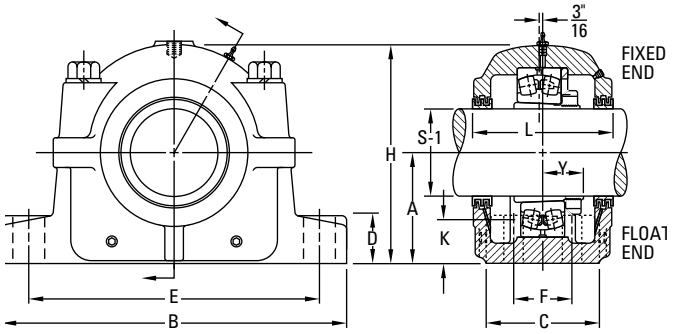
INCH TAPERED BORE MOUNTING SAF225 AND SAF226 SERIES – continued

- The basic number for ordering complete pillow block assemblies is listed in the table below.
- Each assembly includes the housing cap and base, cap bolts, bearing, bearing adapter, locknut and lockwasher, stabilizing ring and triple-ring seals.
- If only the pillow block housing is desired, use the numbers listed in column headed Housing Only. These units include cap, base, cap bolts, triple-ring seals and stabilizing ring.
- Assemblies and pillow blocks described on this page constitute a fixed unit. To order float units, specify the part number plus the suffix float or FL.
- Assemblies shown are furnished in cast iron. If cast steel is desired, add the letter S to the alpha prefix (e.g., SAFS 22515).
- Four-bolt bases are standard on all assemblies unless as noted.
- If one end closed assembly is required, specify CL in assembly number when ordering.

Continued from previous page.

Pillow Block Assembly[1]	Shaft Dia. S-1[2]	A	B	C	D	E		F	H
						Max.	Min.		
	in.	in.	in.	in.	in.	in.	in.	in.	in.
	5								
	5 1/8								
SAF22630	**5 3/16**	**7 1/2**	**26 3/4**	**7 1/8**	**3**	**23 5/8**	**20 7/8**	**4 5/8**	**15 1/2**
	5 1/4								
	5 3/8								
SAF22632	**5 7/16**	**7 7/8**	**28**	**7 1/2**	**3 1/8**	**24 3/8**	**21 5/8**	**4 1/2**	**15 11/16**
	5 1/2								
	5 13/16								
	5 7/8								
SAF22634	**5 15/16**	**8 1/4**	**29 1/2**	**8**	**3 3/8**	**25**	**22 1/2**	**5**	**17 3/16**
	6								
SAF22636	**6 7/16**	**8 7/8**	**31 1/4**	**8 1/4**	**3 1/2**	**26 5/8**	**24**	**5 1/4**	**18 1/2**
	6 13/16								
	6 7/8								
SAF22638	**6 15/16**	**9 1/2**	**32 3/4**	**8 3/4**	**3 3/4**	**27 7/8**	**24 3/4**	**5 1/4**	**19 5/8**
	7								
	7 1/8								
SAF22640	**7 3/16**	**9 7/8**	**34 1/4**	**9**	**4**	**29 1/2**	**26 1/4**	**5 1/2**	**20 3/16**
	7 1/4								

[1]Bold shaft sizes are standard. When ordering non standard pillow block assemblies specify the shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only, specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.



K Oil Level	L	Y	Base Bolts Required No.	 Size	Bearing No.	Adapter Assembly No.[3]	Housing Only[4]	Stabilizing Ring 1 Req'd[5]	Triple Seal 2 Req'd	Assembly Wt.
in.	in.	in.		in.						lbs.
						SNW-128 x 4 15/16			LOR 123	
						SNW-130 x 5 1/8			LOR 124	
2 7/8	**9 11/16**	**3 17/64**	**4**	**1**	**22330K**	**SNW-130 x 5 3/16**	**SAF630**	**SR-36-30**	**LOR 125**	**350**
						SNW-130 x 5 1/4			LOR 126	
						SNW-132 x 5 3/8			LOR 129	
2 15/16	**10 3/4**	**3 7/16**	**4**	**1 1/4**	**22332K**	**SNW-132 x 5 7/16**	**SAF632**	**SR-38-32**	**LOR 130**	**420**
						SNW-132 x 5 1/2			LOR 131	
						SNW-134 x 5 13/16			LOR 138	
						SNW-134 x 5 7/8			LOR 139	
3 1/16	**10 13/16**	**3 19/32**	**4**	**1 1/4**	**22334K**	**SNW-134 x 5 15/16**	**SAF634**	**SR-40-34**	**LOR 140**	**485**
						SNW-134 x 6			LOR 141	
3 3/8	**11 1/4**	**3 47/64**	**4**	**1 1/4**	**22336K**	**SNW-136 x 6 7/16**	**SAF636**	**SR-0-36**	**LOR 148**	**545**
						SNW-138 x 6 13/16			LOR 153	
						SNW-138 x 6 7/8			LOR 154	
3 11/16	**11 1/2**	**3 57/64**	**4**	**1 1/2**	**22338K**	**SNW-138 x 6 15/16**	**SAF638**	**SR-44-38**	**LOR 155**	**655**
						SNW-138 x 7			LOR 156	
						SNW-140 x 7 1/8			LOR 158	
3 3/4	**12 1/4**	**4 5/64**	**4**	**1 1/2**	**22340K**	**SNW-140 x 7 3/16**	**SAF640**	**SR-0-40**	**LOR 159**	**725**
						SNW-140 x 7 1/4			LOR 160	

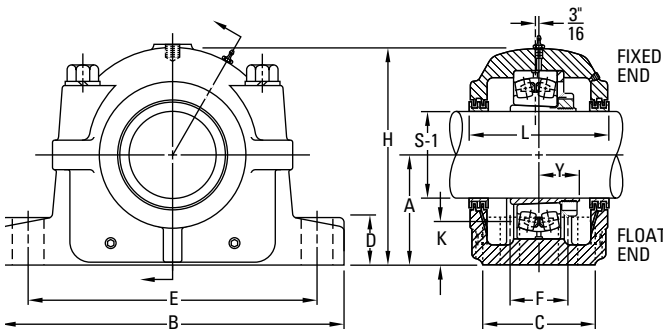
[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies specify the shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only, specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.

INCH TAPERED BORE MOUNTING SDAF225 AND SDAF226 SERIES

- Each assembly includes the housing cap and base, cap bolts, bearing, bearing adapter, locknut and lockwasher, stabilizing ring and triple-ring seals.
- To order pillow block housing only, use the number listed in the Housing Only column. These units include cap, base, cap bolts, triple-ring seals and stabilizing ring.
- Assemblies and pillow blocks described on this page constitute fixed units.
- To order float units, specify the part number plus the suffix float or FL.
- Assemblies shown are furnished in cast iron. If cast steel is desired, add the letter S to the alpha prefix (e.g., SDAFS 22515).

Pillow Block Assembly[1]	Shaft Dia. S-1[2]	A	B	C	D	E		F	H
						Max.	Min.		
	in.	in.	in.	in.	in.	in.	in.	in.	in.
SERIES SDAF225									
	3 3/8								
SDAF22520	**3 7/16**	**4 1/2**	**15 1/4**	**6**	**1 7/8**	**13 1/8**	**11 5/8**	**3 3/8**	**8 15/16**
	3 1/2								
	3 13/16								
	3 7/8								
SDAF22522	**3 15/16**	**4 15/16**	**16 1/2**	**6 3/4**	**2 1/8**	**14 1/2**	**12 5/8**	**4**	**9 7/8**
	4								
	4 1/16								
	4 1/8								
SDAF22524	**4 3/16**	**5 1/4**	**16 1/2**	**6 7/8**	**2 1/4**	**14 1/2**	**13 1/4**	**4 1/8**	**10 1/2**
	4 1/4								
	4 5/16								
	4 3/8								
SDAF22526	**4 7/16**	**6**	**18 3/8**	**7 1/2**	**2 3/8**	**16**	**14 5/8**	**4 1/2**	**11 7/8**
	4 1/2								
	4 13/16								
	4 7/8								
SDAF22528	**4 15/16**	**6**	**20 1/8**	**7 1/2**	**2 3/8**	**17 1/8**	**16**	**4 1/2**	**12 1/16**
	5								
	5 1/8								
SDAF22530	**5 3/16**	**6 5/16**	**21 1/4**	**7 7/8**	**2 1/2**	**18 1/4**	**17**	**4 3/4**	**12 13/16**
	5 1/4								
	5 3/8								
SDAF22532	**5 7/16**	**6 11/16**	**22**	**8 1/4**	**2 1/2**	**19 1/4**	**17 3/8**	**5**	**13 11/16**
	5 1/2								
SDAF22534	**5 15/16**	**7 1/16**	**24 3/4**	**9**	**2 1/2**	**21 5/8**	**19 3/8**	**5 1/2**	**14 1/4**
	6 5/16								
	6 3/8								
SDAF22536	**6 7/16**	**7 1/2**	**26 3/4**	**9 3/8**	**2 3/4**	**23 5/8**	**20 7/8**	**5 7/8**	**15 3/16**
	6 1/2								
SDAF22538	**6 15/16**	**7 7/8**	**27 5/8**	**10**	**3**	**23 1/2**	**21 1/2**	**6 1/4**	**16 1/4**
SDAF22540	**7 3/16**	**8 1/4**	**28 3/4**	**10 1/2**	**3 1/4**	**25**	**23**	**6 3/4**	**17 1/8**
SDAF22544	**7 15/16**	**9 1/2**	**32**	**11 1/4**	**3 1/2**	**27 7/8**	**25 5/8**	**7 1/4**	**19 1/4**

[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies, specify the shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.



K Oil Level	L	Y	Base Bolts Required No.	Base Bolts Required Size	Bearing No.	Adapter Assembly No.[3]	Housing Only[4]	Stabilizing Ring 1 Req'd[5]	Triple Seal 2 Req'd	Assembly Wt.
in.	in.	in.		in.						lbs.
1 3/4	6 3/4	1 49/64	4	3/4	22220K	SNW-20 x 3 3/8 **SNW-20 x 3 7/16** SNW-20 x 3 1/2	SDAF520	SR-20-17	LOR 74 **LOR 75** LOR 76	81
1 7/8	7 1/4	1 61/64	4	7/8	22222K	SNW-22 x 3 13/16 SNW-22 x 3 7/8 **SNW-22 x 3 15/16** SNW-22 x 4	SDAF522	SR-22-19	LOR 91 LOR 92 **LOR 93** LOR 94	94
1 15/16	7 3/8	2 3/32	4	7/8	22224K	SNW-24 x 4 1/16 SNW-24 x 4 1/8 **SNW-24 x 4 3/16** SNW-24 x 4 1/4	SDAF524	SR-24-20	LOR 111 LOR 112 **LOR 113** LOR 114	137
2 7/16	8	2 17/64	4	1	22226K	SNW-26 x 4 5/16 SNW-26 x 4 3/8 **SNW-26 x 4 7/16** SNW-26 x 4 1/2	SDAF526	SR-26-0	LOR 115 LOR 116 **LOR 117** LOR 118	159
2 1/8	7 13/16	2 13/32	4	1 1/8	22228K	SNW-28 x 4 13/16 SNW-28 x 4 7/8 **SNW-28 x 4 15/16** SNW-28 x 5	SDAF528	SR-28-0	LOR 120 LOR 121 **LOR 122** LOR 123	189
2 3/16	8 3/8	2 37/64	4	1 1/8	22230K	SNW-30 x 5 1/8 **SNW-30 x 5 3/16** SNW-30 x 5 1/4	SDAF530	SR-30-0	LOR 124 **LOR 125** LOR 126	225
2 3/16	8 3/4	2 49/64	4	1 1/8	22232K	SNW-32 x 5 3/8 **SNW-32 x 5 7/16** SNW-32 x 5 1/2	SDAF532	SR-32-0	LOR 129 **LOR 130** LOR 131	300
2 5/16	9 5/8	2 59/64	4	1 1/4	22234K	**SNW-34 x 5 15/16**	SDAF534	SR-34-0	**LOR 140**	310
2 9/16	10	2 61/64	4	1 1/4	22236K	SNW-36 x 6 5/16 SNW-36 x 6 3/8 **SNW-36 x 6 7/16** SNW-36 x 6 1/2	SDAF536	SR-36-30	LOR 146 LOR 147 **LOR 148** LOR 149	350
2 5/8	10 5/8	3 7/64	4	1 3/8	22238K	**SNW-38 x 6 15/16**	SDAF538	SR-38-32	**LOR 224**	420
2 11/16	11 1/8	3 9/32	4	1 3/8	22240K	**SNW-40 x 7 3/16**	SDAF540	SR-40-34	**LOR 228**	545
3 3/8	11 7/8	3 17/32	4	1 1/2	22244K	**SNW-44 x 7 15/16**	SDAF544	SR-44-38	**LOR 236**	665

[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies, specify the shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.

Continued on next page.

