

SAF Split Pillow Block Housings & Accessories





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About NSK SAF Pillow Blocks

NSK pillow blocks are designed for exceptional performance in a wide range of applications. The pillow blocks are manufactured in a wide variety of sizes out of heavy-duty cast iron. They are also available in ductile and cast steel as an option. NSK pillow blocks are tremendous at keeping water and contaminants away from the bearing while keeping lubrication inside the housing. The housing comes standard with a triple-ring labyrinth seal but for applications where contamination is a greater concern, other seals are available. NSK also offers metric pillow blocks. Refer to NSK's SNN Series Plummer Block Catalog or Rolling Bearing Catalog.

NSK Pillow Blocks are completely interchangeable with other manufacturers' units.

General Industry:

- Conveyors
- Roller Tables
- Fans and Blowers

Steel Mills:

- Runout Tables
- Strip Processing Lines

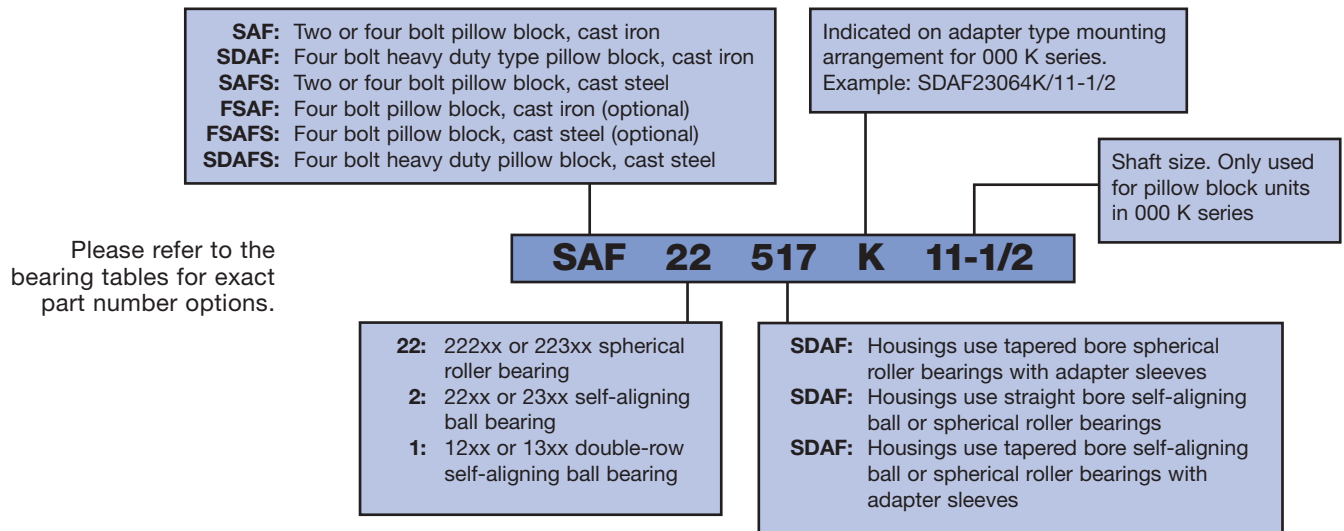
Processing Industry:

- Crushers
- Hammer Mills
- Ball and Rod Mills
- Decanters
- Kilns

Paper Making Equipment:

- Dryer Cans
- Jack Ladders
- Chip Conveyers
- Pumps
- Pulpers
- Breast Rolls
- Press Rolls

Part Numbering System



How to Order

When ordering a complete unit, you will receive the following components (e.g. SAF22520-307):

- 1 SAF520
- 1 22220EAKE4 Spherical roller bearing
- 1 HA320 Adapter sleeve or SNW20X3-7/16
- 2 LER-102 Seals
- 1 FR180X10 Fixing ring

NOTE: If not a standard shaft, the rings and seals are sold separately.
 End covers must be ordered separately.



Features

Cross Porting:

Cross porting allows oil to flow from one side of the housing to the other without passing through the bearing. This removes heat from the bearing in circulating oil systems.

Bigger Inlet Holes:

NSK has increased the size of the inlet holes. This is a must in high temperature applications because it allows more oil in and out of the block which provides more cooling of the oil and the bearing in circulating oil systems.

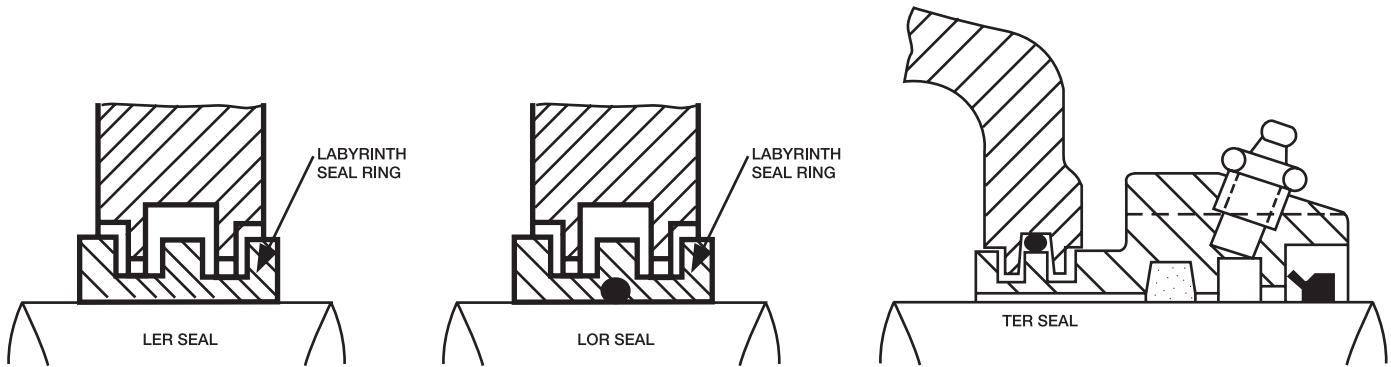
Landing Platform:

NSK has added landing platforms on our pillow block which can accommodate vibration sensors, a conduit box, auto-lube systems and other types of sensors.

Temperature Strip:

High temperature is one of the worst enemies to a bearing's life. NSK's temperature strip, which is mounted on the cap, offers an easy indication of the pillow block temperature and helps solve problems before they destroy a bearing.

Seal Types and their Features



	LER	TER	LOR	TEROS (2)	LERDC (1)
Max. Speed (3)	Same as bearing's limiting speed	7 m/s	Same as bearing's limiting speed	7 m/s	8 m/s
Grease Lubrication	★	★★★★★	★★	★★★★★	★★★★★
Oil Lubrication	★	★★★★★	★★	★★★★★	★★★★★
Friction Torque	★★★★★	★	★★★★	★	★★
Temperature Range	Same as the bearing range	-40 thru 220°F	220°F max	-40 thru 220°F	-40 thru 220°F
Performance	Dust	★★★★★	★★★★	★★★★★	★★★★★
	Large Particles	★	★★★★★	★★★★★	★★★★★
	Water	★	★★★★★	★★	★★★★★

RANKING: ★ Good to ★★★★★ Excellent

- NOTES: 1. Can be used with either a LER or a LOR. See next page for further info.
 2. See next page for more info.
 3. Example: 7 m/s x π x d = RPM (7 m/s = 1400 ft/min)

New Seals

Current:

LER • LOR (LER with O-ring) • TER (TAC with V-ring, oil seal and an O-ring in the seal labyrinth)

New:

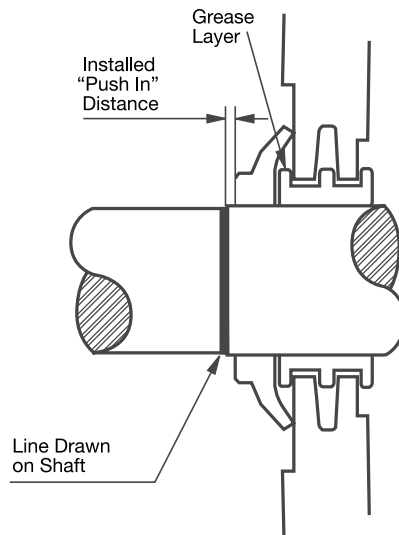
TER OS, a taconite seal which includes an oil seal and a spring loaded contact seal on the shaft and an O-ring in the seal labyrinth.

LER DC, a contact rubber lip face wiper seal to fit onto the shaft and contact the housing to cover the LER or LOR.

This seal acts as a finger as well as an additional seal to ward off (fling) contaminants.

New Wiper Seal

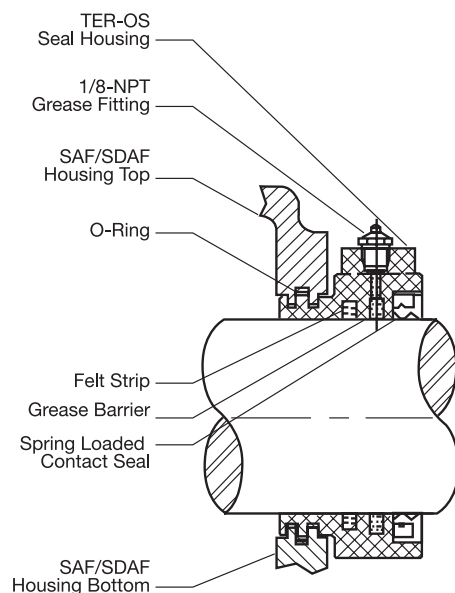
LER DC



Part No.	Block No.	Shaft ø
LER DC 17	SAF 509	1-7/16
LER DC 20	SAF 510	1-11/16
LER DC 24	SAF 511	1-15/16
LER DC 29	SAF 513	2-3/16
LER DC 37	SAF 515	2-7/16
LER DC 44	SAF 516	2-11/16
LER DC 53	SAF 517	2-15/16
LER DC 188	SAF 518	3-3/16
LER DC 102	SAF 520	3-7/16
LER DC 109	SAF 522	3-15/16
LER DC 113	SAF 524	4-3/16
LER DC 117	SAF 526	4-7/16
LER DC 122	SAF 528	4-15/16
LER DC 125	SAF 530	5-3/16
LER DC 130	SAF 532	5-7/16
LER DC 140	SAF 534	5-15/16
LER DC 148	SAF 536	6-7/16
LER DC 155	SAF 538	6-15/16
LER DC 159	SAF 540	7-3/16
LER DC 167	SAF 544	7-15/16

New TAC Seal

TER-OS



SAF 500 Size	Shaft Diameter	TER OS Part No.
SAF 509	1-7/16	TER17 OS
SAF 510	1-11/16	TER20 OS
SAF 511	1-15/16	TER24 OS
SAF 513	2-3/16	TER24 OS
SAF 515	2-7/16	TER37 OS
SAF 516	2-11/16	TER44 OS
SAF 517	2-15/16	TER53 OS
SAF 518	3-3/16	TER188 OS
SAF 520	3-7/16	TER102 OS
SAF 522	3-15/16	TER109 OS
SAF 524	4-3/16	TER113 OS
SAF 526	4-7/16	TER117 OS
SAF 528	4-15/16	TER122 OS
SAF 530	5-3/16	TER125 OS
SAF 532	5-7/16	TER130 OS
SAF 534	5-15/16	TER140 OS
SAF 536	6-7/16	TER148 OS
SAF 538	6-15/16	TER155 OS
SAF 540	7-3/16	TER159 OS
SAF 544	7-15/16	TER167 OS



Accessories – Sight Glasses

NSK offers sight glasses for use with the SAF pillow blocks for static oil lubrication. It allows the maintenance crew and line crew to see if the oil level is getting low. This feature can help solve problems before they destroy a bearing and shut down a line.

3", 4" and 5" lengths

1/2" NPT threads

1/2" NPT = 1/2"-14

< SAF524 need an adapter



Accessories – End Covers

NSK supplies end covers upon request; they are not supplied with NSK SAF blocks. See charts for part numbers according to block numbers.



Bearing Installation Instructions

Reduction of radial clearance for NSK Spherical Roller Bearings with Tapered Bores

Units: Inch

Nominal Bore Diameter (mm)		Radial Internal Clearance (Inches)						Reduction in Radial Clearance		Axial Displacement †				Minimum Permissible Residual Clearance After Mounting		
		Normal		C3		C4				Taper 1:12		Taper 1:30				
over	incl.	min	max	min	max	min	max	min	max	min	max	min	max	Normal	C3	C4
30	40	.0014	.0020	.0020	.0026	.0026	.0033	.0005	.0010	.011	.016	—	—	.0006	.0012	.0018
40	50	.0018	.0024	.0024	.0032	.0032	.0041	.0010	.0010	.014	.018	—	—	.0006	.0012	.0020
50	65	.0022	.0030	.0030	.0039	.0039	.0049	.0010	.0015	.018	.024	—	—	.0010	.0014	.0024
65	80	.0028	.0037	.0037	.0049	.0049	.0061	.0015	.0020	.024	.032	—	—	.0012	.0016	.0030
80	100	.0032	.0044	.0044	.0057	.0057	.0075	.0020	.0025	.027	.040	.070	.085	.0014	.0020	.0032
100	120	.0039	.0053	.0053	.0069	.0069	.0089	.0020	.0030	.030	.048	.075	.090	.0018	.0026	.0040
120	140	.0047	.0063	.0063	.0081	.0081	.0102	.0025	.0035	.040	.056	.090	.110	.0022	.0031	.0045
140	160	.0051	.0071	.0071	.0091	.0091	.0118	.0030	.0040	.048	.062	.100	.130	.0024	.0039	.0050
160	180	.0055	.0079	.0079	.0102	.0102	.0134	.0030	.0045	.048	.069	.110	.140	.0028	.0043	.0060
180	200	.0063	.0088	.0088	.0114	.0114	.0146	.0035	.0050	.056	.082	.130	.160	.0028	.0043	.0065
200	225	.0071	.0099	.0099	.0126	.0126	.0162	.0040	.0055	.064	.088	.140	.170	.0031	.0051	.0070
225	250	.0079	.0106	.0106	.0140	.0140	.0178	.0045	.0060	.072	.094	.160	.190	.0035	.0055	.0080
250	280	.0087	.0118	.0118	.0156	.0156	.0195	.0050	.0070	.080	.106	.170	.220	.0039	.0059	.0085
280	315	.0094	.0130	.0130	.0169	.0169	.0213	.0050	.0070	.080	.118	.190	.240	.0043	.0063	.0095
315	355	.0106	.0142	.0142	.0187	.0187	.0234	.0060	.0080	.096	.131	.220	.270	.0047	.0071	.0105
355	400	.0118	.0157	.0157	.0207	.0207	.0258	.0070	.0090	.104	.144	.240	.300	.0051	.0079	.0115
400	450	.0130	.0173	.0173	.0224	.0224	.0283	.0080	.0100	.128	.160	.270	.330	.0055	.0087	.0125
450	500	.0146	.0193	.0193	.0248	.0248	.0311	.0090	.0110	.136	.176	.300	.360	.0063	.0094	.0140
500	560	.0161	.0213	.0213	.0275	.0275	.0343	.0100	.0130	.152	.208	.340	.430	.0067	.0106	.0155
560	630	.0180	.0236	.0236	.0307	.0307	.0386	.0100	.0140	.160	.224	.360	.470	.0079	.0122	.0170
630	710	.0201	.0264	.0264	.0335	.0335	.0429	.0120	.0160	.192	.256	.410	.510	.0087	.0130	.0185
710	800	.0224	.0295	.0295	.0378	.0378	.0480	.0130	.0180	.208	.288	.450	.590	.0094	.0154	.0210
800	900	.0252	.0331	.0331	.0421	.0421	.0539	.0140	.0200	.224	.320	.490	.650	.0110	.0169	.0230
900	1000	.0280	.0366	.0366	.0470	.0470	.0600	.0160	.0220	.256	.352	.550	.730	.0122	.0185	.0260

† Axial displacement values apply only to solid steel shafts or hollow steel shafts where the bore is equal to or less than one-half of the outside diameter.

If the material is other than steel or if thin-walled shafting is used, please consult NSK.

1:12 Taper applies to Series 222, 223, 230, 231, 232, 233 and 239. 1:30 Taper applies to Series 240, 241 and 242.

For Pe less than 0.13Cr, use the lower half of the reduction range. For heavier loads or Pe greater than 0.13Cr, carburized or TL inner rings should be specified and the upper half of the reduction range can be used.

The inner rings of tapered bore spherical roller bearings are always mounted with an interference fit. The farther the bearing is pushed up the taper, the greater the degree of interference and the greater the reduction of internal radial clearance within the bearing. It is necessary to measure this reduction as you mount the bearing to the shaft in order to have a properly functioning bearing. Use the following steps:

- Do not start this procedure until you are ready to mount the bearing. If the mounting process is interrupted, cover the bearing and workspace to prevent contamination.
- Start with a clean workspace, ensuring that bench and tools are free from dirt, dust or other contaminants.
- Remove the bearing from its container and inner wrap, standing the bearing upright on the bench. Rotate the inner ring of the bearing slowly for one revolution so that the rolling elements align themselves with the raceways. Make sure the inner ring is parallel with the outer ring.
- Referring to the table above, select as a starting point a feeler gauge below the bearing's unmounted clearance and work your way to large sizes.
- Using the top set of rollers, work the feeler gauge between the roller and the outer raceway. The correct gauge will create a slight resistance. Ensure that the gauge is being worked over both of the top rollers of each raceway for a correct reading for sizes smaller than 200mm bore; for larger do one set at a time. Your reading should be within the values in the table above.
- Subtract the value you determine in step 5 from the reduction of radial clearance. This is the final or residual clearance and cannot be less than the minimum residual clearance shown in the table above. Write down what your final clearance should be after mounting. If using NSK hydraulic nuts, refer to hydraulic nut instructions.
- Position the bearing and adapter sleeve on the shaft and tighten the lock nut, measuring the internal clearance at regular intervals until the final clearance is reached. With the bearing suspended on the shaft, the clearance readings are taken at the bottom rather than the top. NSK sells different types of mounting equipment to make this step easy, quick and correct. Please reference NSK Maintenance Tool catalog.
- Secure the lock washer tab in place. If necessary, continue to tighten the lock nut to align the washer tab and slot. Do not back off the lock nut to achieve this.
- Instructions for mounting the bearing in a split pillow block comes with all NSK blocks.