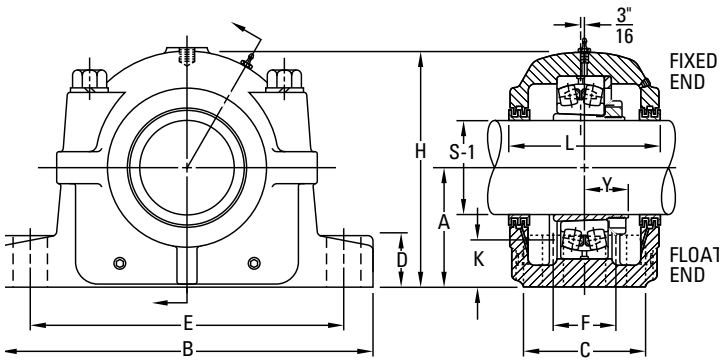
INCH TAPERED BORE MOUNTING SDAF225 AND SDAF226 SERIES – *continued*

- Each assembly includes the housing cap and base, cap bolts, bearing, bearing adapter, locknut and lockwasher, stabilizing ring and triple-ring seals.
- To order pillow block housing only, use the number listed in the Housing Only column. These units include cap, base, cap bolts, triple-ring seals and stabilizing ring.
- Assemblies and pillow blocks described on this page constitute fixed units.
- To order float units, specify the part number plus the suffix float or FL.
- Assemblies shown are furnished in cast iron. If cast steel is desired, add the letter S to the alpha prefix (e.g., SAFS 22515).

Continued from previous page.

Pillow Block Assembly[1]	Shaft Dia. S-1[2]	A	B	C	D	E		F	H
						Max.	Min.		
	in.	in.	in.	in.	in.	in.	in.	in.	in.
SERIES SDAF226									
	2 7/8								
SDAF22617	**2 15/16**	**4 1/2**	**15 1/4**	**6**	**1 7/8**	**13 1/8**	**11 5/8**	**3 3/8**	**8 15/16**
	3								
	3 1/16								
	3 1/8								
SDAF22618	**3 3/16**	**4 3/4**	**15 1/2**	**6 1/8**	**2**	**13 1/2**	**12**	**3 5/8**	**9 7/16**
	3 1/4								
	3 5/16								
	3 3/8								
SDAF22620	**3 7/16**	**5 1/4**	**16 1/2**	**6 7/8**	**2 1/4**	**14 1/2**	**13 1/4**	**4 1/8**	**10 1/2**
	3 1/2								
	3 13/16								
	3 7/8								
SDAF22622	**3 15/16**	**6**	**18 3/8**	**7 1/2**	**2 3/8**	**16**	**14 5/8**	**4 1/2**	**11 7/8**
	4								
	4 1/16								
	4 1/8								
SDAF22624	**4 3/16**	**6 5/16**	**21 1/4**	**7 7/8**	**2 1/2**	**18 1/4**	**17**	**4 3/4**	**12 13/16**
	4 1/4								
	4 5/16								
	4 3/8								
SDAF22626	**4 7/16**	**6 11/16**	**22**	**8 1/4**	**2 1/2**	**19 1/4**	**17 3/8**	**5**	**13 11/16**
	4 1/2								
	4 9/16								
SDAF22628	**4 15/16**	**7 1/16**	**24 3/4**	**9**	**2 1/2**	**21 5/8**	**19 3/8**	**5 1/2**	**14 1/4**
	5 1/8								
SDAF22630	**5 3/16**	**7 1/2**	**26 3/4**	**9 3/8**	**2 3/4**	**23 5/8**	**20 7/8**	**5 7/8**	**15 3/16**
	5 1/4								
	5 5/16								
	5 3/8								
SDAF22632	**5 7/16**	**7 7/8**	**27 5/8**	**10**	**3**	**23 1/2**	**21 1/2**	**6 1/4**	**16 1/4**
SDAF22634	**5 15/16**	**8 1/4**	**28 3/4**	**10 1/2**	**3 1/4**	**25**	**23**	**6 3/4**	**17 1/8**
SDAF22636	**6 7/16**	**8 7/8**	**30 1/2**	**10 3/4**	**3 1/4**	**26 3/8**	**24 1/8**	**6 7/8**	**17 15/16**
SDAF22638	**6 15/16**	**9 1/2**	**32**	**11 1/4**	**3 1/2**	**27 7/8**	**25 5/8**	**7 1/4**	**19 1/4**
SDAF22640	**7 3/16**	**9 7/8**	**33 1/2**	**11 3/4**	**3 1/2**	**29 1/4**	**26 5/8**	**7 5/8**	**19 15/16**

[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies, specify the shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.



K Oil Level	L	Y	Base Bolts Required No.	Base Bolts Required Size	Bearing No.	Adapter Assembly No.[3]	Housing Only[4]	Stabilizing Ring 1 Req'd[5]	Triple Seal 2 Req'd	Assembly Wt.
in.	in.	in.		in.						lbs.
1 13/16	6 3/4	1 57/64	4	3/4	22317K	SNW-117 x 2 7/8 **SNW-117 x 2 15/16** SNW-117 x 3	SDAF617	SR-20-17	LOR 58 **LOR 59** LOR 60	94
2	6 7/8	2 3/64	4	3/4	22318K	SNW-118 x 3 1/16 SNW-118 x 3 1/8 **SNW-118 x 3 3/16** SNW-118 x 3 1/4	SDAF618	SR-21-18	LOR 67 LOR 68 **LOR 69** LOR 70	137
2 1/8	7 3/8	2 19/64	4	7/8	22320K	SNW-120 x 3 5/16 SNW-120 x 3 3/8 **SNW-120 x 3 7/16** SNW-120 x 3 1/2	SDAF620	SR-24-20	LOR 73 LOR 74 **LOR 75** LOR 76	159
2 1/2	8	2 31/64	4	1	22322K	SNW-122 x 3 13/16 SNW-122 x 3 7/8 **SNW-122 x 3 15/16** SNW-122 x 4	SDAF622	SR-0-22	LOR 91 LOR 92 **LOR 93** LOR 94	189
2 9/16	8 3/8	2 41/64	4	1 1/8	22324K	SNW-124 x 4 1/16 SNW-124 x 4 1/8 **SNW-124 x 4 3/16** SNW-124 x 4 1/4	SDAF624	SR-0-24	LOR 111 LOR 112 **LOR 113** LOR 114	225
2 5/8	8 3/4	2 27/64	4	1 1/8	22326K	SNW-126 x 4 5/16 SNW-126 x 4 3/8 **SNW-126 x 4 7/16** SNW-126 x 4 1/2 SNW-126 x 4 9/16	SDAF626	SR-0-26	LOR 115 LOR 116 **LOR 117** LOR 118 LOR 119	300
2 11/16	9 5/8	3 5/64	4	1 1/8	22328K	**SNW-128 x 4 15/16**	SDAF628	SR-0-28	**LOR 122**	310
2 7/8	9 3/4	3 17/64	4	1 1/4	22330K	SNW-130 x 5 1/8 **SNW-130 x 5 3/16** SNW-130 x 5 1/4 SNW-130 x 5 5/16 SNW-130 x 5 3/8	SDAF630	SR-36-30	LOR 124 **LOR 125** LOR 126 LOR 127 LOR 128	395
2 15/16	10 5/8	3 7/16	4	1 3/8	22332K	**SNW-132 x 5 7/16**	SDAF632	SR-38-32	**LOR 211**	420
3 1/16	11 1/8	3 19/32	4	1 3/8	22334K	**SNW-134 x 5 15/16**	SDAF634	SR-40-34	**LOR 215**	525
3 7/8	11 3/8	3 47/64	4	1 1/2	22336K	**SNW-136 x 6 7/16**	SDAF636	SR-0-36	**LOR 220**	645
3 11/16	11 13/16	4 57/64	4	1 1/2	22338K	**SNW-138 x 6 15/16**	SDAF638	SR-44-38	**LOR 224**	705
3 3/4	12 1/4	4 5/64	4	1 5/8	22340K	**SNW-140 x 7 3/16**	SDAF640	SR-0-40	**LOR 228**	825

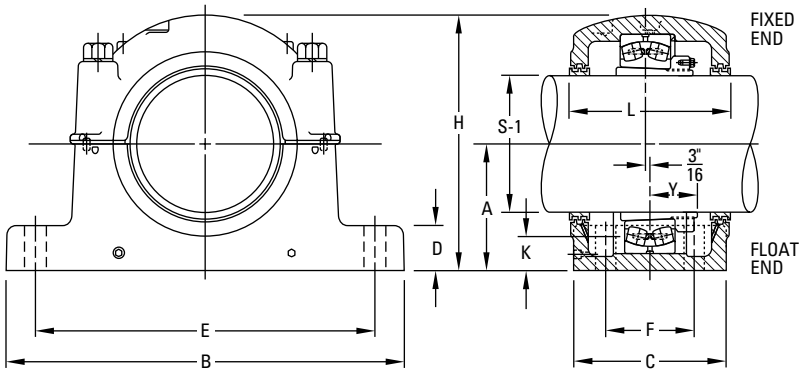
[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies, specify the shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.

INCH TAPERED BORE MOUNTING SAF230K, SDAF230K SERIES

- Each assembly includes the housing cap and base, cap bolts, bearing, bearing adapter, locknut and lockwasher, stabilizing ring and triple-ring seals.
- If only the pillow block is desired, use the numbers listed in the Housing Only column. These units include cap and base, cap bolts, triple-ring seals and stabilizing ring.
- Assembly and pillow blocks described on this page constitute fixed units.
- To order float units, specify the part number plus the suffix float or FL.
- All assemblies shown are furnished in cast iron. If cast steel is desired, add the letter S to the alpha prefix (e.g., SAFS 23024).
- Please note that for applications SAF23048 and larger, the shaft size must be included in the part description when ordering (e.g., SAF23048-8 15/16).
- Two stabilizing rings are supplied with housings SAF048 through SAF056 and SDAF060K through SDAF076K. For fixed applications both rings must be used. Do not use stabilizing rings for float mounting.

Pillow Block Assembly[1]	Shaft Dia. S-1[2]	A	B	C	D	E		F	H	K
						Max.	Min.			Oil Level
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
SERIES SAF230K										
SAF23024K	4 1/16 4 1/8 **4 3/16** 4 1/4	**4 1/2**	**15 1/4**	**4 3/8**	**1 3/4**	**13 1/8**	**11 5/8**	**2 3/8**	**8 11/16**	**1 9/16**
SAF23026K	4 5/16 4 3/8 **4 7/16** 4 1/2	**4 15/16**	**16 1/2**	**4 3/4**	**2**	**14 1/2**	**12 5/8**	**2 3/4**	**9 9/16**	**1 11/16**
SAF23028K	4 13/16 4 7/8 **4 15/16** 5	**5 1/4**	**16 1/2**	**4 3/4**	**2 1/8**	**14 1/2**	**13 1/4**	**2 3/4**	**10 1/4**	**1 13/16**
SAF23030K	5 1/8 **5 3/16** 5 1/4	**6**	**18 3/8**	**5 1/8**	**2 3/8**	**16**	**14 5/8**	**3 1/4**	**11 9/16**	**2 5/16**
SAF23032K	5 3/8 **5 7/16** 5 1/2	**6**	**18 3/8**	**5 1/8**	**2 3/8**	**16**	**14 5/8**	**3 1/4**	**11 9/16**	**2 1/16**
SAF23034K	5 13/16 5 7/8 **5 15/16** 6	**6**	**20 1/8**	**5 7/8**	**2 3/8**	**17 1/8**	**16**	**3 3/8**	**11 3/4**	**1 3/4**
SAF23036K	6 5/16 6 3/8 **6 7/16** 6 1/2	**6 11/16**	**22**	**6 1/4**	**2 5/8**	**19 1/4**	**17 3/8**	**3 3/4**	**13 5/16**	**2 3/16**
SAF23038K	6 13/16 6 7/8 **6 15/16** 7	**6 11/16**	**22**	**6 1/4**	**2 5/8**	**19 1/4**	**17 3/8**	**3 3/4**	**13 5/16**	**1 15/16**
SAF23040K	7 1/8 **7 3/16** 7 1/4	**7 1/16**	**24 3/4**	**6 3/4**	**2 3/4**	**21 5/8**	**19 3/8**	**4 1/4**	**14 9/16**	**2 13/16**
SAF23044K	7 13/16 7 7/8 **7 15/16** 8	**7 7/8**	**28**	**7 1/2**	**3 1/8**	**24 3/8**	**21 5/8**	**4 1/2**	**15 11/16**	**2 3/8**

[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies, specify shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.