Mounting the SAF Split Housing using TER (Taconite) Seals



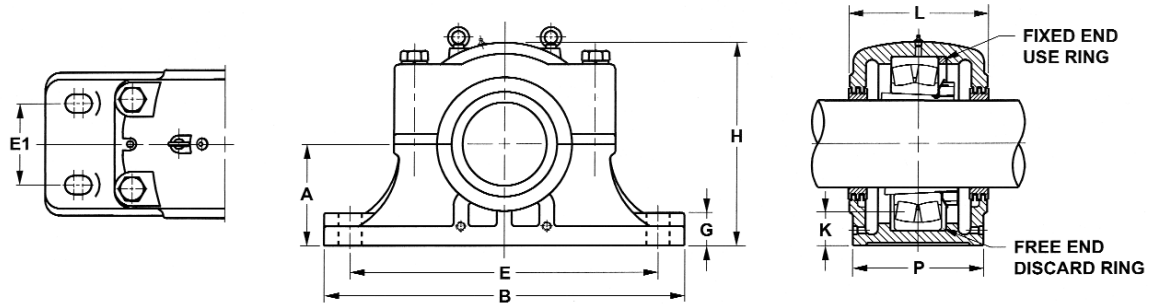
Note: Remove any paint and burrs from the cap and base at the housing split and thoroughly clean the housing and all components. Refer to bearing installation instructions found in NSK's split pillow block.

- 1** Remove the top half of the bearing housing to expose the bearing seat.
- 2** Place the housing base in position and hand tighten the fixing bolts.
- 3** Soak the felt strips in oil for a few hours and then place one on the inside inboard groove of each seal. Add grease inside the next groove.
- 4** Slide the flush side of the V-ring on the shaft. V-ring will require stretching. Skip this step if installing a TER OS.
- 5** Slide the labyrinth seal towards the bearing location and the labyrinth insert with the O-ring on its outside diameter, in this order, on the shaft. Adjust the V-ring so that it rests inside the counterbore as applies.
- 6** Measure the shaft and compare to values on page 43 & 44 for straight bore bearings and page 45 for tapered bore bearings on adapters.
- 7** Mount bearing on the shaft. Charge with grease until the bottom half of the housing is filled one-third full. For exact amounts see page 32.
- 8** Follow the procedure in step 3 to place the other labyrinth seal on the shaft, reversing the order.
- 9** The shaft and bearing assembly with the sealing components can then be lowered into the base of the housing.
- 10** For the assembly that locates the system, fit the locating rings on either side of the bearing. Where only one is supplied, fit it on the same side as the tapered sleeve lock nut.
- 11** Check the housings for alignment with each other, ensuring that they are within acceptable limits and that the fixing bolts are tight enough to secure the base.
- 12** The top half of the housing should be carefully aligned with the locating dowel pins and bolts tightened. See chart on page 32. Be sure that the split housing is paired only with its original top half, as these parts are not interchangeable from one housing to another.
- 13** The fixing bolt can then be fully tightened. Refer to chart on page 46.

SAF Split Pillow Block Housings (SAF 000K Series)

Housing No.	A	B	P	G	E		E1	H	K Static Oil Level	L	Bolts (No. Req'd)	Wt.
	In.	In.	In.	In.	Max In.	Min In.	In.	In.	In.	In.	In.	lbs.*
SAF 024K/4-3/16	4-1/2	15-1/4	4-3/8	1-3/4	13-1/8	11-5/8	2-3/8	8-3/4	1-3/4	6	(4)--3/4	44
SAF 026K/4-7/16	4-15/16	16-1/2	4-3/4	2	14-1/2	12-5/8	2-3/4	9-5/8	1-7/8	6-1/2	(4)--3/4	54
SAF 028K/4-15/16	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	(4)--3/4	66
SAF 030K/5-3/16	6	18-3/8	5-1/8	2-3/8	16	14-5/8	3-1/4	11-9/16	2-7/16	8	(4)--7/8	96
SAF 032K/5-7/16	6	18-3/8	5-1/8	2-3/8	16	14-5/8	3-1/4	11-9/16	2-7/16	8	(4)--7/8	97
SAF 034K/5-15/16	6	20-1/8	5-7/8	2-3/8	17-1/8	16	3-3/8	11-3/4	2-1/8	7-5/8	(4)--1	120
SAF 036K/6-7/16	6-11/16	22	6-1/4	2-5/8	19-1/4	17-3/8	3-3/4	13-1/2	2-3/16	8-3/4	(4)--1	170
SAF 038K/6-15/16	6-11/16	22	6-1/4	2-5/8	19-1/4	17-3/8	3-3/4	13-1/2	2-3/16	8-3/4	(4)--1	162
SAF 040K/7-3/16	7-1/16	24-3/4	6-3/4	2-3/4	21-5/8	19-3/8	4-1/4	14-3/8	2-5/16	9-5/8	(4)--1	192
SAF 044K/7-15/16	7-7/8	28	7-1/2	3-1/8	24-3/8	21-5/8	4-1/2	15-7/8	2-5/8	10-5/8	(4)--1-1/4	300
SAF 048K/8-7/16	8-1/4	29-1/2	8	3-3/8	25	22-1/2	5	16-1/2	2-7/32	11-1/4	(4)--1-1/4	270
SAF 048K/8-1/2	8-1/4	29-1/2	8	3-3/8	25	22-1/2	5	16-1/2	2-7/32	11-1/4	(4)--1-1/4	270
SAF 048K/8-15/16	8-1/4	29-1/2	8	3-3/8	25	22-1/2	5	16-1/2	2-7/32	11-1/4	(4)--1-1/4	270
SAF 048K/9	8-1/4	29-1/2	8	3-3/8	25	22-1/2	5	16-1/2	2-7/32	11-1/4	(4)--1-1/4	270
SAF 052K/9-7/16	9-1/2	32-3/4	8-3/4	3-3/4	27-7/8	24-3/4	5-1/4	18-5/8	2-3/4	12	(4)--1-1/2	445
SAF 052K/9-1/2	9-1/2	32-3/4	8-3/4	3-3/4	27-7/8	24-3/4	5-1/4	18-5/8	2-3/4	12	(4)--1-1/2	445
SAF 056K/9-15/16	9-7/8	34-1/4	9	4	29-1/2	26-1/4	5-1/2	20-3/16	2-7/8	12-1/4	(4)--1-1/2	500
SAF 056K/10	9-7/8	34-1/4	9	4	29-1/2	26-1/4	5-1/2	20-3/16	2-7/8	12-1/4	(4)--1-1/2	500
SAF 056K/10-7/16	9-7/8	34-1/4	9	4	29-1/2	26-1/4	5-1/2	20-3/16	2-7/8	12-1/4	(4)--1-1/2	500
SAF 056K/10-1/2	9-7/8	34-1/4	9	4	29-1/2	26-1/4	5-1/2	20-3/16	2-7/8	12-1/4	(4)--1-1/2	500

*Weights are approximate



Shaft Diameter S-1 in.	Complete Unit Number	Housing Only ^(a)	Bearing Number	Adapter Locknut and Lockwasher or Lockplate	Labyrinth Seals (2 required)	Fixing Ring ^(b) (1 required)	End Cover ^(c)
4-3/16	SAF 23024K/4-3/16	SAF 024K/4-3/16	23024 K	SNW 3024 X 4-3/16	LER 113	FR180X10	EPR 14
4-7/16	SAF 23026K/4-7/16	SAF 026K/4-7/16	23026 K	SNW 3026 X 4-7/16	LER 117	FR200X10	EPR 15
4-15/16	SAF 23028K/4-15/16	SAF 028K/4-15/16	23028 K	SNW 3028 X 4-15/16	LER 122	SR-0-20	EPR 27
5-3/16	SAF 23030K/5-3/16	SAF 030K/5-3/16	23030 K	SNW 3030 X 5-3/16	LER 125	SR-0-21	EPR 16
5-7/16	SAF 23032K/5-7/16	SAF 032K/5-7/16	23032 K	SNW 3032 X 5-7/16	LER 130	FR240X10	EPR 16
5-15/16	SAF 23034K/5-15/16	SAF 034K/5-15/16	23034 K	SNW 3034 X 5-15/16	LER 140	FR260X10	EPR 18
6-7/16	SAF 23036K/6-7/16	SAF 036K/6-7/16	23036 K	SNW 3036 X 6-7/16	LER 148	FR280X10	EPR 19
6-15/16	SAF 23038K/6-15/16	SAF 038K/6-15/16	23038 K	SNW 3038 X 6-15/16	LER 155	FR290X10	EPR 20
7-3/16	SAF 23040K/7-3/16	SAF 040K/7-3/16	23040 K	SNW 3040 X 7-3/16	LER 159	FR310X10	EPR 21
7-15/16	SAF 23044K/7-15/16	SAF 044K/7-15/16	23044 K	SNW 3044 X 7-15/16	LER 167	FR340X10	EPR 23
8-7/16	SAF 23048K/8-7/16	SAF 048K/8-7/16	23048 K	SNP 3048 X 8-7/16	LER 550	A 8897	---
8-1/2	SAF 23048K/8-1/2	SAF 048K/8-1/2	23048 K	SNP 3048 X 8-1/2	LER 551	A 8897	---
8-15/16	SAF 23048K/8-15/16	SAF 048K/8-15/16	23048 K	SNP 3048 X 8-15/16	LER 552	A 8897	---
9	SAF 23048K/9	SAF 048K/9	23048 K	SNP 3048 X 9	LER 513	A 8897	---
9-7/16	SAF 23052K/9-7/16	SAF 052K/9-7/16	23052 K	SNP 3052 X 9-7/16	LER 553	A 8898	---
9-1/2	SAF 23052K/9-1/2	SAF 052K/9-1/2	23052 K	SNP 3052 X 9-1/2	LER 178	A 8898	---
9-15/16	SAF 23056K/9-15/16	SAF 056K/9-15/16	23056 K	SNP 3056 X 9-15/16	ER 751	A 8819	---
10	SAF 23056K/10	SAF 056K/10	23056 K	SNP 3056 X 10	ER 705	A 8819	---
10-7/16	SAF 23056K/10-7/16	SAF 056K/10-7/16	23056 K	SNP 3056 X 10-7/16	ER 745	A 8819	---
10-1/2	SAF 23056K/10-1/2	SAF 056K/10-1/2	23056 K	SNP 3056 X 10-1/2	ER 710	A 8819	---

Note: Housings available in cast iron (SAF), Ductile (SAFD) or cast steel (SAFS).
Taconite (TER) and LOR seals with O-rings are also available.

(a) "Housing Only" includes - cap, base, cap bolts, labyrinth seals and fixing rings

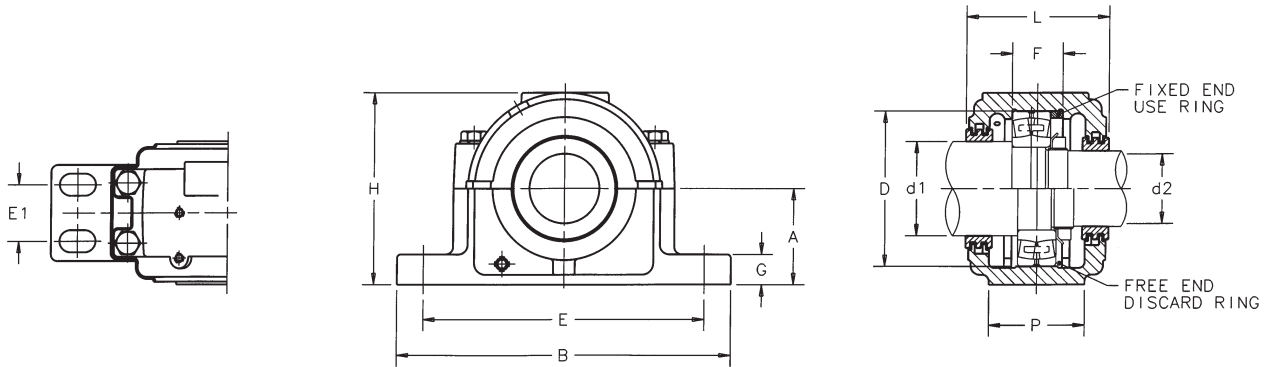
(b) Fixing Ring is used for fixed block only; do not use for float mounting

(c) End Cover is optional

SAF Split Pillow Block Housings (SAF 200 Series)

Housing No.	A	B	P	G	E		E1	H	L	Bolts (No. Req'd)	Wt.	D	F	d1	d2
	In.	In.	In.	In.	Max In.	Min In.	In.	In.	In.	In.	lbs.*	mm	mm	In.	In.
SAF 216	3-1/2	13	3-1/2	1-1/4	11	9-5/8		6-15/16	5-3/8	(2)-3/4	22.9	140	43	3-5/8	3
FSAF 216	3-1/2	13	3-1/2	1-1/4	11	9-5/8	2-1/8	6-15/16	5-3/8	(4)-5/8	22.9	140	43	3-5/8	3
SAF 217	3-3/4	13	3-1/2	1-1/4	11	9-7/8		7-3/8	5-3/8	(2)-3/4	28.6	150	46	3-15/16	3-3/16
FSAF 217	3-3/4	13	3-1/2	1-1/4	11	9-7/8	2-1/8	7-3/8	5-3/8	(4)-5/8	28.6	150	46	3-15/16	3-3/16
SAF 218	4	13-3/4	3-7/8	1-5/16	11-5/8	10-3/8		7-3/4	5-3/4	(2)-3/4	34.5	160	50	4-1/8	3-3/8
FSAF 218	4	13-3/4	3-7/8	1-5/16	11-5/8	10-3/8	2-1/8	7-3/4	5-3/4	(4)-5/8	34.5	160	50	4-1/8	3-3/8
SAF 220	4-1/2	15-1/4	4-3/8	1-3/4	13-1/8	11-5/8		8-3/4	6	(2)-7/8	50.7	180	56	4-1/2	3-13/16
FSAF 220	4-1/2	15-1/4	4-3/8	1-3/4	13-1/8	11-5/8	2-3/8	8-3/4	6	(4)-3/4	50.7	180	56	4-1/2	3-13/16
SAF 222	4-15/16	16-1/2	4-3/4	2	14-1/2	12-5/8	2-3/4	9-5/8	6-1/2	(4)-3/4	64.8	200	63	4-7/8	4-3/16
SAF 224	5-1/4	16-1/2	4-3/4	2-1/8	14-1/2	13-1/4	2-3/4	10-1/4	7-3/8	(4)-3/4	68.3	215	68	5-5/16	4-9/16
SAF 226	6	18-3/8	5-1/8	2-3/8	16	14-5/8	3-1/4	11-1/2	8	(4)-7/8	103.1	230	74	5-7/8	4-15/16
SAF 228	6	20-1/8	5-7/8	2-3/8	17-1/8	16	3-3/8	11-3/4	7-5/8	(4)-1	113.1	250	78	6-1/4	5-5/16
SAF 230	6-5/16	21-1/4	6-1/4	2-1/2	18-1/4	17	3-3/4	12-1/2	8-3/8	(4)-1	146.7	270	83	6-5/8	5-3/4
SAF 232	6-11/16	22	6-1/4	2-5/8	19-1/4	17-3/8	3-3/4	13-5/16	8-3/4	(4)-1	169.7	290	90	7	6-1/16
SAF 234	7-1/16	24-3/4	6-3/4	2-3/4	21-5/8	19-3/8	4-1/4	14-3/16	9-5/8	(4)-1	179.3	310	96	7-7/16	6-7/16
SAF 236	7-1/2	26-3/4	7-1/8	3	23-5/8	20-7/8	4-5/8	14-7/8	10	(4)-1	212.1	320	96	7-13/16	6-7/8
SAF 238	7-7/8	28	7-1/2	3-1/8	24-3/8	21-5/8	4-1/2	15-11/16	10-3/4	(4)-1 1/4	284.8	340	102	8-3/8	7-1/4
SAF 240	8-1/4	29-1/2	8	3-3/8	25	22-1/2	5	16-1/2	11-1/4	(4)-1 1/4	342.3	360	108	8-3/4	7-5/8
SAF 244	9-1/2	32-3/4	8-3/4	3-3/4	27-7/8	24-3/4	5-1/4	18-5/8	12	(4)-1 1/2	425.5	400	118	9-9/16	8-5/16

*Weights are approximate



Shaft		Complete Unit Number	Housing Only ^(a)	Bearing Number	Locknut	Lockwasher	Labyrinth Seals		Fixing Ring ^(b)		End Cover ^(c)
D1	D2						D1	D2	Size	Qty.	
3-5/8	3	SAF 1216	SAF 216	1216	AN 16	W 16	LER 82	LER 54	FR140X8.5	2	EPR 09
		SAF 2216	FSAF 216	2216					FR140X10	1	
		SAF 22216		22216					FR140X10	1	
3-15/16	3-3/16	SAF 1217	SAF 217	1217	AN 17	W 17	LER 89	LER 63	FR150X9	2	EPR 09
		SAF 2217	FSAF 217	2217					FR150X10	1	
		SAF 22217		22217					FR150X10	1	
4-1/8	3-3/8	SAF 1218	SAF 218	1218	AN 18	W 18	LER 112	LER 191	FR 160X10	2	EPR 11
		SAF 2218	FSAF 218	2218					FR 160X10	1	
		SAF 22218		22218					FR 160X10	1	
4-1/2	3-13/16	SAF 1220	SAF 220	1220	AN 20	W 20	LER 118	LER 106	FR180X11	2	EPR 12
		SAF 2220	FSAF 220	2220					FR180X10	1	
		SAF 22220		22220					FR180X10	1	
4-7/8	4-3/16	SAF 1222	SAF 222	1222	AN 22	W 22	LER 121	LER 113	FR200X12.5	2	EPR 14
		SAF 2222		2222					FR200X10	1	
		SAF 22222		22222					FR200X10	1	
5-5/16	4-9/16	SAF 22224	SAF 224	22224	AN 24	W 24	LER 127	LER 119	FR215X10	1	EPR 15
5-7/8	4-15/16	SAF 22226	SAF 226	22226	AN 26	W 26	LER 136	LER 122	FR230X10	1	EPR 27
6-1/4	5-15/16	SAF 22228	SAF 228	22228	AN 28	W 28	LER 144	LER 127	FR250X10	1	EPR 16
6-5/8	5-3/4	SAF 22230	SAF 230	22230	AN 30	W 30	LER 151	LER 134	FR270X10	1	EPR 17
7	6-1/16	SAF 22232	SAF 232	22232	AN 32	W 32	LER 156	LER 142	FR290X10	1	EPR 18
7-7/16	6-7/16	SAF 22234	SAF 234	22234	AN 34	W 34	LER 161	LER 148	FR310X10	1	EPR 19
7-13/16	6-7/8	SAF 22236	SAF 236	22236	AN 36	W 36	LER 165	LER 154	FR320X10	1	EPR 20
8-3/8	7-1/4	SAF 22238	SAF 238	22238	AN 38	W 38	LER 171	LER 160	FR340X10	1	EPR 21
8-3/4	7-5/8	SAF 22240	SAF 240	22240	AN 40	W 40	LER 175	LER 164	FR360X10	1	EPR 22
9-9/16	8-5/16	SAF 22244	SAF 244	22244	AN 44	W 44	LER 179	LER 170	FR400X10	1	EPR 24

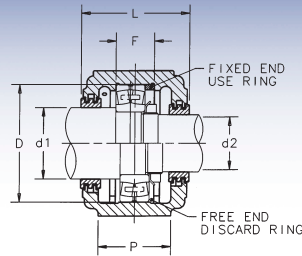
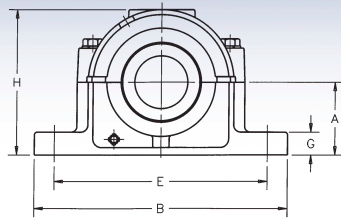
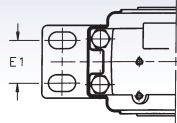
Note: Housings available in cast iron (SAF), Ductile (SAFD) or cast steel (SAFS).
Taconite (TER) and LOR seals with O-rings are also available.