L	Y	Base Bolts 4 Req'd	Bearing No.	Adapter Assembly No.[3]	Housing Only[4]	Stabilizing Ring 1 Req'd[5]	Triple Seal 2 Req'd	Assembly Wt.
in.	in.	in.						lbs.
				SNW-3024 x 4 1/16			LOR 111	
				SNW-3024 x 4 1/8			LOR 112	
6	**1 55/64**	**3/4**	**23024K**	**SNW-3024 x 4 3/16**	**SAF024K**	**SR-20-17**	**LOR 113**	**60**
				SNW-3024 x 4 1/4			LOR 114	
				SNW-3026 x 4 5/16			LOR 115	
				SNW-3026 x 4 3/8			LOR 116	
6 3/8	**2 1/32**	**3/4**	**23026K**	**SNW-3026 x 4 7/16**	**SAF026K**	**SR-22-19**	**LOR 117**	**76**
				SNW-3026 x 4 1/2			LOR 118	
				SNW-3028 x 4 13/16			LOR 120	
				SNW-3028 x 4 7/8			LOR 121	
7 3/8	**2 1/8**	**3/4**	**23028K**	**SNW-3028 x 4 15/16**	**SAF028K**	**SR- 0-20**	**LOR 122**	**90**
				SNW-3028 x 5			LOR 123	
				SNW-3030 x 5 1/8			LOR 124	
8	**2 13/64**	**7/8**	**23030K**	**SNW-3030 x 5 3/16**	**SAF030K**	**SR- 0-21**	**LOR 125**	**125**
				SNW-3030 x 5 1/4			LOR 126	
				SNW-3032 x 5 3/8			LOR 129	
8	**2 11/32**	**7/8**	**23032K**	**SNW-3032 x 5 7/16**	**SAF032K**	**SR- 0-22**	**LOR 130**	**132**
				SNW-3032 x 5 1/2			LOR 131	
				SNW-3034 x 5 13/16			LOR 138	
				SNW-3034 x 5 7/8			LOR 139	
7 3/4	**2 33/64**	**1**	**23034K**	**SNW-3034 x 5 15/16**	**SAF034K**	**SR- 0-24**	**LOR 140**	**154**
				SNW-3034 x 6			LOR 141	
				SNW-3036 x 6 5/16			LOR 146	
				SNW-3036 x 6 3/8			LOR 147	
8 3/4	**2 11/16**	**1**	**23036K**	**SNW-3036 x 6 7/16**	**SAF036K**	**SR- 0-26**	**LOR 148**	**212**
				SNW-3036 x 6 1/2			LOR 149	
				SNW-3038 x 6 13/16			LOR 153	
				SNW-3038 x 6 7/8			LOR 154	
8 3/4	**2 47/64**	**1**	**23038K**	**SNW-3038 x 6 15/16**	**SAF038K**	**SR-32- 0**	**LOR 155**	**220**
				SNW-3038 x 7			LOR 156	
				SNW-3040 x 7 1/8			LOR 158	
9 3/8	**2 15/16**	**1**	**23040K**	**SNW-3040 x 7 3/16**	**SAF040K**	**SR-34- 0**	**LOR 159**	**295**
				SNW-3040 x 7 1/4			LOR 160	
				SNW-3044 x 7 13/16			LOR 165	
				SNW-3044 x 7 7/8			LOR 166	
10 3/4	**3 5/32**	**1 1/4**	**23044K**	**SNW-3044 x 7 15/16**	**SAF044K**	**SR-38-32**	**LOR 167**	**370**
				SNW-3044 x 8			LOR 168	

[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies, specify shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.

Continued on next page.

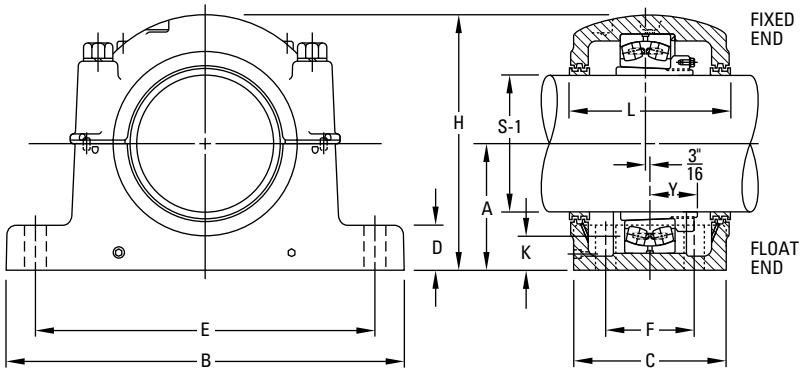
INCH TAPERED BORE MOUNTING SAF230K, SDAF230K SERIES – *continued*

- Each assembly includes the housing cap and base, cap bolts, bearing, bearing adapter, locknut and lockwasher, stabilizing ring and triple-ring seals.
- If only the pillow block is desired, use the numbers listed in the Housing Only column. These units include cap and base, cap bolts, triple-ring seals and stabilizing ring.
- Assembly and pillow blocks described on this page constitute fixed units.
- To order float units, specify the part number plus the suffix float or FL.
- All assemblies shown are furnished in cast iron. If cast steel is desired, add the letter S to the alpha prefix (e.g., SAFS 23024).
- Please note that for applications SAF23048 and larger, the shaft size must be included in the part description when ordering (e.g., SAF23048-8 15/16).
- Two stabilizing rings are supplied with housings SAF048 through SAF056 and SDAF060K through SDAF076K. For fixed applications both rings must be used. Do not use stabilizing rings for float mounting.

Continued from previous page.

Pillow Block Assembly[1]	Shaft Dia. S-1[2]	A	B	C	D	E		F	H	K
						Max.	Min.			Oil Level
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
SAF23048K-8 7/16	8 7/16	8 1/4	29 1/2	8	3 3/8	25	22 1/2	5	17 3/16	2 1/4
SAF23048K-8 1/2	8 1/2	8 1/4	29 1/2	8	3 3/8	25	22 1/2	5	17 3/16	2 1/4
SAF23048K-8 15/16	8 15/16	8 1/4	29 1/2	8	3 3/8	25	22 1/2	5	17 3/16	2 1/4
SAF23048K-9	9	8 1/4	29 1/2	8	3 3/8	25	22 1/2	5	17 3/16	2 1/4
SAF23052K-9 7/16	9 7/16	9 1/2	32 3/4	8 3/4	3 3/4	27 7/8	24 3/4	5 1/4	19 7/16	2 15/16
SAF23052K-9 1/2	9 1/2	9 1/2	32 3/4	8 3/4	3 3/4	27 7/8	24 3/4	5 1/4	19 7/16	2 15/16
SAF23056K-9 15/16	9 15/16	9 7/8	34 1/4	9	4	29 1/2	26 1/4	5 1/2	20 3/16	2 15/16
SAF23056K-10	10	9 7/8	34 1/4	9	4	29 1/2	26 1/4	5 1/2	20 3/16	2 15/16
SAF23056K-10 7/16	10 7/16	9 7/8	34 1/4	9	4	29 1/2	26 1/4	5 1/2	20 3/16	2 15/16
SAF23056K-10 1/2	10 1/2	9 7/8	34 1/4	9	4	29 1/2	26 1/4	5 1/2	20 3/16	2 15/16
SERIES SDAF230K										
SDAF23060K-10 15/16	10 15/16	12	38 1/4	14 3/4	3 1/2	33 1/2	32 3/4	9	23 7/16	4 7/16
SDAF23060K-11	11	12	38 1/4	14 3/4	3 1/2	33 1/2	32 3/4	9	23 7/16	4 7/16
SDAF23064K-11 7/16	11 7/16	12	38 1/4	14 3/4	3 1/2	33 1/2	32 3/4	9	23 7/16	4 1/16
SDAF23064K-11 1/2	11 1/2	12	38 1/4	14 3/4	3 1/2	33 1/2	32 3/4	9	23 7/16	4 1/16
SDAF23064K-11 15/16	11 15/16	12	38 1/4	14 3/4	3 1/2	33 1/2	32 3/4	9	23 7/16	4 1/16
SDAF23064K-12	12	12	38 1/4	14 3/4	3 1/2	33 1/2	32 3/4	9	23 7/16	4 1/16
SDAF23068K-12 7/16	12 7/16	12	39	15 1/4	4 3/16	33 1/2	32	10	24	3 7/16
SDAF23068K-12 1/2	12 1/2	12	39	15 1/4	4 3/16	33 1/2	32	10	24	3 7/16
SDAF23072K-12 15/16	12 15/16	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	26	3 7/8
SDAF23072K-13	13	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	26	3 7/8
SDAF23072K-13 7/16	13 7/16	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	26	3 7/8
SDAF23072K-13 1/2	13 1/2	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	26	3 7/8
SDAF23076K-13 15/16	13 15/16	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	26	3 7/16
SDAF23076K-14	14	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	26	3 7/16
SDAF23080K-15	15	14 1/2	46	17 1/8	5 1/4	40 3/4	39 1/4	11	29	4 7/16
SDAF23084K-15 3/4	15 3/4	14 1/2	46	17 1/8	5 1/4	40 3/4	39 1/4	11	29	4 1/16
SDAF23088K-16 1/2	16 1/2	15 1/2	48 3/4	18 3/4	5 1/2	43 1/2	41 3/4	12 1/4	30 1/2	4 1/2
SDAF23092K-17	17	15 1/2	48 3/4	18 3/4	5 1/2	43 1/2	41 3/4	12 1/4	30 1/2	4
SDAF23096K-18	18	17	53	21	5 1/2	46 1/8	44 3/8	14 1/2	33 3/4	5 1/8
SDAF230/530K-18 1/2	18 1/2	17	53	21	5 1/2	46 1/8	44 3/8	14 1/2	33 3/4	4 3/4
SDAF230/530K-19 1/2	19 1/2	18	54 1/4	21 5/8	5 3/4	48 7/8	47 1/8	15	35 3/4	4 13/16

[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies, specify shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.



L	Y	Base Bolts 4 Req'd	Bearing No.	Adapter Assembly No.[3]	Housing Only[4]	Stabilizing Ring 1 Req'd[5]	Triple Seal 2 Req'd	Assembly Wt.
in.	in.	in.						lbs.
11 1/8	3 17/32	1 1/4	23048K	SNP-3048 x 8 7/16	SAF048K-8 7/16	A8897	LOR 526	430
11 1/8	3 17/32	1 1/4	23048K	SNP-3048 x 8 1/2	SAF048K-8 1/2	A8897	LOR 527	428
11 1/8	3 17/32	1 1/4	23048K	SNP-3048 x 8 15/16	SAF048K-8 15/16	A8897	LOR 529	422
11 1/8	3 17/32	1 1/4	23048K	SNP-3048 x 9	SAF048K-9	A8897	LOR 530	420
11 7/8	3 53/64	1 1/2	23052K	SNP-3052 x 9 7/16	SAF052K-9 7/16	A8898	LOR 178-1	587
11 7/8	3 53/64	1 1/2	23052K	SNP-3052 x 9 1/2	SAF052K-9 1/2	A8898	LOR 178	585
12 1/16	3 61/64	1 1/2	23056K	SNP-3056 x 9 15/16	SAF056K-9 15/16	A8819	ER 751	640
12 1/16	3 61/64	1 1/2	23056K	SNP-3056 x 10	SAF056K-10	A8819	ER705	635
12 1/16	3 61/64	1 1/2	23056K	SNP-3056 x 10 7/16	SAF056K-10 7/16	A8819	ER 745	625
12 1/16	3 61/64	1 1/2	23056K	SNP-3056 x 10 1/2	SAF056K-10 1/2	A8819	ER 710	620
15 1/2	4 9/32	1 5/8	23060K	SNP-3060 x 10 15/16	SDAF060K-10 15/16	A8967	ER 858	1175
15 1/2	4 9/32	1 5/8	23060K	SNP-3060 x 11	SDAF060K-11	A8967	ER 825	1174
15 1/2	4 7/16	1 5/8	23064K	SNP-3064 x 11 7/16	SDAF064K-11 7/16	A8968	ER 861-1	1275
15 1/2	4 7/16	1 5/8	23064K	SNP-3064 x 11 1/2	SDAF064K-11 1/2	A8968	ER 832-1	1274
15 1/2	4 7/16	1 5/8	23064K	SNP-3064 x 11 15/16	SDAF064K-11 15/16	A8968	ER 859	1269
15 1/2	4 7/16	1 5/8	23064K	SNP-3064 x 12	SDAF064K-12	A8968	ER 818	1268
15 3/4	4 13/16	1 7/8	23068K	SNP-3068 x 12 7/16	SDAF068K-12 7/16	A8969	ER 865-1	1553
15 3/4	4 13/16	1 7/8	23068K	SNP-3068 x 12 1/2	SDAF068K-12 1/2	A8969	ER 866-1	1552
16 1/4	4 53/64	1 7/8	23072K	SNP-3072 x 12 15/16	SDAF072K-12 15/16	A8970	ER 869-1	1632
16 1/4	4 53/64	1 7/8	23072K	SNP-3072 x 13	SDAF072K-13	A8970	ER 846-1	1630
16 1/4	4 53/64	1 7/8	23072K	SNP-3072 x 13 7/16	SDAF072K-13 7/16	A8970	ER 872	1614
16 1/4	4 53/64	1 7/8	23072K	SNP-3072 x 13 1/2	SDAF072K-13 1/2	A8970	ER 823	1610
16 1/4	5 1/16	1 7/8	23076K	SNP-3076 x 13 15/16	SDAF076K-13 15/16	A8971	ER 875-1	1687
16 1/4	5 1/16	1 7/8	23076K	SNP-3076 x 14	SDAF076K-14	A8971	ER 876-1	1685
17 5/8	5 17/32	4, 2	23080K	SNP-3080 x 15	SDAF080K-15	A8974	ER 847-1	2300
17 5/8	5 9/16	4, 2	23084K	SNP-3084 x 15 3/4	SDAF084K-15 3/4	A8978	ER 969-1	2300
19 1/4	5 3/4	4, 2 1/4	23088K	SNP-3088 x 16 1/2	SDAF3088K-16 1/2	A8979	ER 958	2550
19 1/4	5 7/8	4, 2 1/4	23092K	SNP-3092 x 17	SDAF3092K-17	A8980	ER 838	2850
21 3/4	5 29/32	4, 2 1/4	23096K	SNP-3096 x 18	SDAF3096K-18	A8984	ER 888	4250
21 3/4	6 1/2	4, 2 1/4	230/500K	SNP-30-500 x 18 1/2	SDAF30-500K-18 1/2	A8976	ER 978	4350
22 1/4	6 27/32	4, 2 1/2	230/530/K	SNP-30-530 x 19 1/2	SDAF 30-530K-19 1/2		ER 926	5200