- (a) "Housing Only" includes - cap, base, cap bolts, labyrinth seals and fixing rings
- (b) Fixing Ring is used for fixed block only; do not use for float mounting
- (c) End Cover is optional

SAF Split Pillow Block Housings (SAF 300 Series)

Housing No.	A	B	P	G	E		E1	H	L	Bolts (No. Req'd)	Wt.	D	F	d1	d2
	In.	In.	In.	In.	Max In.	Min In.	In.	In.	In.	In.	lbs.*	mm	mm	In.	In.
SAF 308	2-1/2	8-1/4	2-3/8	1	7	6-1/2		4-13/16	4	(2)-1/2	11.2	90	42.8	1-15/16	1-7/16
SAF 309	2-3/4	9-5/8	2-3/4	1	7-7/8	7-3/8		5-5-16	4-1/4	(2)-5/8	14.3	100	46	2-1/8	1-11/16
SAF 310	3	10-5/8	2-3/4	1-1/8	9	7-3/4		5-13/16	4-5/8	(2)-5/8	17.8	110	51	2-3/8	1-7/8
SAF 311	3-1/4	11	3-1/8	1-3/16	9-1/2	8-1/8		6-3/16	5	(2)-5/8	20.2	120	53	2-9/16	2-1/16
FSAF 311	3-1/4	11	3-1/8	1-3/16	9-1/2	8-1/8	2	6-3/16	5	(4)-1/2	20.2	120	53	2-9/16	2-1/16
SAF 313	3-1/2	13	3-1/2	1-1/4	11	9-5/8		6-15/16	5-3/8	(2)-3/4	28.6	140	58	3-1/16	2-7/16
FSAF 313	3-1/2	13	3-1/2	1-1/4	11	9-5/8	2-1/8	6-15/16	5-3/8	(4)-5/8	28.6	140	58	3-1/16	2-7/16
SAF 314	3-3/4	13	3-1/2	1-1/4	11	9-7/8		7-3/8	5-3/8	(2)-3/4	32.3	150	63	3-1/4	2-5/8
FSAF 314	3-3/4	13	3-1/2	1-1/4	11	9-7/8	2-1/8	7-3/8	5-3/8	(4)-5/8	32.3	150	63	3-1/4	2-5/8
SAF 315	4	13-3/4	3-7/8	1-5/16	11-5/8	10-3/8		7-13/16	6-1/4	(2)-3/4	39.6	160	65	3-7/16	2-13/16
FSAF 315	4	13-3/4	3-7/8	1-5/16	11-5/8	10-3/8	2-1/8	7-13/16	6-1/4	(4)-5/8	39.6	160	65	3-7/16	2-13/16
SAF 316	4-1/4	14-1/4	3-7/8	1-5/16	12-5/8	10-5/8		8-1/4	6-1/2	(2)-3/4	49.8	170	68	3-5/8	3
FSAF 316	4-1/4	14-1/4	3-7/8	1-5/16	12-5/8	10-5/8	2-1/8	8-1/4	6-1/2	(4)-5/8	49.8	170	68	3-5/8	3
SAF 317	4-1/2	15-1/4	4-3/8	1-3/4	13-1/8	11-5/8		8-3/4	6-3/4	(2)-7/8	53.7	180	70	3-15/16	3-3/16
FSAF 317	4-1/2	15-1/4	4-3/8	1-3/4	13-1/8	11-5/8	2-3/8	8-3/4	6-3/4	(4)-3/4	53.7	180	70	3-15/16	3-3/16
SAF 318	4-3/4	15-1/2	4-3/8	2	13-1/2	12	2-1/4	9-3/16	6-7/8	(4)-3/4	59	190	74	4-1/8	3-3/8
SAF 320	5-1/4	16-1/2	4-3/4	2-1/8	14-1/2	13-1/4	2-3/4	10-1/4	7-3/8	(4)-3/4	81.3	215	83	4-1/2	3-13/16
SAF 322	6	18-3/8	5-1/8	2-3/8	16	14-5/8	3-1/4	11-1/2	8	(4)-7/8	96.5	240	90	4-7/8	4-3/16
SAF 324	6-5/16	21-1/4	6-1/4	2-1/2	18-1/4	17	3-3/4	12-1/2	8-3/8	(4)-1	142.1	260	96	5-5/16	4-9/16
SAF 326	6-11/16	22	6-1/4	2-5/8	19-1/4	17-3/8	3-3/4	13-5/16	8-3/4	(4)-1	176.3	280	103	5-7/8	4-15/16
SAF 328	7-1/16	24-3/4	6-3/4	2-3/4	21-5/8	19-3/8	4-1/4	14-3/16	9-5/8	(4)-1	207.8	300	112	6-1/4	5-5/16
SAF 330	7-1/2	26-3/4	7-1/8	3	23-5/8	20-7/8	4-5/8	14-7/8	9-3/4	(4)-1	249.1	320	118	6-5/8	5-3/4
SAF 332	7-7/8	28	7-1/2	3-1/8	24-3/8	21-5/8	4-1/2	15-11/16	10-3/4	(4)-1 1/4	289.6	340	124	7	6-1/16
SAF 334	8-1/4	29-1/2	8	3-3/8	25	22-1/2	5	16-1/2	11-1/4	(4)-1 1/4	345.3	360	130	7-7/16	6-7/16
SAF 336	8-7/8	31-1/4	8-1/4	3-1/2	26-5/8	24	5-1/4	17-3/4	11-3/8	(4)-1 1/4	389.2	380	136	7-13/16	6-7/8
SAF 338	9-1/2	32-3/4	8-3/4	3-3/4	27-7/8	24-3/4	5-1/4	18-5/8	12	(4)-1 1/2	436.5	400	142	8-3/8	7-1/4
SAF 340	9-7/8	34-1/4	9	4	29-1/2	26-1/4	5-1/2	20	12-1/16	(4)-1 1/2	478.6	420	148	8-3/4	7-5/8

*Weights are approximate



Shaft		Complete Unit Number	Housing Only ^(a)	Bearing Number	Locknut	Lockwasher	Labyrinth Seals		Fixing Ring ^(b)		End Cover ^(c)
D1	D2						D1	D2	Size	Qty.	
1-15/16	1-7/16	SAF 1308	SAF 308	1308	N 08	W 08	LER 24	LER 17	FR90X10	2	EPR 03
		SAF 2308		2308					FR90X10	1	
		SAF 21308		21308					FR90X10.2	2	
		SAF 22308		22308					FR90X10	1	
2-1/8	1-11/16	SAF 1309	SAF 309	1309	N 09	W 09	LER 28	LER 20	FR100X10.5	2	EPR 04
		SAF 2309		2309					FR100X10	1	
		SAF 21309		21309					FR100X10.5	2	
		SAF 22309		22309					FR100X10	1	
2-3/8	1-7/8	SAF 1310	SAF 310	1310	N 10	W 10	LER 35	LER 23	FR110X11.5	2	EPR 05
		SAF 2310		2310					FR110X10	1	
		SAF 21310		21310					FR110X11.5	2	
		SAF 22310		22310					FR110X10	1	
2-9/16	2-1/16	SAF 1311	SAF 311 FSAF 311	1311	N 11	W 11	LER 40	LER 27	FR120X12	2	EPR 06
		SAF 2311		2311					FR120X10	1	
		SAF 21311		21311					FR120X12	2	
		SAF 22311		22311					FR120X10	1	
3-1/16	2-7/16	SAF 1313	SAF 313 FSAF 313	1313	N 13	W 13	LER 55	LER 37	FR140X12.5	2	EPR 07
		SAF 2313		2313					FR140X10	1	
		SAF 21313		21313					FR140X12.5	2	
		SAF 22313		22313					FR140X10	1	
3-1/4	2-5/8	SAF 1314	SAF 314	1314	N 14	W 14	TS314X3-1/4	TS314X2-5/8	FR150X12.5	2	---
		SAF 2314		2314					FR150X10	1	
		SAF 21314		21314					FR150X12.5	2	
		SAF 22314		22314					FR150X10	1	
3-7/16	2-13/16	SAF 1315	SAF 315 FSAF 315	1315	N 15	W 15	LER 79	LER 46	FR160X14	2	EPR 08
		SAF 2315		2315					FR160X10	1	
		SAF 21315		21315					FR160X14	2	
		SAF 22315		22315					FR160X10	1	
3-5/8	3	SAF 1316	SAF 316 FSAF 316	1316	AN 16	W 16	LER 84	LER 60	FR170X14.5	2	EPR 10
		SAF 2316		2316					FR170X10	1	
		SAF 21316		21316					FR170X14.5	2	
		SAF 22316		22316					FR170X10	1	
3-15/16	3-3/16	SAF 1317	SAF 317 FSAF 317	1317	AN 17	W 17	LER 109	LER 188	FR180X14.5	2	EPR 11
		SAF 2317		2317					FR180X10	1	
		SAF 21317		21317					FR180X14.5	2	
		SAF 22317		22317					FR180X10	1	
4-1/8	3-3/8	SAF 1318	SAF 318 FSAF 318	1318	AN 18	W 18	LER 112	LER 191	FR190X15.5	2	EPR 11
		SAF 2318		2318					FR190X10	1	
		SAF 21318		21318					FR190X15.5	2	
		SAF 22318		22318					FR190X10	1	
4-1/2	3-13/16	SAF 1320	SAF 320 FSAF 320	1320	AN 20	W 20	LER 118	LER 106	FR215X18	2	EPR 12
		SAF 2320		2320					FR215X10	1	
		SAF 21320		21320					FR215X18	2	
		SAF 22320		22320					FR215X10	1	
4-7/8	4-3/16	SAF 1322	SAF 322	1322	AN 22	W 22	LER 121	LER 113	FR240X20	2	EPR 14
		SAF 2322		2322					FR240X10	1	
		SAF 21322		21322					FR240X20	2	
		SAF 22322		22322					FR240X10	1	
5-5/16	4-9/16	SAF 22324	SAF 324	22324	AN 24	W 24	LER 127	LER 119	FR260X10	1	EPR 15
5-7/8	4-15/16	SAF 22326	SAF 326	22326	AN 26	W 26	LER 136	LER 122	FR280X10	1	EPR 27
6-1/4	5-15/16	SAF 22328	SAF 328	22328	AN 28	W 28	LER 144	LER 127	FR300X10	1	EPR 16
6-5/8	5-3/4	SAF 22330	SAF 330	22330	AN 30	W 30	LER 151	LER 134	FR320X10	1	EPR 17
7	6-1/16	SAF 22332	SAF 332	22332	AN 32	W 32	LER 156	LER 142	FR340X10	1	EPR 18
7-7/16	6-7/16	SAF 22334	SAF 334	22334	AN 34	W 34	LER 161	LER 148	FR360X10	1	EPR 19
7-13/16	6-7/8	SAF 22336	SAF 336	22336	AN 36	W 36	LER 165	LER 154	FR380X10	1	---
8-3/8	7-1/4	SAF 22338	SAF 338	22338	AN 38	W 38	LER 171	LER 160	FR400X10	1	EPR 21
8-3/4	7-5/8	SAF 22340	SAF 340	22340	AN 40	W 40	LER 175	LER 164	FR420X10	1	---

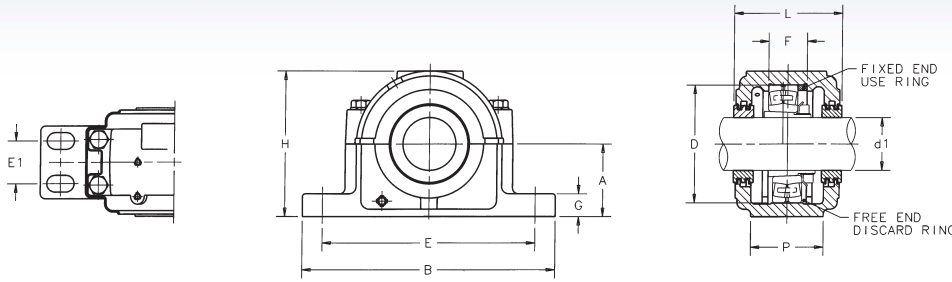
Note: Housings available in cast iron (SAF), Ductile (SAFD) or cast steel (SAFS).
Taconite (TER) and LOR seals with O-rings are also available.

- (a) "Housing Only" includes - cap, base, cap bolts, labyrinth seals and fixing rings
- (b) Fixing Ring is used for fixed block only; do not use for float mounting
- (c) End Cover is optional

SAF Split Pillow Block Housings (SAF 500 Series)

Housing No.	A	B	P	G	E		E1	H	L	X	Bolts (No. Req'd)	Wt.	D	F	d1
	In.	In.	In.	In.	Max In.	Min In.	In.	In.	In.	In.	In.	lbs.*	mm	mm	In.
SAF 507	2	7-1/2	2	7/8	6-1/8	5-5/8		3-7/8	3-1/4	1	(2)-1/2	7.2	80	8	1-3/16
SAF 509	2-1/4	8-1/4	2-3/8	13/16	7	6-1/4		4-3/8	3-5/8	.114	(2)-1/2	9.3	85	29	1-7/16
SAF 510	2-1/2	8-1/4	2-3/8	15/16	7	6-1/2		4-3/4	3-5/8	.133	(2)-1/2	10.2	90	30	1-11/16
SAF 511	2-3/4	9-5/8	2-3/4	15/16	7-7/8	7-3/8		5-1/4	3-7/8	.114	(2)-5/8	12.5	3100	31	1-15/16
SAF 513	3	11	3-1/8	1	9-1/2	8-1/8		5-15/16	4-1/2	.157	(2)-5/8	18.3	120	39	2-3/16
FSAF 513	3	11	3-1/8	1	9-1/2	8-1/8	1-7/8	5-15/16	4-1/2	.157	(4)-1/2	18.3	120	39	2-3/16
SAF 515	3-1/4	11-1/4	3-1/8	1-1/8	9-5/8	8-5/8		6-3/8	4-3/4	.118	(2)-5/8	18.3	130	37	2-7/16
FSAF 515	3-1/4	11-1/4	3-1/8	1-1/8	9-5/8	8-5/8	1-7/8	6-3/8	4-3/4	.118	(4)-1/2	18.3	130	37	2-7/16
SAF 516	3-1/2	13	3-1/2	1-3/16	11	9-5/8		6-7/8	4-7/8	.187	(2)-3/4	26.9	140	43	2-11/16
FSAF 516	3-1/2	13	3-1/2	1-3/16	11	9-5/8	2-1/8	6-7/8	4-7/8	.187	(4)-5/8	26.9	140	43	2-11/16
SAF 517	3-3/4	13	3-1/2	1-1/4	11	9-7/8		7-5/16	5	.187	(2)-3/4	29.8	150	46	2-15/16
FSAF 517	3-3/4	13	3-1/2	1-1/4	11	9-7/8	2-1/8	7-5/16	5	.187	(4)-5/8	29.8	150	46	2-15/16
SAF 518	4	13-3/4	3-7/8	1-5/16	11-5/8	10-3/8		7-3/4	5-3/4	.187	(2)-3/4	36.6	160	50	3-3/16
FSAF 518	4	13-3/4	3-7/8	1-5/16	11-5/8	10-3/8	2-1/8	7-3/4	5-3/4	.187	(4)-5/8	36.6	160	50	3-3/16
SAF 520	4-1/2	15-1/4	4-3/8	1-3/4	13-1/8	11-5/8		8-3/4	6-1/8	.187	(2)-7/8	50.2	180	56	3-7/16
FSAF 520	4-1/2	15-1/4	4-3/8	1-3/4	13-1/8	11-5/8	2-3/8	8-3/4	6-1/8	.187	(4)-3/4	50.2	180	56	3-7/16
SAF 522	4-15/16	16-1/2	4-3/4	2	14-1/2	12-5/8	2-3/4	9-5/8	6-1/2	.187	(4)-3/4	60.1	200	63	3-15/16
SAF 524	5-1/4	16-1/2	4-3/4	2-1/8	14-1/2	13-1/4	2-3/4	10-1/4	7-3/8	.187	(4)-3/4	71.2	215	68	4-3/16
SAF 526	6	18-3/4	5-1/8	2-3/8	16	14-5/8	3-1/4	11-1/2	8	.187	(4)-4/8	94.7	230	74	4-7/16
SAF 528	6	20-1/8	5-7/8	2-3/8	17-1/8	16	3-3/8	11-3/4	7-5/8	.187	(4)-1	110.2	250	78	4-15/16
SAF 530	6-5/16	21-1/4	6-1/4	2-1/2	18-1/4	17	3-3/4	12-1/2	8-3/8	.187	(4)-1	137.9	270	83	5-3/16
SAF 532	6-11/16	22	6-1/4	2-5/8	19-1/4	17-3/8	3-3/4	13-5/16	8-3/4	.187	(4)-1	157.6	290	90	5-7/16
SAF 534	7-1/16	24-3/4	6-3/4	2-3/4	21-5/8	19-3/8	4-1/4	14-3/16	9-5/8	.187	(4)-1	184.6	310	96	5-15/16
SAF 536	7-1/2	26-3/4	7-1/8	3	23-5/8	20-7/8	4-5/8	14-7/16	10	.187	(4)-1	217.1	320	96	6-7/16
SAF 538	7-7/8	28	7-1/2	3-1/8	24-3/8	21-5/8	4-1/2	15-11/16	10-3/4	.187	(4)-1 1/4	285	340	102	6-15/16
SAF 540	8-1/4	29-1/2	8	3-3/8	25	22-1/2	5	16-1/2	11-1/4	.187	(4)-1 1/4	330	360	108	7-3/16
SAF 544	9-1/2	32-3/4	8-3/4	3-3/4	27-7/8	24-3/4	5-1/4	18-5/8	12	.187	(4)-1 1/2	391.3	400	111	7-15/16