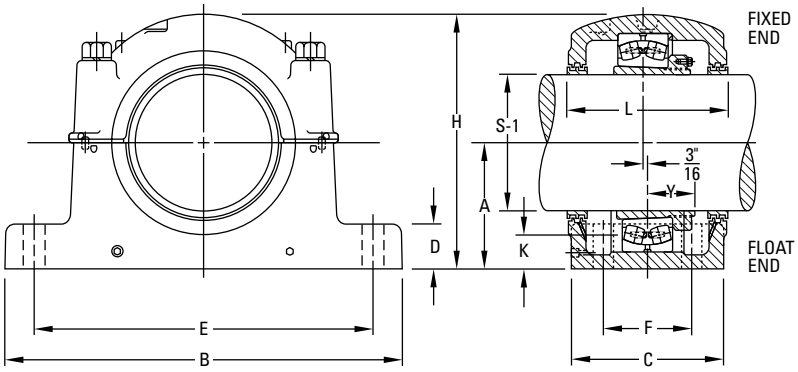
[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies, specify shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.

INCH TAPERED BORE MOUNTING SDAF231K AND SDAF232K SERIES

- Each assembly includes the housing cap and base, cap bolts, bearing, bearing adapter, locknut and lockwasher, stabilizing ring and triple-ring seals.
- To order pillow block housing only, use the numbers listed in the Housing Only column. These units include cap and base, cap bolts, triple-ring seals and stabilizing ring.
- Assembly and pillow blocks described on this page constitute fixed units.
- To order float units, specify part number plus suffix float or FL.
- All assemblies shown are furnished in cast iron. If cast steel is desired, add the letter S to the alpha prefix (e.g., SDAFS 23152K).

Pillow Block Assembly	Shaft Dia. S-1[1]	A	B	C	D	E		F	H
						Max.	Min.		
	in.	in.	in.	in.	in.	in.	in.	in.	in.
SERIES SDAF231K									
SDAF23152K	**9 7/16** 9 1/2	**10 1/4**	**35**	**13 1/8**	**3 3/4**	**30 1/2**	**29**	**8 3/4**	**20 7/8**
SDAF23156K	9 15/16 10 **10 7/16** 10 1/2	**12**	**38 1/4**	**14 3/4**	**3 3/8**	**33 1/2**	**32 3/4**	**9**	**23 7/16**
SDAF23160K	**10 15/16**	**12**	**38 1/4**	**14 3/4**	**3 3/8**	**33 1/2**	**32 3/4**	**9**	**23 7/16**
SDAF23164K	11 **11 15/16**	**12 13/16**	**41 3/4**	**15 3/4**	**4 1/2**	**36 1/2**	**35**	**10 1/2**	**25 3/4**
SDAF23168K	**12 7/16**	**14**	**43 3/4**	**17 3/4**	**5**	**38 1/4**	**36 3/4**	**10 3/4**	**27 7/8**
SDAF23172K	**13 7/16** 13 1/2	**14 1/2**	**46**	**17 1/8**	**5 1/4**	**40 3/4**	**39 1/4**	**11**	**28 7/8**
SDAF23176K	**13 15/16** 14	**14 1/2**	**46**	**17 1/8**	**5 1/4**	**40 3/4**	**39 1/4**	**11**	**28 7/8**
SDAF23180K	14 15/16 **15**	**15 1/2**	**48 3/4**	**18 3/4**	**5 1/2**	**43 1/2**	**41 3/4**	**12 1/4**	**30 1/2**
SDAF23184K	**15 3/4**	**17**	**52**	**21**	**5 1/2**	**46 1/8**	**44 3/8**	**14 1/2**	**33 3/4**
SDAF23188K	**16 1/2**	**17**	**52**	**21**	**5 1/2**	**46 1/8**	**44 3/8**	**14 1/2**	**33 3/4**
SDAF23192K	**17**	**18**	**54 1/4**	**21 5/8**	**5 3/4**	**48 7/8**	**47 1/8**	**15**	**35 3/4**
SDAF23196K	**18**	**18**	**54 1/4**	**21 5/8**	**5 3/4**	**48 7/8**	**47 1/8**	**15**	**35 3/4**
SERIES SDAF232K									
SDAF23248K	**8 15/16** 9	**10 1/4**	**35**	**13 1/8**	**3 3/4**	**30 1/2**	**29**	**8 3/4**	**20 7/8**
SDAF23252K	**9 7/16** 9 1/2	**12**	**38 1/4**	**14 3/4**	**3 3/8**	**33 1/2**	**32 3/4**	**9**	**23 7/16**
SDAF23256K	**10 7/16** 10 1/2	**12**	**38 1/4**	**14 3/4**	**3 3/8**	**33 1/2**	**32 3/4**	**9**	**23 7/16**
SDAF23260K	**10 15/16** 11	**12 13/16**	**41 3/4**	**15 3/4**	**4 1/2**	**36 1/2**	**35**	**10 1/2**	**25 3/4**
SDAF23264K	**11 15/16**	**14**	**43 3/4**	**17 3/4**	**5**	**38 1/4**	**36 3/4**	**10 3/4**	**27 7/8**
SDAF23268K	**12 7/16**	**14 1/2**	**46**	**17 1/8**	**5 1/4**	**40 3/4**	**39 1/4**	**11**	**28 7/8**
SDAF23272K	**13 7/16**	**15 1/2**	**48 3/4**	**18 3/4**	**5 1/2**	**43 1/2**	**41 3/4**	**12 1/4**	**30 1/2**
SDAF23276K	**13 15/16**	**15 1/2**	**48 3/4**	**18 3/4**	**5 1/2**	**43 1/2**	**41 3/4**	**12 1/4**	**30 1/2**
SDAF23280K	**14 15/16**	**17**	**52**	**21**	**5 1/2**	**46 1/8**	**44 3/8**	**14 1/2**	**33 3/4**
SDAF23284K	**15 3/4**	**18**	**54 1/4**	**21 5/8**	**5 3/4**	**48 7/8**	**47 1/8**	**15**	**35 3/4**
SDAF23288K	**16 1/2**	**18**	**54 1/4**	**21 5/8**	**5 3/4**	**48 7/8**	**47 1/8**	**15**	**35 3/4**

[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies, specify shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.



K Oil Level	L	Base Bolts 4 Req'd	Bearing No.	Adapter Assembly No.[3]	Housing Only[4]	Stabilizing Ring 1 Req'd[5]	Triple Seal 2 Req'd	Assembly Wt.
in.	in.	in.						lbs.
3 3/8	**13 3/4**	**1 5/8**	**23152K**	**SNP-3152 x 9 7/16**	**SDAF3152K**	**A5679**	**ER 891**	**1050**
				SNP-3152 x 9 1/2			ER 842	
				SNP-3156 x 9 15/16			ER 751-1	
				SNP-3156 x 10			ER 705-1	
4 3/4	**15 3/8**	**1 5/8**	**23156K**	SNP-3156 x 10 7/16	**SDAF3156K**	**A8967**	**ER 745-1**	**1300**
				SNP-3156 x 10 1/2			ER 710-1	
4 1/8	**15 3/8**	**1 5/8**	**23160K**	**SNP-3160 x 10 15/16**	**SDAF3160K**	**A8975**	**ER 858**	**1350**
				SNP-3160 x 11			ER 825	
4 3/8	**16 1/4**	**1 7/8**	**23164K**	**SNP-3164 x 11 15/16**	**SDAF3164K**	**A8970**	**ER 900**	**1900**
4 15/16	**18 1/4**	**2**	**23168K**	**SNP-3168 x 12 7/16**	**SDAF3168K**	**A8977**	**ER 865-1**	**2550**
5	**17 3/4**	**2**	**23172K**	**SNP-3172 x 13 7/16**	**SDAF3172K**	**A8974**	**ER 872**	**2600**
				SNP-3172 x 13 1/2			ER 823	
4 5/8	**17 3/4**	**2**	**23176K**	**SNP-3176 x 13 15/16**	**SDAF3176K**	**A8978**	**ER 875-1**	**2600**
				SNP-3176 x 14			ER 876-1	
				SNP-3180 x 14 15/16			ER 976	
5 1/8	**19 1/4**	**2 1/4**	**23180K**	**SNP-3180 x 15**	**SDAF3180K**	**A8979**	**ER 847-1**	**3000**
6	**21 3/4**	**2 1/4**	**23184K**	**SNP-3184 x 15 3/4**	**SDAF3184K**	**A8984**	**ER 969-1**	**4400**
5 9/16	**21 3/4**	**2 1/4**	**23188K**	**SNP-3188 x 16 1/2**	**SDAF3188K**	**A8976**	**ER 958-1**	**4600**
6	**22 1/4**	**2 1/2**	**23192K**	**SNP-3192 x 17**	**SDAF3192K**	**A8990**	**ER 838**	**5100**
5 1/2	**22 1/4**	**2 1/2**	**23196K**	**SNP-3196 x 18**	**SDAF3196K**	**A8998**	**ER 888-1**	**5200**
3 9/16	**13 3/4**	**1 5/8**	**23248K**	**SNP-148 x 8 15/16**	**SDAF3248K**	**A5679**	**ER 914**	**1100**
				SNP-148 x 9			ER 828	
4 3/4	**15 3/8**	**1 5/8**	**23252K**	**SNP-152 x 9 7/16**	**SDAF3252K**	**A8968**	**ER 891**	**1400**
				SNP-152 x 9 1/2			ER 842	
4 3/8	**15 3/8**	**1 5/8**	**23256K**	**SNP-3256 x 10 7/16**	**SDAF3256K**	**A8975**	**ER 745-1**	**1400**
				SNP-3256 x 10 1/2			ER 710-1	
4 1/2	**16 1/4**	**1 7/8**	**23260K**	**SNP-3260 x 10 15/16**	**SDAF3260K**	**A8970**	**ER 974**	**1900**
				SNP-3260 x 11			ER 974-1	
5 1/8	**18 1/4**	**2**	**23264K**	**SNP-3264 x 11 15/16**	**SDAF3264K**	**A8977**	**ER 900**	**2600**
5	**17 3/4**	**2**	**23268K**	**SNP-3268 x 12 7/16**	**SDAF3268K**	**A8978**	**ER 865-1**	**2700**
5 1/2	**19 1/4**	**2 1/4**	**23272K**	**SNP-3272 x 13 7/16**	**SDAF3272K**	**A8979**	**ER 979**	**3050**
4 3/8	**19 1/4**	**2 1/4**	**23276K**	**SNP-3276 x 13 15/16**	**SDAF3276K**	**A8980**	**ER 875-1**	**3000**
6	**21 3/4**	**2 1/4**	**23280K**	**SNP-3280 x 14 15/16**	**SDAF3280K**	**A8976**	**ER976**	**4650**
6 3/8	**22 1/4**	**2 1/2**	**23284K**	**SNP-3284 x 15 3/4**	**SDAF3284K**	**A8990**	**ER 969-1**	**4900**
5 7/8	**22 1/4**	**2 1/2**	**23288K**	**SNP-3288 x 16 1/2**	**SDAF3288K**	**A8988**	**ER 958-1**	**5200**

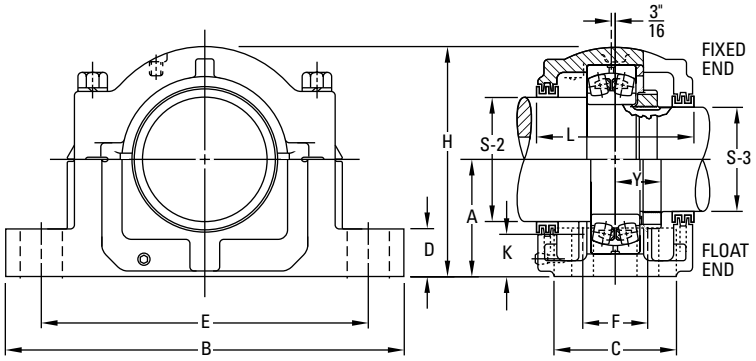
[1]Bold shaft sizes are standard. When ordering non-standard pillow block assemblies, specify shaft size.
[2]See page 58, table 8 for suggested shaft diameter S-1 tolerances.
[3]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[4]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing ring as required. When ordering non-standard housing only specify the shaft size.
[5]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.