*Weights are approximate



Shaft Size	Complete Unit Number	Housing Only ^(a)	Bearing Number	Adapters		Labyrinth Seals		Fixing Ring ^(b)		End Cover ^(c)
				SNW Type	H Type	LER	Tactonite	Size	Qty.	
1-3/16	SAF 1507	SAF 507	1207K	SNW 07X1-3/16	HA 207X1-3/16	LER 13	---	FR72X8	2	---
	SAF 2507		2207K	SNW 07X1-3/16	HA 307X1-3/16			FR72X10	1	
1-7/16	SAF 1509	SAF 509	1209K	SNW 09X1-7/16	HA 209X1-7/16	LER 17	TER 17	FR85X5	2	EPR 03
	SAF 2509		2209K	SNW 09X1-7/16	HA 309X1-7/16			FR85X6	1	
	SAF 22509		22209K	SNW 09X1-7/16	HA 309X1-7/16			FR85X6	1	
1-11/16	SAF 1510	SAF 510	1210K	SNW 10X1-11/16	HA 210X1-11/16	LER 20	TER 20	FR90X5	2	EPR 04
	SAF 2510		2210K	SNW 10X1-11/16	HA 310X1-11/16			FR90X7	1	
	SAF 22510		22210K	SNW 10X1-11/16	HA 310X1-11/16			FR90X7	1	
1-15/16	SAF 1511	SAF 511	1211K	SNW 11X1-15/16	HA 211X1-15/16	LER 24	TER 24	FR100X10	1	EPR 05
	SAF 2511		2211K	SNW 11X1-15/16	HA 311X1-15/16			FR100X6	1	
	SAF 22511		22211K	SNW 11X1-15/16	HA 311X1-15/16			FR100X6	1	
2-3/16	SAF 1513	SAF 513 FSAF 513	1213K	SNW 13X2-3/16	HA 213X2-3/16	LER 29	TER 29	FR120X8	2	EPR 06
	SAF 2513		2213K	SNW 13X2-3/16	HA 313X2-3/16			FR120X8	1	
	SAF 22513		22213K	SNW 13X2-3/16	HA 313X2-3/16			FR120X8	1	
2-7/16	SAF 1515	SAF 515 FSAF 515	1215K	SNW 15X2-7/16	HA 215X2-7/16	LER 37	TER 37	FR130X6	2	EPR 07
	SAF 2515		2215K	SNW 15X2-7/16	HA 315X2-7/16			FR130X10	1	
	SAF 22515		22215K	SNW 15X2-7/16	HA 315X2-7/16			FR130X10	1	
2-11/16	SAF 1516	SAF 516 FSAF 516	1216K	SNW 16X2-11/16	HA 216X2-11/16	LER 44	TER 44	FR140X8.5	2	EPR 08
	SAF 2516		2216K	SNW 16X2-11/16	HA 316X2-11/16			FR140X10	1	
	SAF 22516		22216K	SNW 16X2-11/16	HA 316X2-11/16			FR140X10	1	
2-15/16	SAF 1517	SAF 517 FSAF 517	1217K	SNW 17X2-15/16	HA 217X2-15/16	LER 53	TER 53	FR150X9	2	EPR 09
	SAF 2517		2217K	SNW 17X2-15/16	HA 317X2-15/16			FR150X10	1	
	SAF 22517		22217K	SNW 17X2-15/16	HA 317X2-15/16			FR150X10	1	
3-3/16	SAF 1518	SAF 518 FSAF 518	1218K	SNW 18X3-3/16	HA 218X3-3/16	LER 188	TER 188	FR160X10	2	EPR 11
	SAF 2518		2218K	SNW 18X3-3/16	HA 318X3-3/16			FR160X10	1	
	SAF 22518		22218K	SNW 18X3-3/16	HA 318X3-3/16			FR160X10	1	
3-7/16	SAF 1520	SAF 520 FSAF 520	1220K	SNW 20X3-7/16	HA 220X3-7/16	LER 102	TER 102	FR180X11	2	EPR 12
	SAF 2520		2220K	SNW 20X3-7/16	HA 320X3-7/16			FR180X10	1	
	SAF 22520		22220K	SNW 20X3-7/16	HA 320X3-7/16			FR180X10	1	
3-15/16	SAF 1522	SAF 522	1222K	SNW 22X3-15/16	HA 222X3-15/16	LER 109	TER 109	FR200X12.5	2	EPR 13
	SAF 2522		2222K	SNW 22X3-15/16	HA 322X3-15/16			FR200X10	1	
	SAF 22522		22222K	SNW 22X3-15/16	HA 322X3-15/16			FR200X10	1	
4-3/16	SAF 22524	SAF 524	22224K	SNW 24X4-3/16	HA 3124X4-3/16	LER 113	TER 113	FR215X10	1	EPR 14
4-7/16	SAF 22526	SAF 526	22226K	SNW 26X4-7/16	HA 3126X4-7/16	LER 117	TER 117	FR230X10	1	EPR 15
4-15/16	SAF 22528	SAF 528	22228K	SNW 28X4-15/16	HA 3128X4-15/16	LER 122	TER 122	FR250X10	1	EPR 27
5-3/16	SAF 22530	SAF 530	22230K	SNW 30X5-3/16	HA 3130X5-3/16	LER 125	TER 125	FR270X10	1	EPR 16
5-7/16	SAF 22532	SAF 532	22232K	SNW 32X5-7/16	HA 3132X5-7/16	LER 130	TER 130	FR290X10	1	EPR 16
5-15/16	SAF 22534	SAF 534	22234K	SNW 34X5-15/16	HA 3134X5-15/16	LER 140	TER 140	FR310X10	1	EPR 18
6-7/16	SAF 22536	SAF 536	22236K	SNW 36X6-7/16	HA 3136X6-7/16	LER 148	TER 148	FR320X10	1	EPR 19
6-15/16	SAF 22538	SAF 538	22238K	SNW 38X6-15/16	HA 3138X6-15/16	LER 155	TER 155	FR340X10	1	EPR 20
7-3/16	SAF 22540	SAF 540	22240K	SNW 40X7-3/16	HA 3140X7-3/16	LER 159	TER 159	FR360X10	1	EPR 20
7-15/16	SAF 22544	SAF 544	22244K	SNW 44X7-15/16	HA 3144X7-15/16	LER 167	TER 167	FR400X10	1	EPR 20

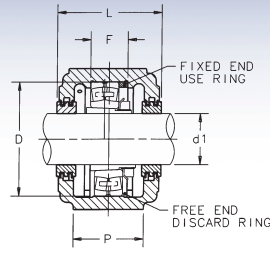
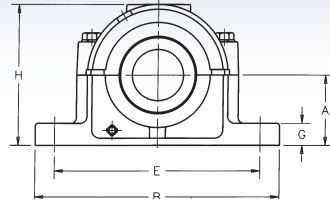
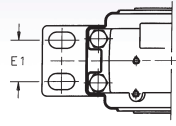
Note: Housings available in cast iron (SAF), Ductile (SAFD) or cast steel (SAFS).
LOR seals with O-rings are also available.

- (a) "Housing Only" includes - cap, base, cap bolts, labyrinth seals and fixing rings
- (b) Fixing Ring is used for fixed block only; do not use for float mounting
- (c) End Cover is optional

SAF Split Pillow Block Housings (SAF 600 Series)

Housing No.	A	B	P	G	E		E1	H	L	Bolts (No. Req'd)	Wt.	D	F	d1
	In.	In.	In.	In.	Max In.	Min In.	In.	In.	In.	In.	lbs.*	mm	mm	In.
SAF 609	2-3/4	9-5/8	2-3/4	1	7-7/8	7-3/8		5-5/16	4-1/4	(2)-5/8	12.1	100	46	1-7/16
SAF 610	3	10-5/8	2-3/4	1-1/8	9	7-3/4		5-13/16	4-5/8	(2)-5/8	16.8	110	51	1-11/16
SAF 611	3-1/4	11	3-1/3	1-3/16	9-1/2	8-1/8		6-3/16	4-7/8	(2)-5/8	20.2	120	53	1-15/16
FSAF 611	3-1/4	11	3-1/3	1-3/16	9-1/2	8-1/8	2	6-3/16	4-7/8	(4)-1/2	20.2	120	53	1-15/16
SAF 613	3-1/2	13	3-1/2	1-1/4	11	9-5/8		6-15/16	5-3/8	(2)-3/4	28.7	140	58	2-3/16
FSAF 613	3-1/2	13	3-1/2	1-1/4	11	9-5/8	2-1/8	6-15/16	5-3/8	(4)-5/8	28.7	140	58	2-3/16
SAF 615	4	13-3/4	3-7/8	1-5/16	11-5/8	10-3/8		7-3/4	6-1/4	(2)-3/4	36.9	160	65	2-7/16
FSAF 615	4	13-3/4	3-7/8	1-5/16	11-5/8	10-3/8	2-1/8	7-3/4	6-1/4	(4)-5/8	36.9	160	65	2-7/16
SAF 616	4-1/4	14-1/4	3-7/8	1-5/16	12-5/8	10-5/8		8-1/4	6-1/2	(2)-3/4	47.6	170	68	2-11/16
FSAF 616	4-1/4	14-1/4	3-7/8	1-5/16	12-5/8	10-5/8	2-1/8	8-1/4	6-1/2	(4)-5/8	47.6	170	68	2-11/16
SAF 617	4-1/2	15-1/4	4-3/8	1-3/4	13-1/8	11-5/8		8-3/4	6-3/4	(2)-7/8	57.4	180	70	2-15/16
FSAF 617	4-1/2	15-1/4	4-3/8	1-3/4	13-1/8	11-5/8	2-3/8	8-3/4	6-3/4	(4)-3/4	57.4	180	70	2-15/16
SAF 618	4-3/4	15-1/2	4-3/8	2	13-1/2	12	2-1/4	9-3/16	6-7/8	(4)-3/4	62.8	190	74	3-3/16
SAF 620	5-1/4	16-1/2	4-3/4	2-1/8	14-1/2	13-1/4	2-3/4	10-1/4	7-3/8	(4)-3/4	77.1	215	83	3-7/16
SAF 622	6	18-3/8	5-1/8	2-3/8	16	14-5/8	3	11-1/2	8	(4)-7/8	107.4	240	90	3-15/16
SAF 624	6-5/16	21-1/4	6-1/4	2-1/2	18-1/4	17	3-3/4	12-1/2	8-3/8	(4)-1	145.9	260	96	4-3/16
SAF 626	6-11/16	22	6-1/4	2-5/8	19-1/4	17-3/8	3-3/4	13-5-16	8-3/4	(4)-1	164.7	280	103	4-7/16
SAF 628	7-1/16	24-3/4	6-3/4	2-3/4	21-5/8	19-3/8	4-1/4	14-3/16	9-5/8	(4)-1	192.9	300	112	4-15/16
SAF 630	7-1/2	26-3/4	7-1/8	3	23-5/8	20-7/8	4-5/8	14-7/8	9-3/4	(4)-1	259.5	320	116	5-3/16
SAF 632	7-7/8	28	7-1/2	3-1/8	24-3/8	21-5/8	4-1/2	15-11/16	10-3/4	(4)-1 1/4	268.9	340	124	5-7/16
SAF 634	8-1/4	29-1/2	8	3-3/8	25	22-1/2	5	16-1/2	11-1/4	(4)-1 1/4	306.4	360	130	5-15/16
SAF 636	8-7/8	31-1/4	8-1/4	3-1/2	26-5/8	24	5-1/4	17-3/4	11-3/8	(4)-1 1/4	374.8	380	136	6-7/16
SAF 638	9-1/2	32-3/4	8-3/4	3-3/4	27-7/8	24-3/4	5-1/4	18-5/8	12	(4)-1 1/2	441	400	142	6-15/16
SAF 640	9-7/8	34-1/4	9	4	29-1/2	26-1/4	5-1/2	20	12-1/16	(4)-1 1/2	489.9	420	148	7-3/16

*Weights are approximate



Shaft Size	Complete Unit Number	Housing Only ^(a)	Bearing Number	Adapters		Labyrinth Seals		Fixing Ring ^(b)		End Cover ^(c)
				SNW Type	H Type	LER	Tactonite	Size	Qty.	
1-7/16	SAF 1609	SAF 609	1309K	SNW 09X1-7/16	HA 309X1-7/16	LER 17	TER 17	FR100X10.5	2	EPR 03
	SAF 2609		2309K	SNW 09X1-7/16	HA 2309X1-7/16			FR100X10	1	
	SAF 21609		21309K	SNW 09X1-7/16	HA 309X1-7/16			FR100X10.5	2	
	SAF 22609		22309K	SNW 109X1-7/16	HA 2309X1-7/16			FR100X10	1	
1-11/16	SAF 1610	SAF 610	1310K	SNW 10X1-11/16	HA 310X1-11/16	LER 20	TER 20	FR110X11.5	2	EPR 04
	SAF 2610		2310K	SNW 10X1-11/16	HA 2310X1-11/16			FR110X10	1	
	SAF 21610		21310K	SNW 10X1-11/16	HA 310X1-11/16			FR110X11.5	2	
	SAF 22610		22310K	SNW 110X1-11/16	HA 2310X1-11/16			FR110X10	1	
1-15/16	SAF 1611	SAF 611	1311K	SNW 11X1-15/16	HA 311X1-15/16	LER 24	TER 24	FR120X12	2	EPR 05
	SAF 2611	FSAF 611	2311K	SNW 11X1-15/16	HA 2311X1-15/16			FR120X10	1	
	SAF 21611		21311K	SNW 11X1-15/16	HA 311X1-15/16			FR120X12	2	
	SAF 22611		22311K	SNW 111X1-15/16	HA 2311X1-15/16			FR120X10	1	
2-3/16	SAF 1613	SAF 613	1313K	SNW 13X2-3/16	HA 313X2-3/16	LER 32	---	FR140X12.5	2	EPR 07
	SAF 2613	FSAF 613	2313K	SNW 13X2-3/16	HA 2313X2-3/16			FR140X10	1	
	SAF 21613		21313K	SNW 13X2-3/16	HA 313X2-3/16			FR140X12.5	2	
	SAF 22613		22313K	SNW 113X2-3/16	HA 2313X2-3/16			FR140X10	1	
2-7/16	SAF 1615	SAF 615	1315K	SNW 15X2-7/16	HA 315X2-7/16	LER 37	TER 37	FR160X14	2	EPR 07
	SAF 2615	FSAF 615	2315K	SNW 15X2-7/16	HA 2315X2-7/16			FR160X10	1	
	SAF 21615		21315K	SNW 15X2-7/16	HA 315X2-7/16			FR160X14	2	
	SAF 22615		22315K	SNW 115X2-7/16	HA 2315X2-7/16			FR160X10	1	
2-11/16	SAF 1616	SAF 616	1316K	SNW 16X2-11/16	HA 316X2-11/16	LER 44	TER 44	FR170X14.5	2	EPR 08
	SAF 2616	FSAF 616	2316K	SNW 16X2-11/16	HA 2316X2-11/16			FR170X10	1	
	SAF 21616		21316K	SNW 16X2-11/16	HA 316X2-11/16			FR170X14.5	2	
	SAF 22616		22316K	SNW 116X2-11/16	HA 2316X2-11/16			FR170X10	1	
2-15/16	SAF 1617	SAF 617	1317K	SNW 17X2-15/16	HA 317X2-15/16	LER 184	---	FR180X14.5	2	EPR 10
	SAF 2617	FSAF 617	2317K	SNW 17X2-15/16	HA 2317X2-15/16			FR180X10	1	
	SAF 21617		21317K	SNW 17X2-15/16	HA 317X2-15/16			FR180X14.5	2	
	SAF 22617		22317K	SNW 117X2-15/16	HA 2317X2-15/16			FR180X10	1	
3-3/16	SAF 1618	SAF 618	1318K	SNW 18X3-3/16	HA 318X3-3/16	LER 188	TER 188	FR190X15.5	2	EPR 11
	SAF 2618		2318K	SNW 18X3-3/16	HA 2318X3-3/16			FR190X10	1	
	SAF 21618		21318K	SNW 18X3-3/16	HA 318X3-3/16			FR190X15.5	2	
	SAF 22618		22318K	SNW 118X3-3/16	HA 2318X3-3/16			FR190X10	1	
3-7/16	SAF 1620	SAF 620	1320K	SNW 20X3-7/16	HA 320X3-7/16	LER 102	TER 102	FR215X18	2	EPR 12
	SAF 2620		2320K	SNW 20X3-7/16	HA 2320X3-7/16			FR215X10	1	
	SAF 21620		21320K	SNW 20X3-7/16	HA 320X3-7/16			FR215X18	2	
	SAF 22620		22320K	SNW 120X3-7/16	HA 2320X3-7/16			FR215X10	1	
3-15/16	SAF 1622	SAF 622	1322K	SNW 22X3-15/16	HA 322X3-15/16	LER 109	TER 109	FR240X20	2	EPR 13
	SAF 21622		21322K	SNW 22X3-15/16	HA 322X3-15/16			FR240X20	2	
	SAF 22622		22322K	SNW 122X3-15/16	HA 2322X3-15/16			FR240X10	1	
4-3/16	SAF 22624	SAF 624	22324K	SNW 124X4-3/16	HA 2324X4-3/16	LER 113	TER 113	FR260X10	1	EPR 14
4-7/16	SAF 22626	SAF 626	22326K	SNW 126X4-7/16	HA 2326X4-7/16	LER 117	TER 117	FR280X10	1	EPR 15
4-15/16	SAF 22628	SAF 628	22328K	SNW 128X4-15/16	HA 2328X4-15/16	LER 122	TER 122	FR300X10	1	EPR 27
5-3/16	SAF22630	SAF 630	22330K	SNW 130X5-3/16	HA 2330X5-3/16	LER 125	TER 125	FR320X10	1	EPR 16
5-7/16	SAF 22632	SAF 632	22332K	SNW 132X5-7/16	HA 2332X5-7/16	LER 130	TER 130	FR340X10	1	EPR 16
5-15/16	SAF 22634	SAF 634	22334K	SNW 134X5-15/16	HA 2334X5-15/16	LER 140	TER 140	FR360X10	1	EPR 18
6-7/16	SAF 22636	SAF 636	22336K	SNW 136X6-7/16	HA 2336X6-7/16	LER 148	TER 148	FR380X10	1	---
6-15/16	SAF 22638	SAF 638	22338K	SNW 138X6-15/16	HA 2338X6-15/16	LER 155	TER 155	FR400X10	1	EPR 20
7-3/16	SAF 22640	SAF 640	22340K	SNW 140X7-3/16	HA 2340X7-3/16	LER 159	---	FR420X10	1	---

Note: Housings available in cast iron (SAF), Ductile (SAFD) or cast steel (SAFS).