INCH STRAIGHT BORE MOUNTING SAF222 AND SAF223 SERIES

- Each assembly includes the housing cap and base, cap bolts, bearing, locknut and lockwasher, stabilizing ring and triple-ring seals.
- To order pillow block housing only, use the numbers listed in Housing Only column. These units include cap and base, cap bolts, triple-ring seals and stabilizing ring.
- Assembly and pillow blocks described on this page constitute fixed units.
- To order float units, specify part number plus suffix float or FL.
- All assemblies shown are furnished in cast iron. If cast steel is desired, add the letter S to the alpha prefix (e.g., SAFS 22217).
- Four-bolt bases are standard on all assemblies, unless noted.

Pillow Block Assembly	Shaft Dia.[1]		A	B	C	D	E		F	H	K	L	Y	Base Bolts Required	
	S-2	S-3					Max.	Min.			Oil Level			No.	Size
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.		in.
SERIES SAF222															
SAF22217	3 15/16	3 3/16	3 3/4	13	3 1/2	1 1/4	11	9 7/8	–	7 1/4	1 7/16	4 15/16	1 27/64	2	3/4
FSAF22217	3 15/16	3 3/16	3 3/4	13	3 1/2	1 1/4	11	9 7/8	2 1/8	7 1/4	1 7/16	4 15/16	1 27/64	4	5/8
SAF22218	4 1/8	3 3/8	4	13 3/4	3 7/8	1 1/2	11 5/8	10 3/8	–	7 3/4	1 17/32	6 1/4	1 37/64	2	3/4
FSAF22218	4 1/8	3 3/8	4	13 3/4	3 7/8	1 1/2	11 5/8	10 3/8	2 1/8	7 3/4	1 17/32	6 1/4	1 37/64	4	5/8
SAF22220	4 1/2	3 13/16	4 1/2	15 1/4	4 3/8	1 3/4	13 1/8	11 5/8	–	8 11/16	1 3/4	6	1 49/64	2	7/8
FSAF22220	4 1/2	3 13/16	4 1/2	15 1/4	4 3/8	1 3/4	13 1/8	11 5/8	2 3/8	8 11/16	1 3/4	6	1 49/64	4	3/4
SAF22222	4 7/8	4 3/16	4 15/16	16 1/2	4 3/4	2	14 1/2	12 5/8	2 3/4	9 9/16	1 7/8	6 3/8	1 61/64	4	3/4
SAF22224	5 5/16	4 9/16	5 1/4	16 1/2	4 3/4	2 1/8	14 1/2	13 1/4	2 3/4	10 1/4	1 15/16	7 3/8	2 3/32	4	3/4
SAF22226	5 7/8	4 15/16	6	18 3/8	5 1/8	2 3/8	16	14 5/8	3 1/4	11 9/16	2 7/16	8	2 17/64	4	7/8
SAF22228	6 1/4	5 5/16	6	20 1/8	5 7/8	2 3/8	17 1/8	16	3 3/8	11 3/4	2 1/8	7 3/4	2 13/32	4	1
SAF22230	6 5/8	5 3/4	6 5/16	21 1/4	6 1/4	2 1/2	18 1/4	17	3 3/4	12 1/2	2 3/16	8 3/8	2 37/64	4	1
SAF22232	7	6 1/16	6 11/16	22	6 1/4	2 5/8	19 1/4	17 3/8	3 3/4	13 5/16	2 3/16	8 3/4	2 49/64	4	1
SAF22234	7 7/16	6 7/16	7 1/16	24 3/4	6 3/4	2 3/4	21 5/8	19 3/8	4 1/4	14 9/16	2 5/16	9 3/8	2 59/64	4	1
SAF22236	7 13/16	6 7/8	7 1/2	26 3/4	7 1/8	3	23 5/8	20 7/8	4 5/8	15 1/2	2 9/16	9 11/16	2 61/64	4	1
SAF22238	8 3/8	7 1/4	7 7/8	28	7 1/2	3 1/8	24 3/8	21 5/8	4 1/2	15 11/16	2 5/8	10 3/4	3 7/64	4	1 1/4
SAF22240	8 3/4	7 5/8	8 1/4	29 1/2	8	3 3/8	25	22 1/2	5	17 3/16	2 11/16	10 13/16	3 9/32	4	1 1/4
SAF22244	9 9/16	8 5/16	9 1/2	32 3/4	8 3/4	3 3/4	27 7/8	24 3/4	5 1/4	19 5/8	3 3/8	11 1/2	3 17/32	4	1 1/2
SERIES SAF223															
SAF22317	3 15/16	3 3/16	4 1/2	15 1/4	4 3/8	1 3/4	13 1/8	11 5/8	–	8 11/16	1 13/16	6	1 57/64	2	7/8
FSAF22317	3 15/16	3 3/16	4 1/2	15 1/4	4 3/8	1 3/4	13 1/8	11 5/8	2 3/8	8 11/16	1 13/16	6	1 57/64	4	3/4
SAF22318	4 1/8	3 3/8	4 3/4	15 1/2	4 3/8	2	13 1/2	12	2 1/4	9 3/16	2	7	2 3/64	4	3/4
SAF22320	4 1/2	3 13/16	5 1/4	16 1/2	4 3/4	2 1/8	14 1/2	13 1/4	2 3/4	10 1/4	2 1/8	7 3/8	2 19/64	4	3/4
SAF22322	4 7/8	4 3/16	6	18 3/8	5 1/8	2 3/8	16	14 5/8	3 1/4	11 9/16	2 1/2	8	2 31/64	4	7/8
SAF22324	5 5/16	4 9/16	6 5/16	21 1/4	6 1/4	2 1/2	18 1/4	17	3 3/4	12 1/2	2 9/16	8 3/8	2 41/64	4	1
SAF22326	5 7/8	4 15/16	6 11/16	22	6 1/4	2 5/8	19 1/4	17 3/8	3 3/4	13 15/16	2 5/8	8 3/4	2 27/32	4	1
SAF22328	6 1/4	5 5/16	7 1/16	24 3/4	6 3/4	2 3/4	21 5/8	19 3/8	4 1/4	14 9/16	2 11/16	9 3/8	3 5/64	4	1
SAF22330	6 5/8	5 3/4	7 1/2	26 3/4	7 1/8	3	23 5/8	20 7/8	4 5/8	15 1/2	2 7/8	9 11/16	3 17/64	4	1
SAF22332	7	6 1/16	7 7/8	28	7 1/2	3 1/8	24 3/8	21 5/8	4 1/2	15 11/16	2 15/16	10 3/4	3 7/16	4	1 1/4
SAF22334	7 7/16	6 7/16	8 1/4	29 1/2	8	3 3/8	25	22 1/2	5	17 3/16	3 1/16	10 13/16	3 19/32	4	1 1/4
SAF22336	7 13/16	6 7/8	8 7/8	31 1/4	8 1/4	3 1/2	26 5/8	24	5 1/4	18 1/2	3 3/8	11 1/4	3 47/64	4	1 1/4
SAF22338	8 3/8	7 1/4	9 1/2	32 3/4	8 3/4	3 3/4	27 7/8	24 3/4	5 1/4	19 5/8	3 11/16	11 1/2	3 57/64	4	1 1/2
SAF22340	8 3/4	7 5/8	9 7/8	34 1/4	9	4	29 1/2	26 1/4	5 1/2	20 3/16	3 3/4	12 1/4	4 5/64	4	1 1/2

[1]See page 58, table 8 for suggested shaft diameter S-2, S-3 tolerances.
[2]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing rings as required.
[3]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
[4]Triple-ring seals for other shaft diameters are available upon special order.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.



Bearing No.	Locknut	Lockwasher	Housing Only[2]	Stabilizing Ring 1 Req'd[3]	Triple Seal 1 Req'd[4]		Assembly Wt.
					S-2	S-3	
							lbs.
22217	AN17	W17	SAF217	SR-17-14	LOR89	LOR63	43
22217	AN17	W17	FSAF217	SR-17-14	LOR89	LOR63	43
22218	AN18	W18	SAF218	SR-18-15	LOR96	LOR72	50
22218	AN18	W18	FSAF218	SR-18-15	LOR96	LOR72	50
22220	AN20	W20	SAF220	SR-20-17	LOR118	LOR106	71
22220	AN20	W20	FSAF220	SR-20-17	LOR118	LOR106	71
22222	AN22	W22	SAF222	SR-22-19	LOR121	LOR113	81
22224	AN24	W24	SAF224	SR-24-20	LOR127	LOR119	90
22226	AN26	W26	SAF226	SR-26-0	LOR136	LOR122	127
22228	AN28	W28	SAF228	SR-28-0	LOR144	LOR127	149
22230	AN30	W30	SAF230	SR-30-0	LOR151	LOR134	175
22232	AN32	W32	SAF232	SR-32-0	LOR156	LOR142	210
22234	AN34	W34	SAF234	SR-34-0	LOR161	LOR148	280
22236	AN36	W36	SAF236	SR-36-30	LOR165	LOR154	305
22238	AN38	W38	SAF238	SR-38-32	LOR171	LOR160	350
22240	AN40	W40	SAF240	SR-40-34	LOR175	LOR164	420
22244	N44	W44	SAF244	SR-44-38	LOR179	LOR170	590
22317	AN17	W17	SAF317	SR-20-17	LOR109	LOR188	80
22317	AN17	W17	FSAF317	SR-20-17	LOR109	LOR188	80
22318	AN18	W18	SAF318	SR-21-18	LOR112	LOR191	92
22320	AN20	W20	SAF320	SR-24-20	LOR118	LOR106	109
22322	AN22	W22	SAF322	SR-0-22	LOR121	LOR113	145
22324	AN24	W24	SAF324	SR-0-24	LOR127	LOR119	195
22326	AN26	W26	SAF326	SR-0-26	LOR136	LOR122	235
22328	AN28	W28	SAF328	SR-0-28	LOR144	LOR127	300
22330	AN30	W30	SAF330	SR-36-30	LOR151	LOR134	335
22332	AN32	W32	SAF332	SR-38-32	LOR156	LOR142	405
22334	AN34	W34	SAF334	SR-40-34	LOR161	LOR148	465
22336	AN36	W36	SAF336	SR-0-36	LOR165	LOR154	525
22338	AN38	W38	SAF338	SR-44-38	LOR171	LOR160	635
22340	AN40	W40	SAF340	SR-0-40	LOR175	LOR164	700

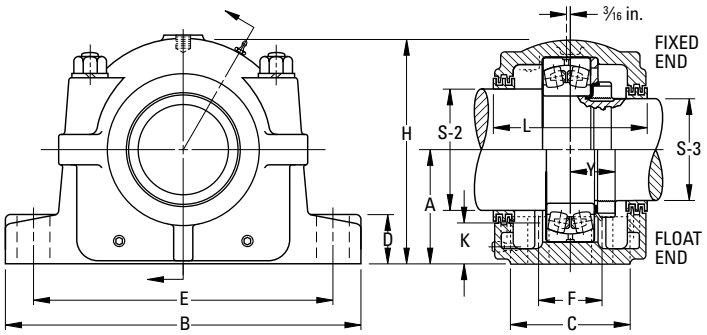
[1]See page 58, table 8 for suggested shaft diameter S-2, S-3 tolerances.
[2]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing rings as required.
[3]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
[4]Triple-ring seals for other shaft diameters are available upon special order.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.

INCH STRAIGHT BORE MOUNTING SDAF222 AND SDAF223 SERIES

- Each assembly includes the housing cap and base, cap bolts, bearing, locknut and washer, stabilizing ring, and triple-ring seals.
- To order pillow block housing only, use the numbers listed in the Housing Only column. These units include cap and base, cap bolts, triple-ring seals and stabilizing ring.
- Assembly and pillow blocks described on this page constitute fixed units.
- To order float units, specify part number plus suffix float or FL.
- All assemblies shown are furnished in cast iron. If cast steel is desired, add the letter S to the alpha prefix (e.g., SDAS 22220).

Pillow Block Assembly	Shaft Dia.[1]		A	B	C	D	E		F	H	K	L	Y	Base Bolts Required	
	S-2	S-3					Max.	Min.			Oil Level			No.	Size
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.		in.
SERIES SDAF222															
SDAF22220	4 1/2	3 13/16	4 1/2	15 1/4	6	1 7/8	13 1/8	11 5/8	3 3/8	8 15/16	1 3/4	6 3/4	1 49/64	4	3/4
SDAF22222	4 7/8	4 3/16	4 15/16	16 1/2	6 3/4	2 1/8	14 1/2	12 5/8	4	9 7/8	1 7/8	7 1/4	1 61/64	4	7/8
SDAF22224	5 5/16	4 9/16	5 1/4	16 1/2	6 7/8	2 1/4	14 1/2	13 1/4	4 1/8	10 1/2	1 15/16	7 3/8	2 3/32	4	7/8
SDAF22226	5 7/8	4 15/16	6	18 3/8	7 1/2	2 3/8	16	14 5/8	4 1/2	11 7/8	2 7/16	8	2 17/64	4	1
SDAF22228	6 1/4	5 5/16	6	20 1/8	7 1/2	2 3/8	17 1/8	16	4 1/2	12 1/16	2 1/8	7 13/16	2 13/32	4	1
SDAF22230	6 5/8	5 3/4	6 5/16	21 1/4	7 7/8	2 1/2	18 1/4	17	4 3/4	12 13/16	2 3/16	8 3/8	2 37/64	4	1 1/8
SDAF22232	7	6 1/16	6 11/16	22	8 1/4	2 1/2	19 1/4	17 3/8	5	13 11/16	2 3/16	8 3/4	2 49/64	4	1 1/8
SDAF22234	7 7/16	6 7/16	7 1/16	24 3/4	9	2 1/2	21 5/8	19 3/8	5 1/2	14 1/4	2 5/16	9 5/8	2 59/64	4	1 1/4
SDAF22236	7 13/16	6 7/8	7 1/2	26 3/4	9 3/8	2 3/4	23 5/8	20 7/8	5 7/8	15 3/16	2 9/16	10	2 61/64	4	1 1/4
SDAF22238	8 3/8	7 1/4	7 7/8	27 5/8	10	3	23 1/2	21 1/2	6 1/4	16 1/4	2 5/8	10 5/8	3 7/64	4	1 3/8
SDAF22240	8 3/4	7 5/8	8 1/4	28 3/4	10 1/2	3 1/4	25	23	6 3/4	17 1/8	2 11/16	11 1/8	3 9/32	4	1 3/8
SDAF22244	9 9/16	8 5/16	9 1/2	32	11 1/4	3 1/2	27 7/8	25 5/8	7 1/4	19 1/4	3 3/8	11 7/8	3 17/32	4	1 1/2
SERIES SDAF223															
SDAF22317	3 15/16	3 3/16	4 1/2	15 1/4	6	1 7/8	13 1/8	11 5/8	3 3/8	8 15/16	1 3/16	6 3/4	1 57/64	4	3/4
SDAF22318	4 1/8	3 3/8	4 3/4	15 1/2	6 1/8	2	13 1/2	12	3 5/8	9 7/16	2	6 7/8	2 3/64	4	3/4
SDAF22320	4 1/2	3 13/16	5 1/4	16 1/2	6 7/8	2 1/4	14 1/2	13 1/4	4 1/8	10 1/2	2 1/8	7 3/8	2 19/64	4	7/8
SDAF22322	4 7/8	4 3/16	6	18 3/8	7 1/2	2 3/8	16	14 5/8	4 1/2	11 7/8	2 1/2	8	2 31/64	4	1
SDAF22324	5 5/16	4 9/16	6 5/16	21 1/4	7 7/8	2 1/2	18 1/4	17	4 3/4	12 13/16	2 9/16	8 3/8	2 41/64	4	1 1/8
SDAF22326	5 7/8	4 15/16	6 11/16	22	8 1/4	2 1/2	19 1/4	17 3/8	5	13 11/16	2 5/8	8 3/4	2 27/64	4	1 1/8
SDAF22328	6 1/4	5 5/16	7 1/16	24 3/4	9	2 1/2	21 5/8	19 3/8	5 1/2	14 1/4	2 11/16	9 5/8	3 5/64	4	1 1/4
SDAF22330	6 5/8	5 3/4	7 1/2	26 3/4	9 3/8	2 3/4	23 5/8	20 7/8	5 7/8	15 3/16	2 7/8	9 3/4	3 17/64	4	1 1/4
SDAF22332	7	6 1/16	7 7/8	27 5/8	10	3	23 1/2	21 1/2	6 1/4	16 1/4	2 15/16	10 5/8	3 7/16	4	1 3/8
SDAF22334	7 7/16	6 7/16	8 1/4	28 3/4	10 1/2	3 1/4	25	23	6 3/4	17 1/8	3 1/16	11 1/8	3 19/32	4	1 3/8
SDAF22336	7 13/16	6 7/8	8 7/8	30 1/2	10 3/4	3 1/4	26 3/8	24 1/8	6 7/8	17 15/16	3 3/8	11 3/8	3 47/64	4	1 1/2
SDAF22338	8 3/8	7 1/4	9 1/2	32	11 1/4	3 1/2	27 7/8	25 5/8	7 1/4	19 1/4	3 11/16	11 13/16	3 57/64	4	1 1/2
SDAF22340	8 3/4	7 5/8	9 7/8	33 1/2	11 3/4	3 1/2	29 1/4	26 5/8	7 5/8	19 15/16	3 3/4	12 1/4	4 5/64	4	1 5/8

[1]See page 58, table 8 for suggested shaft diameter S-2, S-3 tolerances.
[2]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing rings as required.
[3]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
[4]Triple-ring seals for other shaft diameters are available upon special order.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.



Bearing No.	Locknut	Lockwasher	Housing Only[2]	Stabilizing Ring 1 Req'd[3]	Triple Seal 1 Req'd[4]		Assembly Wt.
					S-2	S-3	
							lbs.
22220	AN20	W20	SDAF220	SR-20-17	LOR118	LOR106	81
22222	AN22	W22	SDAF222	SR-22-19	LOR121	LOR113	109
22224	AN24	W24	SDAF224	SR-24-20	LOR127	LOR119	113
22226	AN26	W26	SDAF226	SR-26-0	LOR136	LOR122	151
22228	AN28	W28	SDAF228	SR-28-0	LOR144	LOR127	175
22230	AN30	W30	SDAF230	SR-30-0	LOR151	LOR134	201
22232	AN32	W32	SDAF232	SR-32-0	LOR156	LOR142	245
22234	AN34	W34	SDAF234	SR-34-0	LOR161	LOR148	300
22236	AN36	W36	SDAF236	SR-36-30	LOR165	LOR154	335
22238	AN38	W38	SDAF238	SR-38-32	LOR240	LOR229	405
22240	AN40	W40	SDAF240	SR-40-34	LOR244	LOR233	465
22244	N44	W44	SDAF244	SR-44-38	LOR248	LOR239	650
22317	AN17	W17	SDAF317	SR-20-17	LOR109	LOR188	80
22318	AN18	W18	SDAF318	SR-21-18	LOR112	LOR191	92
22320	AN20	W20	SDAF320	SR-24-20	LOR118	LOR106	109
22322	AN22	W22	SDAF322	SR-0-22	LOR121	LOR113	145
22324	AN24	W24	SDAF324	SR-0-24	LOR127	LOR119	195
22326	AN26	W26	SDAF326	SR-0-26	LOR136	LOR122	280
22328	AN28	W28	SDAF328	SR-0-28	LOR144	LOR127	305
22330	AN30	W30	SDAF330	SR-36-30	LOR151	LOR134	375
22332	AN32	W32	SDAF332	SR-38-32	LOR225	LOR217	445
22334	AN34	W34	SDAF334	SR-40-34	LOR230	LOR220	525
22336	AN36	W36	SDAF336	SR-0-36	LOR234	LOR223	635
22338	AN38	W38	SDAF338	SR-44-38	LOR240	LOR229	700
22340	AN40	W40	SDAF340	SR-0-40	LOR244	LOR233	725

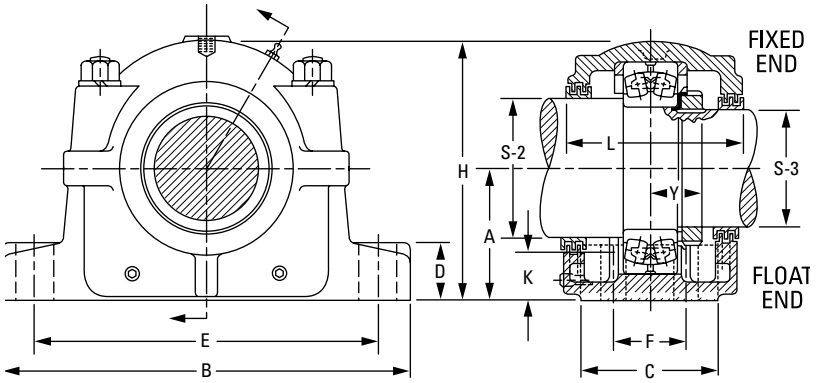
[1]See page 58, table 8 for suggested shaft diameter S-2, S-3 tolerances.
[2]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing rings as required.
[3]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
[4]Triple-ring seals for other shaft diameters are available upon special order.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.

INCH STRAIGHT BORE MOUNTING SDAF231 AND SDAF232 SERIES

- Each assembly includes the housing cap and base, cap bolts, bearing, locknut and washer, stabilizing ring and triple-ring seals.
- To order pillow block housing only, use the numbers listed in the Housing Only column. These units include cap and base, cap bolts, triple-ring seals and stabilizing ring.
- Assembly and pillow blocks described on this page constitute fixed units.
- To order float units, specify part number plus suffix float or FL.
- All assemblies shown are furnished in cast iron. If cast steel is desired, add the letter S to the alpha prefix (e.g., SDAFS 23152).
- For fixed applications, both stabilizing rings must be used. Do not use stabilizing rings for float mounting.

Pillow Block Assembly	Shaft Dia.[1]		A	B	C	D	E		F	H	K	L
	S-2	S-3					Max.	Min.			Oil Level	
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
SERIES SDAF231												
SDAF23152	11 1/2	9 15/16	10 1/4	35	13 1/8	3 3/4	30 1/2	29	8 3/4	20 7/8	3 3/8	14 1/4
SDAF23156	12 1/2	10 3/4	12	38 1/4	14 3/4	3 3/8	33 1/2	32 3/4	9	23 7/16	4 3/4	15 7/8
SDAF23160	13	11 1/2	12	38 1/4	14 3/4	3 3/8	33 1/2	32 3/4	9	23 7/16	4 1/8	15 7/8
SDAF23164	14	12 1/4	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	25 3/4	4 3/8	16 3/4
SDAF23168	15	13	14	43 3/4	17 3/4	5	38 1/4	36 3/4	10 3/4	27 7/8	4 15/16	18 3/4
SDAF23172	16	13 3/4	14 1/2	46	17 1/8	5 1/4	40 3/4	39 1/4	11	28 7/8	5	18
SDAF23176	17	14 1/2	14 1/2	46	17 1/8	5 1/4	40 3/4	39 1/4	11	28 7/8	4 5/8	18
SDAF23180	17 1/2	15 1/4	15 1/2	48 3/4	18 3/4	5 1/2	43 1/2	41 3/4	12 1/4	30 1/2	5 1/8	19 3/4
SDAF23184	18 1/2	15 3/4	17	52	21	5 1/2	46 1/8	44 3/8	14 1/2	33 3/4	6	22 1/4
SDAF23188	19 1/2	17	17	52	21	5 1/2	46 1/8	44 3/8	14 1/2	33 3/4	5 9/16	22 1/4
SDAF23192	20	17 3/4	18	54 1/4	21 5/8	5 3/4	48 7/8	47 1/8	15	35 3/4	6	22 3/4
SERIES SDAF232												
SDAF23248	10 1/2	9 3/16	10 1/4	35	13 1/8	3 3/4	30 1/2	29	8 3/4	20 7/8	3 9/16	14 1/4
SDAF23252	11 1/2	9 15/16	12	38 1/4	14 3/4	3 3/8	33 1/2	32 3/4	9	23 7/16	4 3/4	15 7/8
SDAF23256	12 1/2	10 3/4	12	38 1/4	14 3/4	3 3/8	33 1/2	32 3/4	9	23 7/16	4 3/8	15 7/8
SDAF23260	13	11 1/2	12 13/16	41 3/4	15 3/4	4 1/2	36 1/2	35	10 1/2	25 3/4	4 1/2	16 3/4
SDAF23264	14	12 1/4	14	43 3/4	17 3/4	5	38 1/4	36 3/4	10 3/4	27 7/8	5 1/8	18 3/4
SDAF23268	15	13	14 1/2	46	17 1/8	5 1/4	40 3/4	39 1/4	11	28 7/8	5	18
SDAF23272	16	13 3/4	15 1/2	48 3/4	18 3/4	5 1/2	43 1/2	41 3/4	12 1/4	30 1/2	5 1/2	19 3/4
SDAF23276	17	14 1/2	15 1/2	48 3/4	18 3/4	5 1/2	43 1/2	41 3/4	12 1/4	30 1/2	4 3/8	19 3/4
SDAF23280	17 1/2	15 1/4	17	52	21	5 1/2	46 1/8	44 3/8	14 1/2	33 3/4	6	22 1/4
SDAF23284	18 1/2	15 3/4	18	54 1/2	21 5/8	5 3/4	48 7/8	47 1/8	15	35 3/4	6 3/8	22 3/4
SDAF23288	19 1/2	17	18	54 1/2	21 5/8	5 3/4	48 7/8	47 1/8	15	35 3/4	5 7/8	22 3/4

[1]See page 58, table 8 for suggested shaft diameter S-2, S-3 tolerances.
[2]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing rings as required.
[3]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
[4]Triple-ring seals for other shaft diameters are available upon special order.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.