LOR seals with O-rings are also available.

(a) "Housing Only" includes - cap, base, cap bolts, labyrinth seals and fixing rings

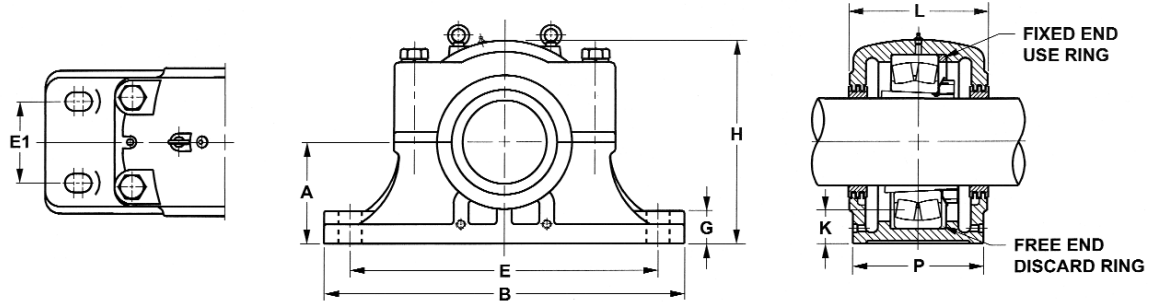
(b) Fixing Ring is used for fixed block only; do not use for float mounting

(c) End Cover is optional

SDAF Split Pillow Block Housing Dimensions (SDAF 000K Series) Ductile Iron

Housing No.	A	B	P	G	E		E1	H	K Static Oil Level	L	Bolts (No. Req'd)	Wt.
	In.	In.	In.	In.	Max In.	Min In.	In.	In.	In.	In.	In.	lbs.*
SDAF 060K/10-15/16	12	38-1/4	14-3/4	3-3/8	33-1/2	32-3/4	9	23-7/16	4-3/8	14-1/2	(4)--1-5/8	875
SDAF 060K/11	12	38-1/4	14-3/4	3-3/8	33-1/2	32-3/4	9	23-7/16	4-3/8	14-1/2	(4)--1-5/8	875
SDAF 064K/11-7/16	12	38-1/4	14-3/4	3-3/8	33-1/2	32-3/4	9	23-7/16	4	15-1/2	(4)--1-5/8	878
SDAF 064K/11-1/2	12	38-1/4	14-3/4	3-3/8	33-1/2	32-3/4	9	23-7/16	4	15-1/2	(4)--1-5/8	878
SDAF 064K/11-15/16	12	38-1/4	14-3/4	3-3/8	33-1/2	32-3/4	9	23-7/16	4	15-1/2	(4)--1-5/8	878
SDAF 064K/12	12	38-1/4	14-3/4	3-3/8	33-1/2	32-3/4	9	23-7/16	4	15-1/2	(4)--1-5/8	878
SDAF 068K/12-7/16	12	39	15-1/4	4-3/16	33-1/2	32	10	24	3-3/8	15-3/4	(4)--1-7/8	1100
SDAF 068K/12-1/2	12	39	15-1/4	4-3/16	33-1/2	32	10	24	3-3/8	15-3/4	(4)--1-7/8	1100
SDAF 072K/12-15/16	12-13/16	41-3/4	15-3/4	4-1/2	36-1/2	35	10-1/2	25-3/4	3-23/32	16-1/4	(4)--1-7/8	1170
SDAF 072K/13	12-13/16	41-3/4	15-3/4	4-1/2	36-1/2	35	10-1/2	25-3/4	3-23/32	16-1/4	(4)--1-7/8	1170
SDAF 072K/13-7/16	12-13/16	41-3/4	15-3/4	4-1/2	36-1/2	35	10-1/2	25-3/4	3-23/32	16-1/4	(4)--1-7/8	1170
SDAF 072K/13-1/2	12-13/16	41-3/4	15-3/4	4-1/2	36-1/2	35	10-1/2	25-3/4	3-23/32	16-1/4	(4)--1-7/8	1170
SDAF 076K/13-15/16	12-13/16	41-3/4	15-3/4	4-1/2	36-1/2	35	10-1/2	25-3/4	3-3/8	16-1/4	(4)--1-7/8	1146
SDAF 076K/14	12-13/16	41-3/4	15-3/4	4-1/2	36-1/2	35	10-1/2	25-3/4	3-3/8	16-1/4	(4)--1-7/8	1146

*Weights are approximate



Shaft Diameter S-1 in.	Complete Unit Number	Housing Only ^(a)	Bearing Number	Adapter Locknut and Lockwasher or Lockplate	Labyrinth Seal Ring (2 required)	Fixing Ring ^(b) (1 required)
10-15/16 11	SDAF 23060K/10-15/16 SDAF 23060K/11	SDAF 060K/10-15/16 SDAF 060K/11	23060 K 23060 K	SNP3060 X 10-15/16 SNP3060 X 11	ER 858 ER 825	A 8967 A 8967
11-7/16 11-1/2 11-15/16 12	SDAF 23064K/11-7/16 SDAF 23064K/11-1/2 SDAF 23064K/11-15/16 SDAF 23064K/12	SDAF 064K/11-7/16 SDAF 064K/11-1/2 SDAF 064K/11-15/16 SDAF 064K/12	23064 K 23064 K 23064 K 23064 K	SNP3064 X 11-7/16 SNP3064 X 11-1/2 SNP3064 X 11-15/16 SNP3064 X 12	ER 861 ER 832 ER 859 ER 818	A 8968 A 8968 A 8968 A 8968
12-7/16 12-1/2	SDAF 23068K/12-7/16 SDAF 23068K/12-1/2	SDAF 068K/12-7/16 SDAF 068K/12-1/2	23068 K 23068 K	SNP3068 X 12-7/16 SNP3068 X 12-1/2	ER 865 ER 866	A 8969 A 8969
12-15/16 13 13-7/16 13-1/2	SDAF 23072K/12-15/16 SDAF 23072K/13 SDAF 23072K/13-7/16 SDAF 23072K/13-1/2	SDAF 072K/12-15/16 SDAF 072K/13 SDAF 072K/13-7/16 SDAF 072K/13-1/2	23072 K 23072 K 23072 K 23072 K	SNP3072 X 12-15/16 SNP3072 X 13 SNP3072 X 13-7/16 SNP3072 X 13-1/2	ER 869 ER 846 ER 872 ER 823	A 8970 A 8970 A 8970 A 8970
13-15/16 14	SDAF 23076K/13-15/16 SDAF 23076K/14	SDAF 076K/13-15/16 SDAF 076K/14	23076 K 23076 K	SNP3076 X 13-15/16 SNP3076 X 14	ER 875 ER 876	A 8971 A 8971

Note: Housings available in cast iron (SDAF), Ductile (SDAFD) or cast steel (SDAFS).

Taconite (TER) and LOR seals with O-rings are also available.

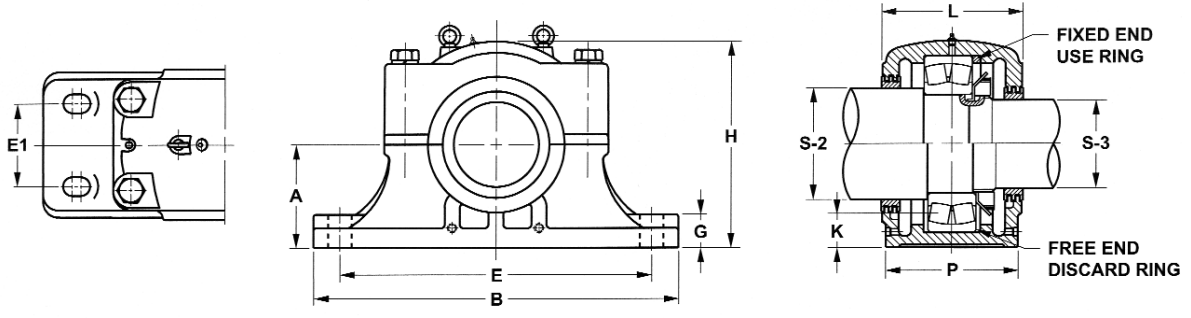
(a) "Housing Only" includes - cap, base, cap bolts, labyrinth seals and fixing rings

(b) Fixing Ring is used for fixed block only; do not use for float mounting

SDAF Split Pillow Block Housing Dimensions (SDAF 200 Series) Ductile Iron

Housing No.	A	B	P	G	E		E1	H	K Static Oil Level	L	Bolts (No. Req'd)	Wt.
	In.	In.	In.	In.	Max In.	Min In.	In.	In.	In.	In.	In.	lbs.*
SDAF 220	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	(4)--3/4	60
SDAF 222	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	(4)--7/8	90
SDAF 224	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	(4)--7/8	100
SDAF 226	6	18-3/8	7-1/2	2-3/8	16	14-5/8	4-1/2	11-7/8	2-7/16	8	(4)--1	140
SDAF 228	6	20-1/8	7-1/2	2-3/8	17-1/8	16	4-1/2	12-1/16	2-1/8	7-15/16	(4)--1	147
SDAF 230	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	(4)--1-1/8	157
SDAF 232	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	(4)--1-1/8	183
SDAF 234	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	(4)--1-1/4	212
SDAF 236	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	(4)--1-1/4	247
SDAF 238	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	(4)--1-3/8	335
SDAF 240	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	(4)--1-3/8	343
SDAF 244	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	(4)--1-1/2	515

*Weights are approximate



Shaft Diameter		Complete Unit Number	Housing Only ^(a)	Bearing Number	Locknut	Lockwasher	Labyrinth Seal Ring		Fixing Ring ^(b) (1 required)	End Cover ^(c)
S-2 in.	S-3 in.						S-2 Shaft (1 required)	S-3 Shaft (1 required)		
4-1/2	3-13/16	SDAF 22220	SDAF 220	22220	AN 20	W 20	LER 205	LER 87	FR180X10	EPR 12
4-7/8	4-3/16	SDAF 22222	SDAF 222	22222	AN 22	W 22	LER 121	LER 113	FR200X10	EPR 14
5-5/16	4-9/16	SDAF 22224	SDAF 224	22224	AN 24	W 24	LER 127	LER 119	FR215X10	EPR 15
5-7/8	4-15/16	SDAF 22226	SDAF 226	22226	AN 26	W 26	LER 136	LER 122	FR230X10	EPR 27
6-1/4	5-5/16	SDAF 22228	SDAF 228	22228	AN 28	W 28	LER 144	LER 127	FR250X10	---
6-5/8	5-3/4	SDAF 22230	SDAF 230	22230	AN 30	W 30	LER 151	LER 134	FR270X10	EPR 17
7	6-1/16	SDAF 22232	SDAF 232	22232	AN 32	W 32	LER 156	LER 142	FR290X10	EPR 18
7-7/16	6-7/16	SDAF 22234	SDAF 234	22234	AN 34	W 34	LER 161	LER 148	FR310X10	EPR 19
7-13/16	6-7/8	SDAF 22236	SDAF 236	22236	AN 36	W 36	LER 165	LER 154	FR320X10	EPR 20
8-3/8	7-1/4	SDAF 22238	SDAF 238	22238	AN 38	W 38	LER 240	LER 229	FR340X10	EPR 22
8-3/4	7-5/8	SDAF 22240	SDAF 240	22240	AN 40	W 40	LER 244	LER 233	FR360X10	EPR 23
9-9/16	8-5/16	SDAF 22244	SDAF 244	22244	N 44	W 44	LER 248	LER 239	FR400X10	EPR 25

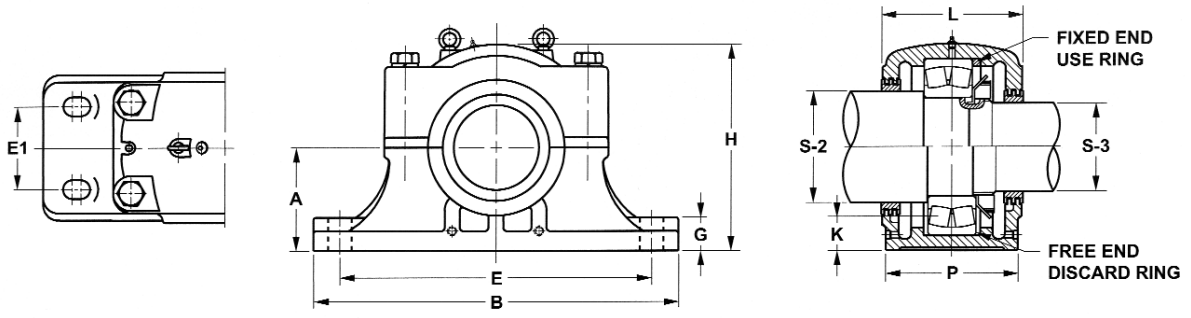
Note: Housings available in cast iron (SDAF), Ductile (SDAFD) or cast steel (SDAFS).
Taconite (TER) and LOR seals with O-rings are also available.

- (a) "Housing Only" includes - cap, base, cap bolts, labyrinth seals and fixing rings
- (b) Fixing Ring is used for fixed block only; do not use for float mounting
- (c) End Cover is optional

SDAF Split Pillow Block Housing Dimensions (SDAF 300 Series) Ductile Iron

Housing No.	A	B	P	G	E		E1	H	K Static Oil Level	L	Bolts (No. Req'd)	Wt.
	In.	In.	In.	In.	Max In.	Min In.	In.	In.	In.	In.	In.	lbs.*
SDAF 316	4-1/4	14-1/4	5-1/2	1-3/4	12-5/8	10-5/8	3-1/4	8-1/4	1-3/4	6-3/8	(4)--5/8	51
SDAF 317	4-1/2	15-1/4	6	1-7/8	13-1/8	11-5/8	3-3/8	8-15/16	1-13/16	6-3/4	(4)--3/4	63
SDAF 318	4-3/4	15-1/2	6-1/8	2	13-1/2	12	3-5/8	9-7/16	2	6-7/8	(4)--3/4	72
SDAF 320	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	(4)--7/8	92
SDAF 322	6	18-3/8	7-1/2	2-3/8	16	14-5/8	4-1/2	11-7/8	2-1/2	8	(4)--1	145
SDAF 324	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	(4)--1-1/8	170
SDAF 326	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	(4)--1-1/8	190
SDAF 328	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	9-3/8	(4)--1-1/4	228
SDAF 330	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	(4)--1-1/4	300
SDAF 332	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	(4)--1-3/8	350
SDAF 334	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	(4)--1-3/8	390
SDAF 336	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	(4)--1-1/2	400
SDAF 338	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	11-7/8	(4)--1-1/2	520
SDAF 340	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	12-3/8	(4)--1-5/8	560

*Weights are approximate



Shaft Diameter		Complete Unit Number	Housing Only ^(a)	Bearing Number	Locknut	Lockwasher	Labyrinth Seal Ring		Fixing Ring ^(b) (1 required)	End Cover ^(c)
S-2 in.	S-3 in.						S-2 Shaft (1 required)	S-3 Shaft (1 required)		
3-5/8	3	SDAF 22316	SDAF 316	22316	AN 16	W 16	LER 84	LER 60	FR170X10	EPR 10
3-15/16	3-3/16	SDAF 22317	SDAF 317	22317	AN 17	W 17	LER 93	LER 69	FR180X10	EPR 11
4-1/8	3-3/8	SDAF 22318	SDAF 318	22318	AN 18	W 18	LER 96	LER 72	FR190X10	EPR 11
4-1/2	3-13/16	SDAF 22320	SDAF 320	22320	AN 20	W 20	LER 205	LER 87	FR218X10	EPR 12
4-7/8	4-3/16	SDAF 22322	SDAF 322	22322	AN 22	W 22	LER 121	LER 113	FR240X10	EPR 14
5-5/16	4-9/16	SDAF 22324	SDAF 324	22324	AN 24	W 24	LER 127	LER 119	FR260X10	EPR 15
5-7/8	4-15/16	SDAF 22326	SDAF 326	22326	AN 26	W 26	LER 136	LER 122	FR280X10	EPR 27
6-1/4	5-5/16	SDAF 22328	SDAF 328	22328	AN 28	W 28	LER 144	LER 127	FR300X10	EPR 16
6-5/8	5-3/4	SDAF 22330	SDAF 330	22330	AN 30	W 30	LER 151	LER 134	FR320X10	EPR 17
7	6-1/16	SDAF 22332	SDAF 332	22332	AN 32	W 32	LER 225	LER 217	FR340X10	EPR 19
7-7/16	6-7/16	SDAF 22334	SDAF 334	22334	AN 34	W 34	LER 230	LER 220	FR360X10	EPR 26
7-16/16	6-7/8	SDAF 22336	SDAF 336	22336	AN 36	W 36	LER 234	LER 223	FR380X10	EPR 21
8-3/8	7-1/4	SDAF 22338	SDAF 338	22338	AN 38	W 38	LER 240	LER 229	FR400X10	EPR 22
8-3/4	7-5/8	SDAF 22340	SDAF 340	22340	AN 40	W 40	LER 244	LER 233	FR420X10	EPR 23

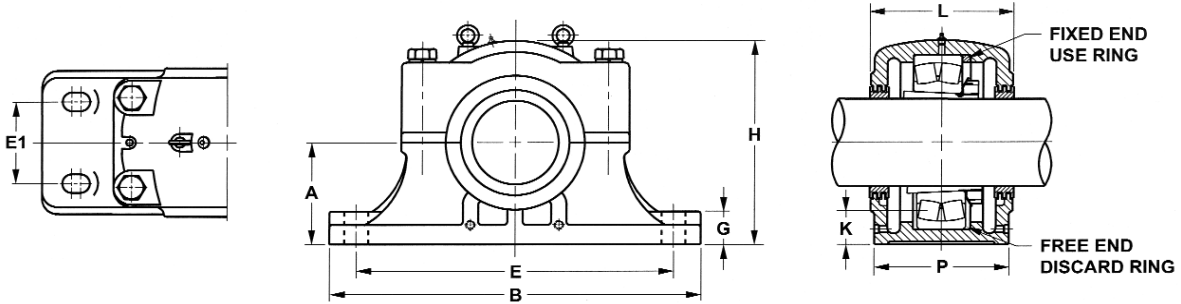
Note: Housings available in cast iron (SDAF), Ductile (SDAFD) or cast steel (SDAFS).
Taconite (TER) and LOR seals with O-rings are also available.