4 Base Bolts Req'd	Bearing No.	Locknut	Lockwasher	Housing Only[2]	Stabilizing Ring 1 Req'd[3]	Triple Seal 1 Req'd[4]		Assembly Wt.
						S-2	S-3	
in.								lbs.
1 5/8	23152	N052	P52	SDAF3152	A5679	ER832-1	ER751-1	1050
1 5/8	23156	N056	P56	SDAF3156	A8967	ER866-1	ER826	1250
1 5/8	23160	N060	P60	SDAF3160	A8975	ER846-1	ER832-1	1350
1 7/8	23164	N064	P64	SDAF3164	A8970	ER876-1	ER983-1	1850
2	23168	N068	P68	SDAF3168	A8977	ER847-1	ER846-1	2450
2	23172	N072	P72	SDAF3172	A8974	ER965-1	ER981	2500
2	23176	N076	P76	SDAF3176	A8978	ER838-1	ER984-1	2500
2 1/4	23180	N080	P80	SDAF3180	A8979	ER967	ER895-1	2800
2 1/4	23184	N084	P84	SDAF3184	A8984	ER978-1	ER969-1	4300
2 1/4	23188	N088	P88	SDAF3188	A8976	ER926-1	ER838-1	4300
2 1/2	23192	N092	P92	SDAF3192	A8990	ER808-1	ER906-1	5000
1 5/8	23248	N048	P48	SDAF3248	A5679	ER710-1	ER923-1	1100
1 5/8	23252	N052	P52	SDAF3252	A8968	ER832-1	ER751-1	1350
1 5/8	23256	N056	P56	SDAF3256	A8975	ER832-1	ER751-1	1400
1 7/8	23260	N060	P60	SDAF3260	A8970	ER846-1	ER832-1	1900
2	23264	N064	P64	SDAF3264	A8977	ER876-1	ER983-1	2500
2	23268	N068	P68	SDAF3268	A8978	ER847-1	ER846-1	2650
2 1/4	23272	N072	P72	SDAF3272	A8979	ER965-1	ER981	2950
2 1/4	23276	N076	P76	SDAF3276	A8980	ER838-1	ER984-1	3050
2 1/4	23280	N080	P80	SDAF3280	A8976	ER967	ER895-1	4500
2 1/2	23284	N084	P84	SDAF3284	A8990	ER978-1	ER969-1	5000
2 1/2	23288	N088	P88	SDAF3288	A8988	ER926-1	ER838-1	5050

[1]See page 58, table 8 for suggested shaft diameter S-2, S-3 tolerances.
[2]Housing Only includes cap, base, cap bolts, triple-ring seals and stabilizing rings as required.
[3]Stabilizing ring used for fixed (FX) block; do not use for float (FL) mounting.
[4]Triple-ring seals for other shaft diameters are available upon special order.
NOTE: Speed ratings are found in the dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.

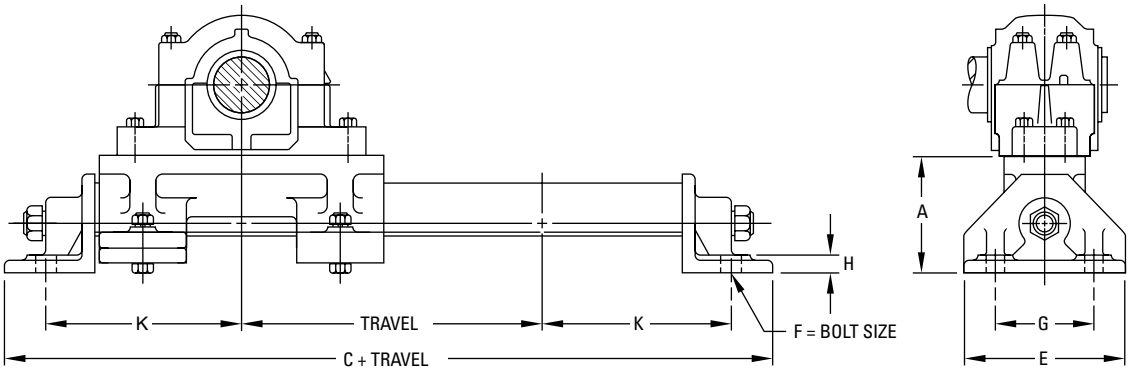
INCH SHAFT DIAMETERS

TABLE 8. SUGGESTED S-1, S-2, S-3 INCH SHAFT DIAMETERS

Diameter	Max.	Min.
1 7/16	1.4375	1.4345
1 11/16	1.6875	1.6845
1 7/8	1.8750	1.8720
1 15/16	1.9375	1.9345
2 1/16	2.0625	2.0585
2 1/8	2.1250	2.1210
2 3/16	2.1875	2.1835
2 1/4	2.2500	2.2460
2 3/8	2.3750	2.3710
2 7/16	2.4375	2.4335
2 9/16	2.5625	2.5585
2 5/8	2.6250	2.6210
2 11/16	2.6875	2.6835
2 13/16	2.8125	2.8085
2 7/8	2.8750	2.8710
2 15/16	2.9375	2.9335
3	3.0000	2.9960
3 1/16	3.0625	3.0585
3 3/16	3.1875	3.1835
3 1/4	3.2500	3.2460
3 3/8	3.3750	3.3710
3 7/16	3.4375	3.4335
3 5/8	3.6250	3.6210
3 15/16	3.9375	3.9335
4 1/8	4.1250	4.1200
4 3/16	4.1875	4.1825
4 7/16	4.4375	4.4325
4 1/2	4.5000	4.4950
4 9/16	4.5625	4.5575
4 7/8	4.8750	4.8700
4 15/16	4.9375	4.9325
5 3/16	5.1875	5.1825
5 5/16	5.3125	5.3075
5 7/16	5.4375	5.4325
5 3/4	5.7500	5.7450
5 7/8	5.8750	5.8700
5 15/16	5.9375	5.9325
6 1/16	6.0625	6.0575
6 1/4	6.2500	6.2450
6 7/16	6.4375	6.4325
6 5/8	6.6250	6.6200
6 7/8	6.8750	6.8700
6 15/16	6.9375	6.9325
7	7.0000	6.9950
7 3/16	7.1875	7.1825
7 1/4	7.2500	7.2450
7 7/16	7.4375	7.4325
7 5/8	7.6250	7.6200
7 13/16	7.8125	7.8075
7 15/16	7.9375	7.9325
8 5/16	8.3125	8.3065
8 3/8	8.3750	8.3690
8 7/16	8.4375	8.4315
8 1/2	8.5000	8.4940
8 3/4	8.7500	8.7440
8 15/16	8.9375	8.9315
9	9.0000	8.9940
9 7/16	9.4375	9.4315
9 1/2	9.5000	9.4940
9 9/16	9.5625	9.5565
9 15/16	9.9375	9.9315
10	10.0000	9.9940
10 7/16	10.4375	10.4305
10 1/2	10.5000	10.4930
10 15/16	10.9375	10.9305
11	11.0000	10.9930
11 7/16	11.4375	11.4305
11 1/2	11.5000	11.4930
11 15/16	11.9375	11.9305
12	12.0000	11.9930
12 7/16	12.4375	12.4295
12 1/2	12.5000	12.4920
12 15/16	12.9375	12.9295
13	13.0000	12.9920
13 7/16	13.4375	13.4295
13 1/2	13.5000	13.4920
13 15/16	13.9375	13.9295
14	14.0000	13.9920
15	15.0000	14.9920
16	16.0000	15.9920
17	17.0000	16.9920
17 1/2	17.5000	17.4920
18 1/2	18.5000	18.4920
19 1/2	19.5000	19.4920
20	20.0000	19.9920

INCH TU TAKE-UP UNITS

- The same care taken in the selection of stationary pillow blocks also must be applied to selecting the proper take-up unit.
- Load requirements should be carefully evaluated before specifying a particular Timken take-up assembly.
- The pedestal is made of stress-relieved cast iron. End bases are made of ductile iron. The guide rail and screw are steel.
- Units are available with travel lengths from 12 to 36 in., in 6-in. increments.
- Catalog numbers shown here are for the TU take-up unit only; pillow block assemblies must be ordered separately.
- Both two- and four-bolt pedestals are available and must be specified.



TU Take-Up Unit Catalog No.[1]	Pillow Block Housing No. (SAF or SDAF)			A	C	E	Bolt Size F	G	H	K
				in.	in.	in.	in.	in.	in.	in.
TU-3x	515L	–	–	4 7/8	20	6 1/2	5/8	4	3/4	8 1/4
TU-4x	516L	–	517L	5	21 3/4	6 1/2	3/4	4	3/4	9 1/8
TU-5x	518L	–	615L	5 1/4	23	7 1/2	3/4	5	3/4	9 3/4
TU-6x	520L	–	617L	5 1/2	24 3/4	7 1/2	3/4	5	7/8	10 3/4
TU-7x	522L	524L	620L	6	26	9	3/4	6 1/2	1	11 1/2
TU-8x	526L	–	622L	6	28	9	3/4	6 1/2	1	12 1/2
TU-8-1x	528L	–	–	6	29 1/2	9	3/4	6 1/2	1	13 1/4

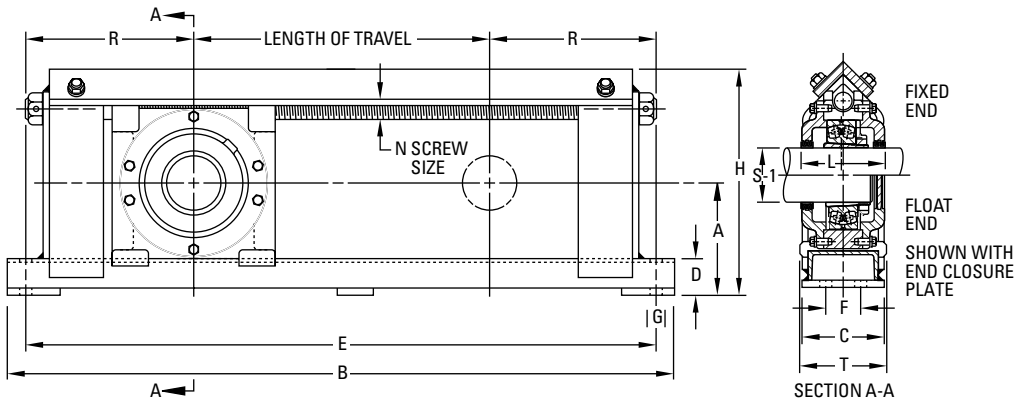
[1]Enter 12, 18, 24, 30 or 36 to indicate travel in inches.

INCH TTU TAKE-UP UNITS

- The same care taken in the selection of stationary pillow blocks also must be applied to selecting the proper take-up unit.
- Load requirements should be carefully evaluated before specifying a particular take-up assembly.
- The frame assembly and adjusting screw of TTU units are made of steel.
- The bearing housing is cast iron. Steel or ductile iron housings are additional options.
- Units include housing for adapter-mounted bearings only, for either fixed or float position (be sure to specify).
- One stabilizing ring is included for fixed-position assemblies.
- Sealing is triple-ring labyrinth or end closures.
- For extremely contaminated environments, the DUSTAC seal is suggested. See page 62 for more information.