- (a) "Housing Only" includes - cap, base, cap bolts, labyrinth seals and fixing rings
- (b) Fixing Ring is used for fixed block only; do not use for float mounting
- (c) End Cover is optional

SDAF Split Pillow Block Housing Dimensions (SDAF 500 Series) Ductile Iron

Housing No.	A	B	P	G	E		E1	H	K Static Oil Level	L	Bolts (No. Req'd)	Wt.
	In.	In.	In.	In.	Max In.	Min In.	In.	In.	In.	In.	In.	lbs.*
SDAF 520	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	(4)--3/4	64
SDAF 522	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	(4)--7/8	84
SDAF 524	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	(4)--7/8	97
SDAF 526	6	18-3/8	7-1/2	2-3/8	16	14-5/8	4-1/2	11-7/8	2-7/16	8	(4)--1	130
SDAF 528	6	20-1/8	7-1/2	2-3/8	17-1/8	16	4-1/2	12-1/16	2-1/8	7-15/16	(4)--1-1/8	146
SDAF 530	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	(4)--1-1/8	158
SDAF 532	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	(4)--1-1/8	187
SDAF 534	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	(4)--1-1/4	212
SDAF 536	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	(4)--1-1/4	292
SDAF 538	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	(4)--1-3/8	338
SDAF 540	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	(4)--1-3/8	340
SDAF 544	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	(4)--1-1/2	510

*Weights are approximate



Shaft Diameter S-1 in.	Complete Unit Number	Housing Only ^(a)	Bearing Number	Adapter Locknut and Lockwasher	Labyrinth Seal Ring (2 required)	Fixing Ring ^(b) (1 required)	End Cover ^(c)
3-7/16	SDAF 22520	SDAF 520	22220 K	SNW20 X 3-7/16	LER 75	FR180X10	EPR11
3-15/16	SDAF 22522	SDAF 522	22222 K	SNW22 X 3-15/16	LER 93	FR200X10	EPR13
4-3/16	SDAF 22524	SDAF 524	22224 K	SNW24 X 4-3/16	LER 113	FR218X10	EPR14
4-7/16	SDAF 22526	SDAF 526	22226 K	SNW26 X 4-7/16	LER 117	FR230X10	EPR15
4-15/16	SDAF 22528	SDAF 528	22228 K	SNW28 X 4-15/16	LER 122	FR250X10	---
5-3/16	SDAF 22530	SDAF 530	22230 K	SNW30 X 5-3/16	LER 125	FR270X10	EPR16
5-7/16	SDAF 22532	SDAF 532	22232 K	SNW32 X 5-7/16	LER 130	FR290X10	EPR16
5-15/16	SDAF 22534	SDAF 534	22234 K	SNW34 X 5-15/16	LER 140	FR310X10	EPR18
6-7/16	SDAF 22536	SDAF 536	22236 K	SNW36 X 6-7/16	LER 148	FR320X10	EPR19
6-15/16	SDAF 22538	SDAF 538	22238 K	SNW38 X 6-15/16	LER 224	FR340X10	EPR21
7-3/16	SDAF 22540	SDAF 540	22240 K	SNW40 X 7-3/16	LER 228	FR360X10	EPR22
7-15/16	SDAF 22544	SDAF 544	22244 K	SNW44 X 7-15/16	LER 236	FR400X10	EPR24

Note: Housings available in cast iron (SDAF), Ductile (SDAFD) or cast steel (SDAFS).
Taconite (TER) and LOR seals with O-rings are also available.

(a) "Housing Only" includes - cap, base, cap bolts, labyrinth seals and fixing rings

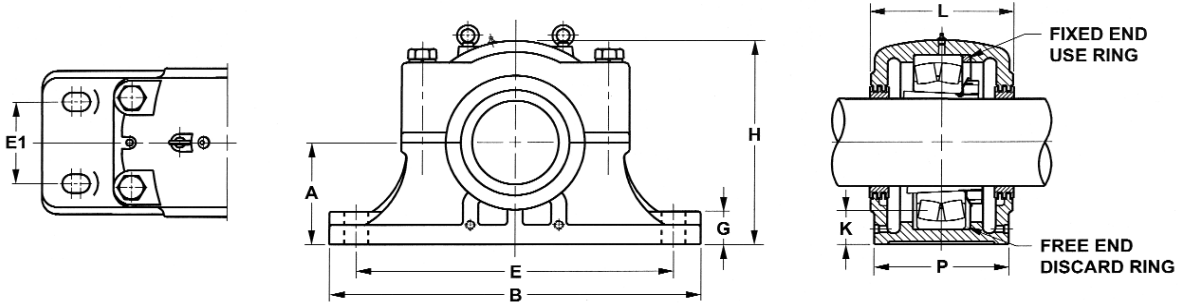
(b) Fixing Ring is used for fixed block only; do not use for float mounting

(c) End Cover is optional

SDAF Split Pillow Block Housing Dimensions (SDAF 600 Series) Ductile Iron

Housing No.	A	B	P	G	E		E1	H	K Static Oil Level	L	Bolts (No. Req'd)	Wt.
	In.	In.	In.	In.	Max In.	Min In.	In.	In.	In.	In.	In.	lbs.*
SDAF 616	4-1/4	14-1/4	5-1/2	1-3/4	12-5/8	10-5/8	3-1/4	8-1/4	1-3/4	6-3/8	(4)--5/8	49
SDAF 617	4-1/2	15-1/4	6	1-7/8	13-1/8	11-5/8	3-3/8	8-15/16	1-13/16	6-3/4	(4)--3/4	64
SDAF 618	4-3/4	15-1/2	6-1/8	2	13-1/2	12	3-5/8	9-7/16	2	6-7/8	(4)--3/4	72
SDAF 620	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	(4)--7/8	110
SDAF 622	6	18-3/8	7-1/2	2-3/8	16	14-5/8	4-1/2	11-7/8	2-1/2	8	(4)--1	145
SDAF 624	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	(4)--1-1/8	170
SDAF 626	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	(4)--1-1/8	193
SDAF 628	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	9-3/8	(4)--1-1/4	228
SDAF 630	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	(4)--1-1/4	294
SDAF 632	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	(4)--1-3/8	350
SDAF 634	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	(4)--1-3/8	390
SDAF 636	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	(4)--1-1/2	404
SDAF 638	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	11-7/8	(4)--1-1/2	486
SDAF 640	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	12-3/8	(4)--1-5/8	560

*Weights are approximate



Shaft Diameter S-1 in.	Complete Unit Number	Housing Only ^(a)	Bearing Number	Adapter Locknut and Lockwasher	Labyrinth Seal Ring (2 required)	Fixing Ring ^(b) (1 required)	End Cover ^(c)
2-11/16	SDAF 22616	SDAF 616	22316 K	SNW116 X 2-11/16	LER 44	FR170X10	EPR 08
2-15/16	SDAF 22617	SDAF 617	22317 K	SNW117 X 2-15/16	LER 59	FR180X10	EPR 10
3-3/16	SDAF 22618	SDAF 618	22318 K	SNW118 X 3-3/16	LER 69	FR190X10	EPR 11
3-7/16	SDAF 22620	SDAF 620	22320 K	SNW120 X 3-7/16	LER 75	FR215X10	EPR 11
3-15/16	SDAF 22622	SDAF 622	22322 K	SNW122 X 3-15/16	LER 93	FR240X10	EPR 13
4-3/16	SDAF 22624	SDAF 624	22324 K	SNW124 X 4-3/16	LER 113	FR260X10	EPR 14
4-7/16	SDAF 22626	SDAF 626	22326 K	SNW126 X 4-7/16	LER 117	FR280X10	EPR 15
4-15/16	SDAF 22628	SDAF 628	22328 K	SNW128 X 4-15/16	LER 122	FR300X10	EPR 27
5-3/16	SDAF 22630	SDAF 630	22330 K	SNW130 X 5-3/16	LER 125	FR320X10	EPR 16
5-7/16	SDAF 22632	SDAF 632	22332 K	SNW132 X 5-7/16	LER 211	FR340X10	EPR 17
5-15/16	SDAF 22634	SDAF 634	22334 K	SNW134 X 5-15/16	LER 215	FR360X10	EPR 19
6-7/16	SDAF 22636	SDAF 636	22336 K	SNW136 X 6-7/16	LER 220	FR380X10	EPR 26
6-15/16	SDAF 22638	SDAF 638	22338 K	SNW138 X 6-15/16	LER 224	FR400X10	EPR 21
7-3/16	SDAF 22640	SDAF 640	22340 K	SNW140 X 7-3/16	LER 228	FR420X10	EPR 22

Note: Housings available in cast iron (SDAF), Ductile (SDAFD) or cast steel (SDAFS).
Taconite (TER) and LOR seals with O-rings are also available.

(a) "Housing Only" includes - cap, base, cap bolts, labyrinth seals and fixing rings

(b) Fixing Ring is used for fixed block only; do not use for float mounting

(c) End Cover is optional

Split Pillow Block Interchange Cast Iron

Housing and Stab Ring Both Ends Open

NSK		SKF		DODGE	
2-BOLT	4-BOLT	2-BOLT	4-BOLT	2-BOLT	4-BOLT
SAF509		n/a		H2S-509-USAF	
SAF510		n/a		H2S-510-USAF	
SAF511		n/a		H2S-511-USAF	
SAF513	FSAF513	n/a	n/a	H2S-513-USAF	H4S-513-USAF
SAF515	FSAF515	n/a	n/a	H2S-515-USAF	H4S-515-USAF
SAF516	FSAF516	n/a	n/a	H2S-516-USAF	H4S-516-USAF
SAF517	FSAF517	n/a	n/a	H2S-517-USAF	H4S-517-USAF
SAF518	FSAF518	n/a	n/a	H2S-518-USAF	H4S-518-USAF
SAF520	FSAF520	n/a	n/a	H2S-520-USAF	H4S-520-USAF
	SAF522		n/a		H4S-522-USAF
	SAF524		n/a		H4S-524-USAF
	SAF526		n/a		H4S-526-USAF
	SAF528		n/a		H4S-528-USAF
	SAF530		n/a		H4S-530-USAF
	SAF532		n/a		H4S-532-USAF
	SAF534		n/a		H4S-534-USAF
	SAF536		n/a		H4S-536-USAF
	SAF538		n/a		H4S-538-USAF
	SAF540		n/a		H4S-540-USAF
	SAF544		n/a		H4S-544-USAF

Housing, Stab Ring, Labyrinth and Seal

NSK		SKF		DODGE	
2-BOLT	4-BOLT	2-BOLT	4-BOLT	2-BOLT	4-BOLT
SAF509		SAF509		SAF22509	
SAF510		SAF510		SAF22510	
SAF511		SAF511		SAF22511	
SAF513	FSAF513	SAF513	FSAF513	SAF22513	FSAF22513
SAF515	FSAF515	SAF515	FSAF515	SAF22515	FSAF22515
SAF516	FSAF516	SAF516	FSAF516	SAF22516	FSAF22516
SAF517	FSAF517	SAF517	FSAF517	SAF22517	FSAF22517
SAF518	FSAF518	SAF518	FSAF518	SAF22518	FSAF22518
SAF520	FSAF520	SAF520	FSAF520	SAF22520	FSAF22520
	SAF522		SAF522		SAF22522
	SAF524		SAF524		SAF22524
	SAF526		SAF526		SAF22526
	SAF528		SAF528		SAF22528
	SAF530		SAF530		SAF22530
	SAF532		SAF532		SAF22532
	SAF534		SAF534		SAF22534
	SAF536		SAF536		SAF22536
	SAF538		SAF538		SAF22538
	SAF540		SAF540		SAF22540
	SAF544		SAF544		SAF22544

** Shaft Size Follows These Numbers (i.e. SAF518 x 3-15/16)

Complete Assembly (Housing, Bearing, Adapter Assembly,
Stab Ring & Labyrinth Seal)

NSK		SKF		DODGE**	
2-BOLT	4-BOLT	2-BOLT	4-BOLT	2-BOLT	4-BOLT
SAF22509 -xxx		SAF22509 -xxx		P2B-509-USAF-xxx-LER	
SAF22510 -xxx		SAF22510 -xxx		P2B-510-USAF-xxx-LER	
SAF22511 -xxx		SAF22511 -xxx		P2B-511-USAF-xxx-LER	
SAF22513 -xxx	FSAF22513 -xxx	SAF22513 -xxx	FSAF22513 -xxx	P2B-513-USAF-xxx-LER	P4B-513-USAF-xxx-LER
SAF22515 -xxx	FSAF22515 -xxx	SAF22515 -xxx	FSAF22515 -xxx	P2B-515-USAF-xxx-LER	P4B-515-USAF-xxx-LER
SAF22516 -xxx	FSAF22516 -xxx	SAF22516 -xxx	FSAF22516 -xxx	P2B-516-USAF-xxx-LER	P4B-516-USAF-xxx-LER
SAF22517 -xxx	FSAF22517 -xxx	SAF22517 -xxx	FSAF22517 -xxx	P2B-517-USAF-xxx-LER	P4B-517-USAF-xxx-LER
SAF22518 -xxx	FSAF22518 -xxx	SAF22518 -xxx	FSAF22518 -xxx	P2B-518-USAF-xxx-LER	P4B-518-USAF-xxx-LER
SAF22520 -xxx	FSAF22520 -xxx	SAF22520 -xxx	FSAF22520 -xxx	P2B-520-USAF-xxx-LER	P4B-520-USAF-xxx-LER
	SAF22522 -xxx		SAF22522 -xxx		P4B-522-USAF-xxx-LER
	SAF22524 -xxx		SAF22524 -xxx		P4B-524-USAF-xxx-LER
	SAF22526 -xxx		SAF22526 -xxx		P4B-526-USAF-xxx-LER
	SAF22528 -xxx		SAF22528 -xxx		P4B-528-USAF-xxx-LER
	SAF22530 -xxx		SAF22530 -xxx		P4B-530-USAF-xxx-LER
	SAF22532 -xxx		SAF22532 -xxx		P4B-532-USAF-xxx-LER
	SAF22534 -xxx		SAF22534 -xxx		P4B-534-USAF-xxx-LER
	SAF22536 -xxx		SAF22536 -xxx		P4B-536-USAF-xxx-LER
	SAF22538 -xxx		SAF22538 -xxx		P4B-538-USAF-xxx-LER
	SAF22540 -xxx		SAF22540 -xxx		P4B-540-USAF-xxx-LER
	SAF22544 -xxx		SAF22544 -xxx		P4B-544-USAF-xxx-LER

** xxx = Size Inches (i.e. 207 - 2-7/16")



Lubricating Grease

Grease is a semi-solid lubricant consisting of a base oil and a thickener. Other ingredients are sometimes added to impart special properties to the base oil.

The main types and general properties of grease are shown in the table on page 31. It should be noted that different brands of the same type of grease may have different properties.

Base Oil:

Mineral oil or synthetic oils, such as silicon or diester oil, are commonly used as the base oil for grease. The lubricating properties of grease are dependent on the characteristics of its base oil. The viscosity of the base oil is an important consideration when selecting grease. (See page 34) Usually grease made with a low viscosity base oil is more suitable for high speeds and low temperatures while grease made with high viscosity base oils is more suited for high temperatures and heavy loads. The thickener also influences the lubricating properties of grease, therefore selection criteria for grease are not the same as for lubricating oil. See pages 33 & 34 for more information on base oils.

Thickener:

Several types of metallic soaps, inorganic compounds such as silica gel and bentonite, and heat-resisting organic thickeners such as polyurea and flouric compounds are used as thickeners for grease. The water resistance properties of grease depend on the type of thickener. Sodium soap grease (or compound grease containing sodium soap) emulsifies when exposed to water or high humidity and therefore cannot be used where moisture is prevalent. Lithium soap grease, on the other hand, is recommended where moisture is present because of its resistance to wash off. See page 31 for more information.

For applications where the operating temperature exceeds the limitation of common multi-purpose grease, greases having complex bases or non-soap bases are recommended. The grease used should also have a synthetic oil to withstand rapid deterioration at high temperatures. If the grease used in a high temperature application uses a mineral oil, it should be replenished frequently as deterioration of the oil will be accelerated at high temperatures.

Additives:

Grease often contains a variety of additives such as antioxidants, corrosion inhibitors and extreme pressure additives to give it special properties. Extreme pressure additives are recommended for use in heavy load applications. For long use without replenishment, an antioxidant should be added.

Consistency:

Consistency indicates the “softness” of the grease. The following table shows the relationship between consistency and working conditions.

Consistency Number
(Given by the National Lubricating Grease Institute (NLGI) Scale)

	0	1	2	3	4
Consistency ⁽¹⁾ (1/10 mm)	385~355	340~310	295~265	250~220	205~175
Working Condition	For centralized oiling. When false brinelling is liable to occur.	For centralized oiling. When fretting is liable to occur. For low temperature.	For general use. For sealed bearings.	For high temperature. For general use. For sealed bearings.	For high temperature. For grease seals.

(1) Consistency: Depth into grease attained by a cone when pressed with a specified weight, indicated in units of 1/10 mm. The larger the value, the softer the grease.

Mixing Different Types of Grease:

In general, grease of different types must not be mixed. Mixing grease with different types of thickeners may destroy the composition and physical properties of the grease. Even if the thickeners are of the same type, possible differences in the additives may cause detrimental effects.

Grease Properties

Popular Name →		Lithium Grease			Sodium Grease (Fiber Grease)	Calcium Grease (Cup Grease)	Mixed Base Grease	Complex Grease	Non-Soap Base Grease	
Thickener →		Li Soap			Na Soap	Ca Soap	Na+Ca Soap, Li +Ca Soap, etc.	Ca Complex, A1 Complex, etc.	Silica Gel, Bentonite, Carbon Black, Polyurea, Flouric Compounds, Heat Resistant Organic Compound, etc.	
Base Oil →		Mineral Oil	Diester Oil	Silicone Oil	Mineral Oil	Mineral Oil	Mineral Oil	Mineral Oil	Mineral Oil	Synthetic Oil
Property ⁽¹⁾	Dropping Point, C°	170~190	170~195	200~210	170~210	70~90	160~190	180~300	230	240~
	Working Temp., C°	-20~110	-50~130	-50 ~160	-20~130	-20 ~60	-20~80	-20 ~130	-10 ~130	~250
	Working Speed, % ⁽²⁾	70	100	60	70	40	70	70	70	40~100
	Mechanical Stability	Good	Good	Good	Good	Poor	Good	Good	Good	Good
	Pressure Resistance	Fair	Fair	Poor	Fair	Poor	Fair to Good	Fair to Good	Fair	Fair
	Water Resistance	Good	Good	Good	Poor	Good	Poor for Na Soap Grease	Good	Good	Good
	Rust Prevention	Good	Good	Poor	Poor to Good	Good	Fair to Good	Fair to Good	Fair to Good	Fair to Good
	Remarks	General purpose lubricant.	Good low temperature and torque characteristics. Often used for small motor and instrument bearings.	Mainly for high temperature applications. Unsuitable for bearings under high speed or heavy load conditions or for sliding contact areas (roller bearings).	Long and short fiber types available. Long fiber grease is not suitable for high speeds or for sliding contact areas (roller bearings).	Not suitable for high temp. and heavy loads. Extreme pressure grease containing high viscosity oil and extreme pressure additive (Pb soap, etc.) is available.	Often used for roller bearings and large ball bearings.	Suitable for extreme pressures. Mechanically stable.	Medium and high temperature lubricant.	Recommended for special environments with very high and low temperatures, acids, alkalis, radioactivity and exposure to flames.

(1) The grease properties shown here can vary between different brands.

(2) The values listed are percentages of the limiting speeds given in the bearing tables.



Grease Quantity

The quantity of grease to be packed in a housing depends on the housing design and free space, grease characteristics and ambient temperature. For example, the bearings for the main shafts of machine tools, where the accuracy may be impaired by a small temperature rise, require only a small amount of grease.

Sufficient grease must be packed inside the bearing, including the cage guide face. The available space inside the housing to be packed with grease depends on the speed as follows:

1/2 to 2/3 of the space...When the speed is less than 50% of the limiting speed. (5) In chart below.

1/3 to 1/2 of the space...When the speed is more than 50% of the limiting speed. (6) In chart below.

SAF Grease Fill & Cap Bolt Information

SAF 2-BOLT	SAF 4-BOLT	Cap Bolts			Initial Lube Fill (oz)	
		Bolt Size	Qty	T (Ft-lbs)	Low Spd (5)	Hi-Spd (6)
SAF509		3/8-16UNC x 2	2	26	2.2	1.8
SAF510		3/8-16UNC x 2	2	26	2.8	2
SAF511		1/2-13UNC x 2-1/4	2	50	3.7	2.5
SAF513	FSAF513	1/2-13UNC x 2-1/4	2	50	6.5	4
SAF515	FSAF515	1/2-13UNC x 2-1/4	2	50	8.3	5
SAF516	FSAF516	1/2-13UNC x 2-1/4	4	50	10	6
SAF517	FSAF517	1/2-13UNC x 3	4	50	12	7
SAF518	FSAF518	1/2-13UNC x 3	4	50	16	7.5
SAF520	FSAF520	5/8-11UNC x 3-1/2	4	100	23	15
	SAF522	5/8-11UNC x 3-1/2	4	100	31	20
	SAF524	5/8-11UNC x 4	4	100	37	22
	SAF526	3/4-10UNC x 4-1/2	4	175	40	28
	SAF528	3/4-10UNC x 4-1/2	4	175	52	32
	SAF530	3/4-10UNC x 5	4	175	62	34
	SAF532	3/4-10UNC x 5	4	175	75	40
	SAF534	1-8UNC x 6-1/2	4	245	90	55
	SAF536	1-8UNC x 6-1/2	4	245	120	65
	SAF538	1-8UNC x 6-1/2	4	245	150	75
	SAF540	1-8UNC x 7	4	245	200	85
	SAF544	1-8UNC x 7-1/2	4	245	250	125

- (1) Lube hole centered in cap at 45 degrees from TDC and one on side of bearing also at 45 degrees. Plugs included.
- (2) Drain holes on each side, opposite corners of block. Plugs included.
- (3) Eye bolt centered on top of block. Use intended for handling housing only.
- (4) For other Series SAF Blocks contact NSK.
- (5) Low speed applications generally involve conveyors. Bearings exposed to weather are better off relatively full to deter moisture for entering.
- (6) Higher speed applications do not require as much grease, as purging of excess will occur at the seals naturally.

Grease Replenishing Interval

Periodic replenishment is required regardless of the type of grease used. The general rule of thumb is small amounts at frequent intervals are better than all at once. Use the following general formulas to calculate how much grease is to be added at the re-lubrication intervals. For more precise replenishing amounts contact NSK.

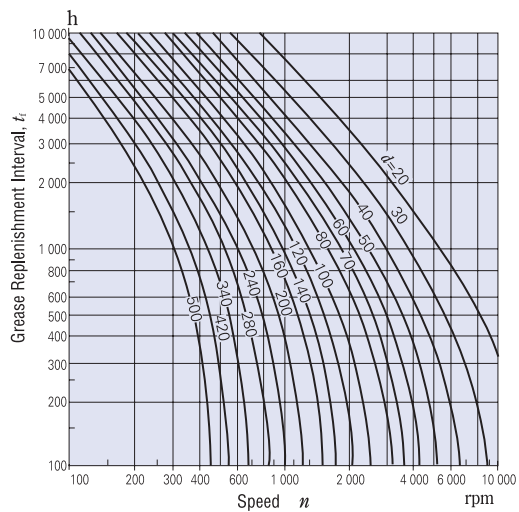
Where: **G=Grams**
D=Outside Diameter (mm)
B=Bearing Width (mm)

Conservative $G = 0.005 * D * B$
Annual Interval $G = 0.004 * D * B$
Monthly Interval $G = 0.003 * D * B$
Weekly Interval $G = 0.002 * D * B$
Good Possibility $G = 0.001 * D * B$

NOTE: Good Possibility means that the old grease can be pushed out of the bearing and housing or when grease quantity is controlled by a good greasing system. The tables give amounts to avoid overgreasing such as in high speed applications.

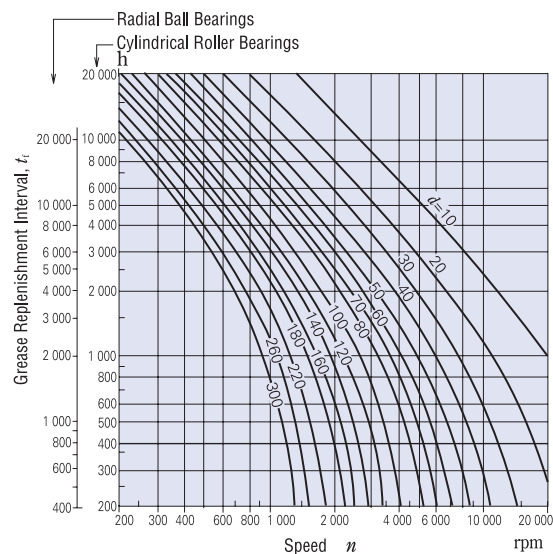
The graphs below shows the replenishment time intervals for bearings running at different speeds. These figures apply only if the temperature of the bearings is less than 70°C; the replenishment time interval must be reduced by half for every 15°C temperature rise of the bearings.

Spherical Roller Bearings and Tapered Roller Bearings Replenish Time (Hours)



(1) d = Bearing Bore Diameter (mm)

Radial Ball Bearings and Cylindrical Roller Bearings Replenish Time (Hours)



Lubricating Oil

Lubricating oil used for bearings is usually a highly refined mineral or synthetic oil, which has a high film strength and superior oxidation and corrosion resistance. When selecting an oil, the viscosity at operating temperature is very important. If the viscosity is too low, a proper oil film is not formed and abnormal wear and seizure may occur. On the other hand, if the viscosity is too high, excessive viscous resistance may cause heating or a large power loss. In general, low viscosity oils should be used at high speeds. Higher viscosity oils should be used for heavy loads or for the larger bearings. The following table shows the generally recommended viscosity for certain bearing types.

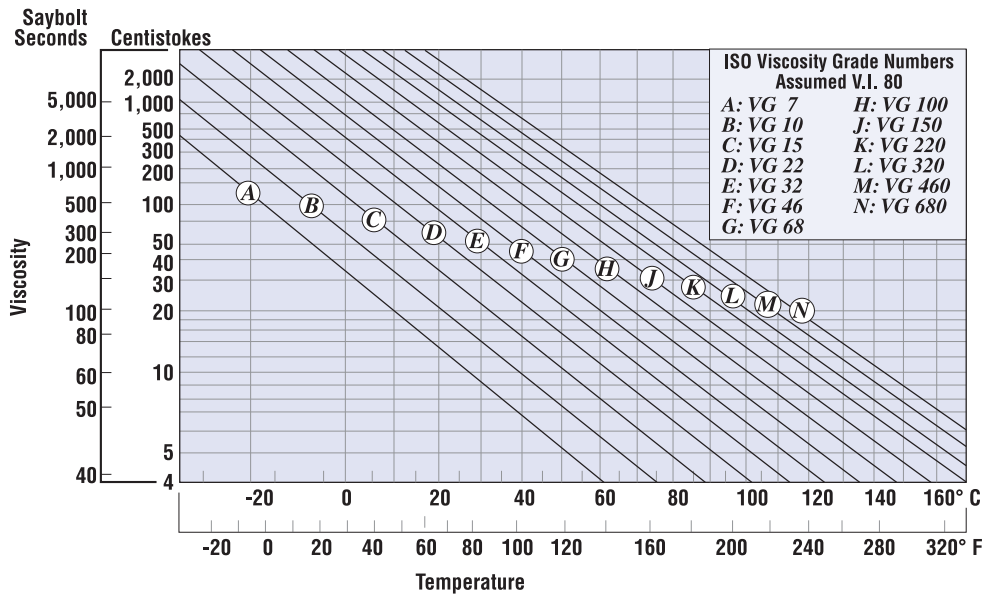
Bearing Types	Proper Viscosity at the Operating Temperature
Ball Bearings and Cylindrical Roller Bearings	Higher than 13 cSt
Tapered Roller Bearings and Spherical Roller Bearings	Higher than 20 cSt
Spherical Roller Thrust Bearings	Higher than 32 cSt



Oil Viscosity

The following chart shows the relationship between temperature and viscosity for use in selection of the proper lubricating oil.

Temperature – Viscosity Chart



NOTE: V.I. is viscosity @ 40°C

Oil Viscosity Selection Chart

Operating Temperature	Speed	Light or Average Load	Heavy or Shock Load
-30 to 0°C -22 to 32°F	Less than Limiting Speed	ISO VG 15, 22, 32 (Refrigerating, Machine Oils)	
0 to 50°C 32 to 120°F	Less than 50% Limiting Speed	ISO VG 32, 46, 68 (Bearing, Turbine Oils)	ISO VG 46, 68, 100 (Bearing, Turbine Oils)
	50% to 100% Limiting Speed	ISO VG 15, 22, 32 (Bearing, Turbine Oils)	ISO VG 22, 32, 46 (Bearing, Turbine Oils)
	More than Limiting Speed	ISO VG 10, 15, 22 (Bearing Oils)	
50 to 80°C 120 to 180°F	Less than 50% Limiting Speed	ISO VG 100, 150, 220 (Bearing Oils)	ISO VG 150, 220, 320 (Bearing Oils)
	50% to 100% Limiting Speed	ISO VG 46, 68, 100 (Bearing, Turbine Oils)	ISO VG 68, 100, 150 (Bearing, Turbine Oils)
	More than Limiting Speed	ISO VG 32, 46, 68 (Bearing, Turbine Oils)	
80 to 110°C 180 to 230°F	Less than 50% Limiting Speed	ISO VG 320, 460 (Bearing Oils)	ISO VG 460, 680 (Bearing, Gear Oils)
	50% to 100% Limiting Speed	ISO VG 150, 220 (Bearing Oils)	ISO VG 220, 320 (Bearing Oils)
	More than Limiting Speed	ISO VG 68, 100 (Bearing, Turbine Oils)	

Oil Replacement Interval

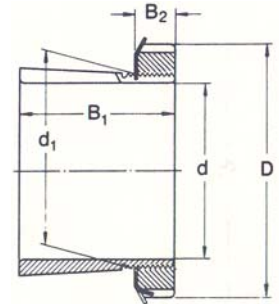
The oil replacement interval depends on the operating conditions and oil quantity. In those cases where the operating temperature is less than 120°F and the environmental conditions are good, oil should be replaced approximately once a year. However, where the oil temperature is about 212°F the oil must be changed at least once every three months.

In dirty environmental conditions or if moisture or foreign material is mixed in the oil, the replacement interval must be shortened.

Mixing different brands of lubricating oil should be avoided.

Metric Adapter Sleeves

Shaft (d)	Sleeve	d ₁	D	B ₁	B ₂	Mass (kg)	Nut	Washer	Wrench
3/4	HE205	M 25 x 1.5	38	26	8	0.1	KM 5	MB 5	HN 5
3/4	HE305	M 25 x 1.5	38	29	8	0.1	KM 5	MB 5	HN 5
20	H205	M 25 x 1.5	38	26	8	0.1	KM 5	MB 5	HN 5
20	H305	M 25 x 1.5	38	29	8	0.1	KM 5	MB 5	HN 5
20	H2305	M 25 x 1.5	38	35	8	0.1	KM 5	MB 5	HN 5
15/16	HA206	M 30 x 1.5	45	27	8	0.1	KM 6	MB 6	HN 6
15/16	HA306	M 30 x 1.5	45	31	8	0.1	KM 6	MB 6	HN 6
15/16	HA2306	M 30 x 1.5	45	38	8	0.1	KM 6	MB 6	HN 6
25	H206	M 30 x 1.5	45	27	8	0.1	KM 6	MB 6	HN 6
25	H306	M 30 x 1.5	45	31	8	0.1	KM 6	MB 6	HN 6
25	H2306	M 30 x 1.5	45	38	8	0.1	KM 6	MB 6	HN 6
1	HE206	M 30 x 1.5	45	27	8	0.1	KM 6	MB 6	HN 6
1	HE306	M 30 x 1.5	45	31	8	0.1	KM 6	MB 6	HN 6
1	HE2306	M 30 x 1.5	45	38	8	0.1	KM 6	MB 6	HN 6
30	H207	M 35 x 1.5	52	29	9	0.1	KM 7	MB 7	HN 7
30	H307	M 35 x 1.5	52	35	9	0.1	KM 7	MB 7	HN 7
30	H2307	M 35 x 1.5	52	43	9	0.2	KM 7	MB 7	HN 7
1.3/16	HA207	M 35 x 1.5	52	29	9	0.1	KM 7	MB 7	HN 7
1.3/16	HA307	M 35 x 1.5	52	35	9	0.1	KM 7	MB 7	HN 7
1.3/16	HA2307	M 35 x 1.5	52	43	9	0.2	KM 7	MB 7	HN 7
1.3/16	HA307	M 35 x 1.5	52	35	9	0.1	KM 7	MB 7	HN 7
1.1/4	HE208	M 40 x 1.5	58	31	10	0.2	KM 8	MB 8	HN 8
1.1/4	HE308	M 40 x 1.5	58	36	10	0.2	KM 8	MB 8	HN 8
1.1/4	HE2308	M 40 x 1.5	58	46	10	0.2	KM 8	MB 8	HN 8
1.1/4	HE308	M 40 x 1.5	58	36	10	0.2	KM 8	MB 8	HN 8
1.1/4	HE2308	M 40 x 1.5	58	46	10	0.2	KM 8	MB 8	HN 8
35	H208	M 40 x 1.5	58	31	10	0.2	KM 8	MB 8	HN 8
35	H308	M 40 x 1.5	58	36	10	0.2	KM 8	MB 8	HN 8
35	H2308	M 40 x 1.5	58	46	10	0.2	KM 8	MB 8	HN 8
1.1/2	HE209	M 45 x 1.5	65	33	11	0.2	KM 9	MB 9	HN 9
1.7/16	HA209	M 45 x 1.5	65	33	11	0.2	KM 9	MB 9	HN 9
40	H209	M 45 x 1.5	65	33	11	0.2	KM 9	MB 9	HN 9
1.1/2	HE309	M 45 x 1.5	65	39	11	0.3	KM 9	MB 9	HN 9
1.7/16	HA309	M 45 x 1.5	65	39	11	0.3	KM 9	MB 9	HN 9
40	H309	M 45 x 1.5	65	39	11	0.3	KM 9	MB 9	HN 9
1.11/16	HA210	M 50 x 1.5	70	35	12	0.3	KM 10	MB 10	HN 10
1.3/4	HE210	M 50 x 1.5	70	35	12	0.3	KM 10	MB 10	HN 10
45	H210	M 50 x 1.5	70	35	12	0.3	KM 10	MB 10	HN 10
1.11/16	HA310	M 50 x 1.5	70	42	12	0.3	KM 10	MB 10	HN 10
1.3/4	HE310	M 50 x 1.5	70	42	12	0.3	KM 10	MB 10	HN 10
45	H310	M 50 x 1.5	70	42	12	0.3	KM 10	MB 10	HN 10
1.15/16	HA211	M 55 x 2	75	37	12	0.3	KM 11	MB 22	HN 11
2	HE211	M 55 x 2	75	37	12	0.3	KM 11	MB 22	HN 11
50	H211	M 55 x 2	75	37	12	0.3	KM 11	MB 22	HN 11
1.1/2	HE309	M 45 x 1.5	65	39	11	0.3	KM 9	MB 9	HN 9
40	H309	M 45 x 1.5	65	39	11	0.3	KM 9	MB 9	HN 9
1.7/16	HA309	M 45 x 1.5	65	39	11	0.3	KM 9	MB 9	HN 9
1.1/2	HE309	M 45 x 1.5	65	39	11	0.3	KM 9	MB 9	HN 9
40	H309	M 45 x 1.5	65	39	11	0.3	KM 9	MB 9	HN 9
1.7/16	HA309	M 45 x 1.5	65	39	11	0.3	KM 9	MB 9	HN 9