Take-Up Unit and Frame No. (Travel in Bold)	Shaft Dia. S-1[1]	A	B	C	D	E	F	Bolt Size G	H	L	N	R	T
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
TTU-55-**12**	1 15/16	4 5/8	28 1/2	3 1/2	1 3/4	26 1/2	–	5/8	9	4	3/4	7 1/4	4
TTU-55-**18**		4 5/8	34 1/2	3 1/2	1 3/4	32 1/2	–	5/8	9	4	3/4	7 1/4	4
TTU-55-**24**		4 5/8	40 1/2	3 1/2	1 3/4	38 1/2	–	5/8	9	4	3/4	7 1/4	4
TTU-65-**12**	2 3/16	5	29 1/2	3 1/2	1 3/4	27 1/2	–	5/8	10	4 1/2	3/4	7 3/4	4
TTU-65-**18**		5	35 1/2	3 1/2	1 3/4	33 1/2	–	5/8	10	4 1/2	3/4	7 3/4	4
TTU-65-**24**		5	41 1/2	3 1/2	1 3/4	39 1/2	–	5/8	10	4 1/2	3/4	7 3/4	4
TTU-75-**6**	2 7/16	5 3/16	24 1/2	3 1/2	1 3/4	22 1/2	–	3/4	10 1/2	4 1/2	7/8	8 1/4	4
TTU-75-**12**		5 3/16	30 1/2	3 1/2	1 3/4	28 1/2	–	3/4	10 1/2	4 1/2	7/8	8 1/4	4
TTU-75-**18**		5 3/16	36 1/2	3 1/2	1 3/4	34 1/2	–	3/4	10 1/2	4 1/2	7/8	8 1/4	4
TTU-75-**24**		5 3/16	42 1/2	3 1/2	1 3/4	40 1/2	–	3/4	10 1/2	4 1/2	7/8	8 1/4	4
TTU-75-**30**		5 3/16	48 1/2	3 1/2	1 3/4	46 1/2	–	3/4	10 1/2	4 1/2	7/8	8 1/4	4
TTU-85-**6**	2 15/16	6	26 1/2	4 5/8	2	24 1/2	2	5/8	12 1/4	4 3/4	1	9 1/4	5
TTU-85-**12**		6	32 1/2	4 5/8	2	30 1/2	2	5/8	12 1/4	4 3/4	1	9 1/4	5
TTU-85-**18**		6	38 1/2	4 5/8	2	36 1/2	2	5/8	12 1/4	4 3/4	1	9 1/4	5
TTU-85-**24**		6	44 1/2	4 5/8	2	42 1/2	2	5/8	12 1/4	4 3/4	1	9 1/4	5
TTU-85-**30**		6	50 1/2	4 5/8	2	48 1/2	2	5/8	12 1/4	4 3/4	1	9 1/4	5
TTU-100-**12**	3 7/16	6 5/8	34 1/4	4 5/8	2	32	2	3/4	13 7/8	6	1 1/8	10	5 1/2
TTU-100-**18**		6 5/8	40 1/4	4 5/8	2	38	2	3/4	13 7/8	6	1 1/8	10	5 1/2
TTU-100-**24**		6 5/8	46 1/4	4 5/8	2	44	2	3/4	13 7/8	6	1 1/8	10	5 1/2
TTU-100-**30**		6 5/8	52 1/4	4 5/8	2	50	2	3/4	13 7/8	6	1 1/8	10	5 1/2
TTU-110-**12**	3 15/16	7 3/4	38 1/2	5 5/8	2 1/4	36	2 1/2	3/4	16 1/4	6 1/2	1 1/4	12	7
TTU-110-**18**		7 3/4	44 1/2	5 5/8	2 1/4	42	2 1/2	3/4	16 1/4	6 1/2	1 1/4	12	7
TTU-110-**24**		7 3/4	50 1/2	5 5/8	2 1/4	48	2 1/2	3/4	16 1/4	6 1/2	1 1/4	12	7
TTU-110-**30**		7 3/4	56 1/2	5 5/8	2 1/4	54	2 1/2	3/4	16 1/4	6 1/2	1 1/4	12	7
TTU-110-**36**		7 3/4	62 1/2	5 5/8	2 1/4	60	2 1/2	3/4	16 1/4	6 1/2	1 1/4	12	7
TTU-130-**12**	4 7/16	8 5/8	45 3/4	8 3/4	2 3/4	40 3/4	5	1 1/8	18 7/8	7 1/4	2	14 3/8	10
TTU-130-**18**		8 5/8	51 3/4	8 3/4	2 3/4	46 3/4	5	1 1/8	18 7/8	7 1/4	2	14 3/8	10
TTU-130-**24**		8 5/8	57 3/4	8 3/4	2 3/4	52 3/4	5	1 1/8	18 7/8	7 1/4	2	14 3/8	10
TTU-130-**30**		8 5/8	63 3/4	8 3/4	2 3/4	58 3/4	5	1 1/8	18 7/8	7 1/4	2	14 3/8	10
TTU-140-**12**	4 15/16	9 1/2	49 1/2	9 3/4	3	44 1/2	5 1/2	1 1/4	20 3/8	7 1/2	2 1/4	16 1/4	11
TTU-140-**18**		9 1/2	55 1/2	9 3/4	3	50 1/2	5 1/2	1 1/4	20 3/8	7 1/2	2 1/4	16 1/4	11
TTU-140-**24**		9 1/2	61 1/2	9 3/4	3	56 1/2	5 1/2	1 1/4	20 3/8	7 1/2	2 1/4	16 1/4	11
TTU-140-**30**		9 1/2	67 1/2	9 3/4	3	62 1/2	5 1/2	1 1/4	20 3/8	7 1/2	2 1/4	16 1/4	11

[1]See page 58, table 8 for suggested shaft diameter S-2, S-3 tolerances.
[2]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[3]Stabilizing ring is used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.



Bearing No.	Adapter Assembly No.[2]	Stabilizing Ring 1 Req'd[3]	Triple Seal 2 Req'd	Approx. Wt.
				lbs.
22211K	SNW-11	SR-11-0	LOR24	55
22211K	SNW-11	SR-11-0	LOR24	60
22211K	SNW-11	SR-11-0	LOR24	65
22213K	SNW-13	SR-13-0	LOR29	60
22213K	SNW-13	SR-13-0	LOR29	65
22213K	SNW-13	SR-13-0	LOR29	70
22215K	SNW-15	SR-15-0	LOR37	65
22215K	SNW-15	SR-15-0	LOR37	70
22215K	SNW-15	SR-15-0	LOR37	75
22215K	SNW-15	SR-15-0	LOR37	80
22215K	SNW-15	SR-15-0	LOR37	85
22217K	SNW-17	SR-17-14	LOR53	95
22217K	SNW-17	SR-17-14	LOR53	100
22217K	SNW-17	SR-17-14	LOR53	105
22217K	SNW-17	SR-17-14	LOR53	110
22217K	SNW-17	SR-17-14	LOR53	115
22220K	SNW-20	SR-20-17	LOR102	140
22220K	SNW-20	SR-20-17	LOR102	145
22220K	SNW-20	SR-20-17	LOR102	150
22220K	SNW-20	SR-20-17	LOR102	155
22222K	SNW-22	SR-22-19	LOR109	200
22222K	SNW-22	SR-22-19	LOR109	210
22222K	SNW-22	SR-22-19	LOR109	220
22222K	SNW-22	SR-22-19	LOR109	230
22222K	SNW-22	SR-22-19	LOR109	240
22226K	SNW-26	SR-26-0	LOR117	360
22226K	SNW-26	SR-26-0	LOR117	380
22226K	SNW-26	SR-26-0	LOR117	400
22226K	SNW-26	SR-26-0	LOR117	420
22228K	SNW-28	SR-28-0	LOR122	460
22228K	SNW-28	SR-28-0	LOR122	480
22228K	SNW-28	SR-28-0	LOR122	510
22228K	SNW-28	SR-28-0	LOR122	530

[1]See page 58, table 8 for suggested shaft diameter S-2, S-3 tolerances.
[2]Includes sleeve, locknut and lockwasher. Add shaft size to order.
[3]Stabilizing ring is used for fixed (FX) block; do not use for float (FL) mounting.
NOTE: Speed ratings are found in dimension tables within the Timken Spherical Roller Bearing Catalog (order no. 10446) on pages 66-93.

INCH DUSTAC™ SHAFT SEAL

- Suggested for pillow blocks used in extremely contaminated environments, such as taconite mines.
- Provides protection against residual and airborne contaminants better than the triple-labyrinth shaft seal.
- Contributes significantly to extending service bearing life; reduces costs by helping prevent premature bearing damage.
- Because of its unique design, no special finish is required on the shaft. DUSTAC utilizes a V-shaped nitrile ring that rotates with the shaft and applies pressure to the cartridge face to help exclude contaminates.

TABLE 9.

Pillow Block Housing No. 500	Pillow Block Housing No. 600	Shaft Dia. S-1	Assembly Standout B	DUSTAC™ Seal Assembly	V-Ring Seal	O-Ring	End Plug
515	615	2 7/16	59/64	DV-37	V-60-A	2-228	EPS-4
516	616	2 11/16	59/64	DV-44	V-65-A	2-231	EPS-5
517	–	2 15/16	1	DV-53	V-75-A	2-230	EPS-6
518	–	3 3/16	1	DV-69	V-80-A	2-235	EPS-9
520	620	3 7/16	1	DV-102	V-85-A	2-234	EPS-11
522	622	3 15/16	1	DV-109	V-100-A	2-239	EPS-13
524	624	4 3/16	1 1/16	DV-113	V-110-A	2-238	EPS-14
526	626	4 7/16	1 1/16	DV-117	V-110-A	2-242	EPS-15
528	628	4 15/16	1 1/16	DV-122	V-130-A	2-244	EPS-16
530	630	5 3/16	1 1/16	DV-125	V-130-A	2-247	EPS-17
532	632	5 7/16	1 1/16	DV-130	V-140-A	2-249	EPS-18
534	634	5 15/16	1 1/16	DV-140	V-150-A	2-253	EPS-20
536	636	6 7/16	1 9/64	DV-148	V-160-A	2-259	EPS-21
538	638	6 15/16	1 9/64	DV-155	V-180-A	2-259	EPS-22
540	640	7 3/16	1 9/64	DV-159	V-180-A	2-259	EPS-23
544	–	7 15/16	1 15/32	DV-167	V-200-A	2-262	EPS-25

ORDER INSTRUCTIONS

- Shaft seal may be ordered in place of the standard LOR triple-ring seals supplied with the pillow blocks listed. They also are available to retrofit existing installations.
- To order any pillow block housings with DUSTAC shaft seal on both sides, add the suffix DV to the number (e.g., SAF2522DV).
- To order pillow block housings with DUSTAC shaft seal and one end closed, add the suffix DC to the number (e.g., SAF22522DC).
- Standard sizes of DUSTAC shaft seals are shown in the table. Other sizes are available upon request.

INSTALLATION PROCEDURE

1. Check shaft diameters to print specification. Remove any burrs or sharp edges. Be sure that the shaft surface is clean and dry beyond the area of seal location.
2. Expand the V-ring seal over the shaft to the approximate inboard position (reference dimension B in the tables). *Make sure the lip of the seal faces the bearing.*
3. Slide the seal cartridge onto the shaft until the V-ring fits into its cavity.
4. Mount the bearing, sleeve, lockwasher and locknut in a normal manner and adjust for internal clearance.
5. If both ends have seals, repeat steps 2 and 3 with the V-ring going on last with its lip facing the bearing.
6. Thoroughly clean the housing base and remove any paint or burrs from the mating surfaces of the housing cap.
7. Lower shaft, bearing and seals into the housing base, taking care to guide the seals into the seal grooves.
8. On each shaft, there must be only one fixed bearing. If the bearing is to be fixed, the stabilizing ring can be inserted between the bearing outer ring and the housing shoulder on the locknut side of the bearing. All other bearings on this shaft should be centered in the housing.
9. The upper half of the housing or cap should be thoroughly cleaned and checked for burrs. Place it over the bearing and seals. The dowel pins will align the cap to the base.
10. After the cap bolts are tightened, it is most important to position the V-ring seal to its proper fitted width. This is accomplished by moving the seal until it is flush with the outside face of the cavity. This provides proper compression of the lip against the cartridge face.

NOTE

Housing caps and bases are not interchangeable.

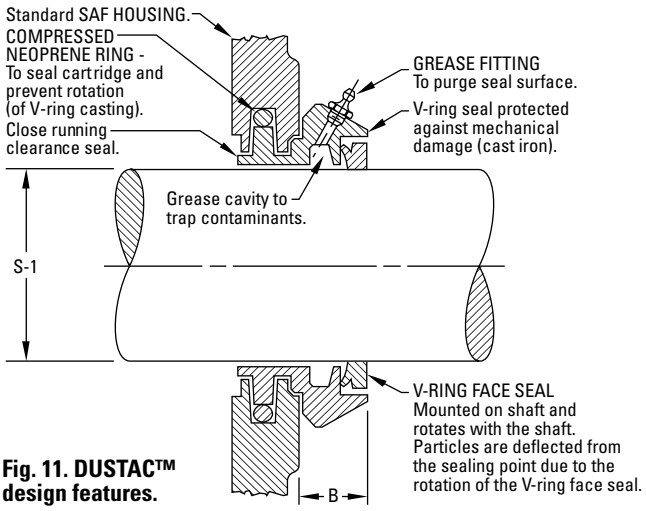


Fig. 11. DUSTAC™ design features.

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TIMKEN® SAF SPLIT-BLOCK MOUNTED SPHERICAL ROLLER BEARINGS

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