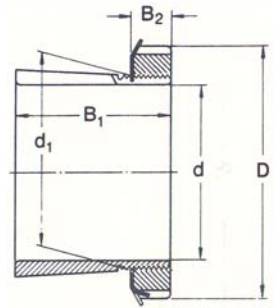




Shaft (d)	Sleeve	d ₁	D	B ₁	B ₂	Mass (kg)	Nut	Washer	Wrench
50	H311	M 55 x 2	75	45	12	0.3	KM 11	MB 11	HN 11
1.15/16	HA311	M 55 x 2	75	45	12	0.3	KM 11	MB 11	HN 11
2	HE311	M 55 x 2	75	45	12	0.3	KM 11	MB 11	HN 11
50	H311	M 55 x 2	75	45	12	0.3	KM 11	MB 11	HN 11
1.1/2	HE2309	M 45 x 1.5	65	50	11	0.3	KM 9	MB 9	HN 9
40	H2309	M 45 x 1.5	65	50	11	0.3	KM 9	MB 9	HN 9
1.7/16	HA2309	M 45 x 1.5	65	50	11	0.3	KM 9	MB 9	HN 9
1.1/2	HE2309	M 45 x 1.5	65	50	11	0.3	KM 9	MB 9	HN 9
40	H2309	M 45 x 1.5	65	50	11	0.3	KM 9	MB 9	HN 9
1.7/16	HA2309	M 45 x 1.5	65	50	11	0.3	KM 9	MB 9	HN 9
55	H212	M 60 x 2	80	38	13	0.4	KM 12	MB 12	HN 12
1.11/16	HA310	M 50 x 1.5	70	42	12	0.3	KM 10	MB 10	HN 10
1.3/4	HE310	M 50 x 1.5	70	42	12	0.3	KM 10	MB 10	HN 10
45	H310	M 50 x 1.5	70	42	12	0.3	KM 10	MB 10	HN 10
1.11/16	HA310	M 50 x 1.5	70	42	12	0.3	KM 10	MB 10	HN 10
1.3/4	HE310	M 50 x 1.5	70	42	12	0.3	KM 10	MB 10	HN 10
45	H310	M 50 x 1.5	70	42	12	0.3	KM 10	MB 10	HN 10
55	H312	M 60 x 2	80	47	13	0.4	KM 12	MB 12	HN 12
1.11/16	HA2310	M 50 x 1.5	70	55	12	0.4	KM 10	MB 10	HN 10
1.3/4	HE2310	M 50 x 1.5	70	55	12	0.4	KM 10	MB 10	HN 10
45	H2310	M 50 x 1.5	70	55	12	0.4	KM 10	MB 10	HN 10
1.11/16	HA2310	M 50 x 1.5	70	55	12	0.4	KM 10	MB 10	HN 10
1.3/4	HE2310	M 50 x 1.5	70	55	12	0.4	KM 10	MB 10	HN 10
45	H2310	M 50 x 1.5	70	55	12	0.4	KM 10	MB 10	HN 10
2.1/4	HE213	M 65 x 2	85	40	14	0.4	KM 13	MB 13	HN 13
60	H213	M 65 x 2	85	40	14	0.4	KM 13	MB 13	HN 13
2.3/16	HA213	M 65 x 2	85	40	14	0.4	KM 13	MB 13	HN 13
1.15/16	HA311	M 55 x 2	75	45	12	0.3	KM 11	MB 11	HN 11
2	HE311	M 55 x 2	75	45	12	0.3	KM 11	MB 11	HN 11
50	H311	M 55 x 2	75	45	12	0.3	KM 11	MB 11	HN 11
1.15/16	HA311	M 55 x 2	75	45	12	0.3	KM 11	MB 11	HN 11
2	HE311	M 55 x 2	75	45	12	0.3	KM 11	MB 11	HN 11
50	H311	M 55 x 2	75	45	12	0.3	KM 11	MB 11	HN 11
60	H313	M 65 x 2	85	50	14	0.5	KM 13	MB 13	HN 13
2.1/4	HE313	M 65 x 2	85	50	14	0.5	KM 13	MB 13	HN 13
60	H313	M 65 x 2	85	50	14	0.5	KM 13	MB 13	HN 13
2.3/16	HA313	M 65 x 2	85	50	14	0.5	KM 13	MB 13	HN 13
1.15/16	HA2311	M 55 x 2	75	59	12	0.4	KM 11	MB 11	HN 11
2	HE2311	M 55 x 2	75	59	12	0.4	KM 11	MB 11	HN 11
50	H2311	M 55 x 2	75	59	12	0.4	KM 11	MB 11	HN 11
1.15/16	HA2311	M 55 x 2	75	59	12	0.4	KM 11	MB 11	HN 11
2	HE2311	M 55 x 2	75	59	12	0.4	KM 11	MB 11	HN 11
50	H2311	M 55 x 2	75	59	12	0.4	KM 11	MB 11	HN 11
2.1/2	HE215	M 75 x 2	98	43	15	0.7	KM 15	MB 15	HN 15
2.7/16	HA215	M 75 x 2	98	43	15	0.7	KM 15	MB 15	HN 15
65	H215	M 75 x 2	98	43	15	0.7	KM 15	MB 15	HN 15
55	H312	M 60 x 2	80	47	13	0.4	KM 12	MB 12	HN 12
65	H315	M 75 x 2	98	55	15	0.8	KM 15	MB 15	HN 15
2.1/2	HE315	M 75 x 2	98	55	15	0.8	KM 15	MB 15	HN 15
2.7/16	HA315	M 75 x 2	98	55	15	0.8	KM 15	MB 15	HN 15
65	H315	M 75 x 2	98	55	15	0.8	KM 15	MB 15	HN 15
55	H2312	M 60 x 2	80	62	13	0.5	KM 12	MB 12	HN 12
2.11/16	HA216	M 80 x 2	105	46	17	0.9	KM 16	MB 16	HN 16
2.3/4	HE216	M 80 x 2	105	46	17	0.9	KM 16	MB 16	HN 16
70	H216	M 80 x 2	105	46	17	0.9	KM 16	MB 16	HN 16
2.1/4	HE313	M 65 x 2	85	50	14	0.5	KM 13	MB 13	HN 13
60	H313	M 65 x 2	85	50	14	0.5	KM 13	MB 13	HN 13
2.3/16	HA313	M 65 x 2	85	50	14	0.5	KM 13	MB 13	HN 13
2.1/4	HE313	M 65 x 2	85	50	14	0.5	KM 13	MB 13	HN 13
60	H313	M 65 x 2	85	50	14	0.5	KM 13	MB 13	HN 13
2.3/16	HA313	M 65 x 2	85	50	14	0.5	KM 13	MB 13	HN 13
70	H316	M 80 x 2	105	59	17	1.0	KM 16	MB 16	HN 16
2.11/16	HA316	M 80 x 2	105	59	17	1.0	KM 16	MB 16	HN 16
2.3/4	HE316	M 80 x 2	105	59	17	1.0	KM 16	MB 16	HN 16

Metric Adapter Sleeves

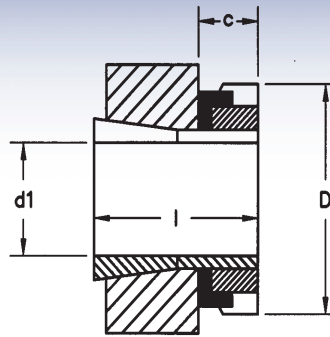
Shaft (d)	Sleeve	d ₁	D	B ₁	B ₂	Mass (kg)	Nut	Washer	Wrench
70	H316	M 80 x 2	105	59	17	1.0	KM 16	MB 16	HN 16
2.1/4	HE2313	M 65 x 2	85	65	14	0.6	KM 13	MB 13	HN 13
60	H2313	M 65 x 2	85	65	14	0.6	KM 13	MB 13	HN 13
2.3/16	HE2313	M 65 x 2	85	65	14	0.6	KM 13	MB 13	HN 13
2.1/4	HE2313	M 65 x 2	85	65	14	0.6	KM 13	MB 13	HN 13
60	H2313	M 65 x 2	85	65	14	0.6	KM 13	MB 13	HN 13
2.3/16	HA2313	M 65 x 2	85	65	14	0.6	KM 13	MB 13	HN 13
2.15/16	HA217	M 85 x 2	110	50	18	1.0	KM 17	MB 17	HN 17
3	HE217	M 85 x 2	110	50	18	1.0	KM 17	MB 17	HN 17
75	H217	M 85 x 2	110	50	18	1.0	KM 17	MB 17	HN 17
75	H317	M 85 x 2	110	63	18	1.2	KM 17	MB 17	HN 17
2.15/16	HA317	M 85 x 2	110	63	18	1.2	KM 17	MB 17	HN 17
3	HE317	M 85 x 2	110	63	18	1.2	KM 17	MB 17	HN 17
75	H317	M 85 x 2	110	63	18	1.2	KM 17	MB 17	HN 17
3.1/4	HE218	M 90 x 2	120	52	18	1.2	KM 18	MB 18	HN 18
3.3/16	HA218	M 90 x 2	120	52	18	1.2	KM 18	MB 18	HN 18
80	H218	M 90 x 2	120	52	18	1.2	KM 18	MB 18	HN 18
2.1/2	HE315	M 75 x 2	98	55	15	0.8	KM 15	MB 15	HN 15
2.7/16	HA315	M 75 x 2	98	55	15	0.8	KM 15	MB 15	HN 15
65	H315	M 75 x 2	98	55	15	0.8	KM 15	MB 15	HN 15
2.1/2	HE315	M 75 x 2	98	55	15	0.8	KM 15	MB 15	HN 15
2.7/16	HA315	M 75 x 2	98	55	15	0.8	KM 15	MB 15	HN 15
65	H315	M 75 x 2	98	55	15	0.8	KM 15	MB 15	HN 15
3.1/4	HE318	M 90 x 2	120	65	18	1.4	KM 18	MB 18	HN 18
3.3/16	HA318	M 90 x 2	120	65	18	1.4	KM 18	MB 18	HN 18
80	H318	M 90 x 2	120	65	18	1.4	KM 18	MB 18	HN 18
2.1/2	HE2315	M 75 x 2	98	73	15	1.1	KM 15	MB 15	HN 15
2.7/16	HA2315	M 75 x 2	98	73	15	1.1	KM 15	MB 15	HN 15
65	H2315	M 75 x 2	98	73	15	1.1	KM 15	MB 15	HN 15
2.1/2	HE2315	M 75 x 2	98	73	15	1.1	KM 15	MB 15	HN 15
2.7/16	HA2315	M 75 x 2	98	73	15	1.1	KM 15	MB 15	HN 15
65	H2315	M 75 x 2	98	73	15	1.1	KM 15	MB 15	HN 15
3.1/4	HE2318	M 90 x 2	120	86	18	1.7	KM 18	MB 18	HN 18
3.3/16	HA2318	M 90 x 2	120	86	18	1.7	KM 18	MB 18	HN 18
80	H2318	M 90 x 2	120	86	18	1.7	KM 18	MB 18	HN 18
85	H219	M 95 x 2	125	55	19	1.3	KM 19	MB 19	HN 19
2.11/16	HA316	M 80 x 2	105	59	17	1.0	KM 16	MB 16	HN 16
2.3/4	HE316	M 80 x 2	105	59	17	1.0	KM 16	MB 16	HN 16
70	H316	M 80 x 2	105	59	17	1.0	KM 16	MB 16	HN 16
2.11/16	HA316	M 80 x 2	105	59	17	1.0	KM 16	MB 16	HN 16
2.3/4	HE316	M 80 x 2	105	59	17	1.0	KM 16	MB 16	HN 16
70	H316	M 80 x 2	105	59	17	1.0	KM 16	MB 16	HN 16
85	H319	M 95 x 2	125	68	19	1.6	KM 19	MB 19	HN 19
2.11/16	HA2316	M 80 x 2	105	78	17	1.3	KM 16	MB 16	HN 16
2.3/4	HE2316	M 80 x 2	105	78	17	1.3	KM 16	MB 16	HN 16
70	H2316	M 80 x 2	105	78	17	1.3	KM 16	MB 16	HN 16
2.11/16	HA2316	M 80 x 2	105	78	17	1.3	KM 16	MB 16	HN 16
2.3/4	HE2316	M 80 x 2	105	78	17	1.3	KM 16	MB 16	HN 16
70	H2316	M 80 x 2	105	78	17	1.3	KM 16	MB 16	HN 16
3.1/2	HE220	M 100 x 2	130	58	20	1.5	KM 20	MB 20	HN 20
3.7/16	HA220	M 100 x 2	130	58	20	1.5	KM 20	MB 20	HN 20
90	H220	M 100 x 2	130	58	20	1.5	KM 20	MB 20	HN 20
2.15/16	HA317	M 85 x 2	110	63	18	1.2	KM 17	MB 17	HN 17
3	HE317	M 85 x 2	110	63	18	1.2	KM 17	MB 17	HN 17
75	H317	M 85 x 2	110	63	18	1.2	KM 17	MB 17	HN 17
2.15/16	HA317	M 85 x 2	110	63	18	1.2	KM 17	MB 17	HN 17
3	HE317	M 85 x 2	110	63	18	1.2	KM 17	MB 17	HN 17
75	H317	M 85 x 2	110	63	18	1.2	KM 17	MB 17	HN 17
3.1/2	HE320	M 100 x 2	130	71	20	1.7	KM 20	MB 20	HN 20
3.7/16	HA320	M 100 x 2	130	71	20	1.7	KM 20	MB 20	HN 20
90	H320	M 100 x 2	130	71	20	1.7	KM 20	MB 20	HN 20
2.15/16	HA2317	M 85 x 2	110	82	18	1.5	KM 17	MB 17	HN 17
3	HE2317	M 85 x 2	110	82	18	1.5	KM 17	MB 17	HN 17
75	H2317	M 85 x 2	110	82	18	1.5	KM 17	MB 17	HN 17





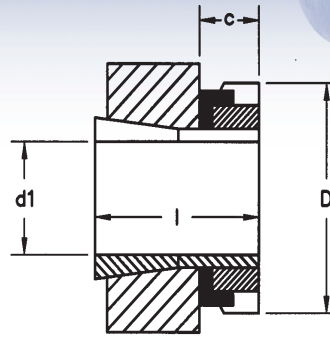
Shaft (d)	Sleeve	d ₁	D	B ₁	B ₂	Mass (kg)	Nut	Washer	Wrench
2.15/16	HA2317	M 85 x 2	110	82	18	1.5	KM 17	MB 17	HN 17
3	HE2317	M 85 x 2	110	82	18	1.5	KM 17	MB 17	HN 17
75	H2317	M 85 x 2	110	82	18	1.5	KM 17	MB 17	HN 17
3.1/2	HE2320	M 100 x 2	130	97	20	2.2	KM 20	MB 20	HN 20
3.7/16	HA2320	M 100 x 2	130	97	20	2.2	KM 20	MB 20	HN 20
90	H2320	M 100 x 2	130	97	20	2.2	KM 20	MB 20	HN 20
100	H222	M 110 x 2	145	63	21	1.9	KM 22	MB 22	HN 22
3.15/16	H222	M 110 x 2	145	63	21	1.9	KM 22	MB 22	HN 22
4	HE222	M 110 x 2	145	63	21	1.9	KM 22	MB 22	HN 22
100	H322	M 110 x 2	145	77	21	2.2	KM 22	MB 22	HN 22
3.15/16	H322	M 110 x 2	145	77	21	2.2	KM 22	MB 22	HN 22
4	HE322	M 110 x 2	145	77	21	2.2	KM 22	MB 22	HN 22
85	H2319	M 95 x 2	125	90	19	1.9	KM 19	MB 19	HN 19
100	H2322	M 110 x 2	145	105	21	2.8	KM 22	MB 22	HN 22
3.15/16	H2322	M 110 x 2	145	105	21	2.8	KM 22	MB 22	HN 22
4	HE2322	M 110 x 2	145	105	21	2.8	KM 22	MB 22	HN 22
3.1/2	HE320	M 100 x 2	130	71	20	1.7	KM 20	MB 20	HN 20
3.7/16	HA320	M 100 x 2	130	71	20	1.7	KM 20	MB 20	HN 20
3.1/2	HE320	M 100 x 2	130	71	20	1.7	KM 20	MB 20	HN 20
3.7/16	HA320	M 100 x 2	130	71	20	1.7	KM 20	MB 20	HN 20
110	H3124	M 120 x 2	155	88	22	2.7	KM 24	MB 24	IMPACT 23-30
4.1/4	HE3124	M 120 x 2	155	88	22	2.7	KM 24	MB 24	IMPACT 23-30
4.3/16	HA3124	M 120 x 2	155	88	22	2.7	KM 24	MB 24	IMPACT 23-30
3.1/2	HE2320	M 100 x 2	130	97	20	2.2	KM 20	MB 20	HN 20
3.7/16	HA2320	M 100 x 2	130	97	20	2.2	KM 20	MB 20	HN 20
90	H2320	M 100 x 2	130	97	20	2.2	KM 20	MB 20	HN 20
110	H2324	M 120 x 2	155	112	22	3.2	KM 24	MB 24	IMPACT 23-30
4.1/4	HE2324	M 120 x 2	155	112	22	3.2	KM 24	MB 24	IMPACT 23-30
4.3/16	HA2324	M 120 x 2	155	112	22	3.2	KM 24	MB 24	IMPACT 23-30
115	H3126	M 130 x 2	165	92	23	3.7	KM 26	MB 26	IMPACT 23-30
4.1/2	HE3126	M 130 x 2	165	92	23	3.7	KM 26	MB 26	IMPACT 23-30
4.7/16	HA3126	M 130 x 2	165	92	23	3.7	KM 26	MB 26	IMPACT 23-30
115	H2326	M 130 x 2	165	121	23	4.6	KM 26	MB 26	IMPACT 23-30
4.1/2	HE2326	M 130 x 2	165	121	23	4.6	KM 26	MB 26	IMPACT 23-30
4.7/16	HA2326	M 130 x 2	165	121	23	4.6	KM 26	MB 26	IMPACT 23-30
125	H3128	M 140 x 2	180	97	24	4.4	KM 28	MB 28	IMPACT 23-30
4.15/16	HA3128	M 140 x 2	180	97	24	4.4	KM 28	MB 28	IMPACT 23-30
5	HE3128	M 140 x 2	180	97	24	4.4	KM 28	MB 28	IMPACT 23-30
125	H2328	M 140 x 2	180	131	24	5.5	KM 28	MB 28	IMPACT 23-30
4.15/16	HA2328	M 140 x 2	180	131	24	5.5	KM 28	MB 28	IMPACT 23-30
5	HE2328	M 140 x 2	180	131	24	5.5	KM 28	MB 28	IMPACT 23-30
135	H3130	M 150 x 2	195	111	26	5.5	KM 30	MB 30	IMPACT 23-30
5.1/4	HE3130	M 150 x 2	195	111	26	5.5	KM 30	MB 30	IMPACT 23-30
5.3/16	HA3130	M 150 x 2	195	111	26	5.5	KM 30	MB 30	IMPACT 23-30
135	H2330	M 150 x 2	195	139	26	6.6	KM 30	MB 30	IMPACT 23-30
5.1/4	HE2330	M 150 x 2	195	139	26	6.6	KM 30	MB 30	IMPACT 23-30
5.3/16	HA2330	M 150 x 2	195	139	26	6.6	KM 30	MB 30	IMPACT 23-30
140	H3132	M 160 x 3	210	119	28	7.7	KM 32	MB 32	IMPACT 30-40
5.1/2	HE3132	M 160 x 3	210	119	28	7.7	KM 32	MB 32	IMPACT 30-40
5.7/16	HA3132	M 160 x 3	210	119	28	7.7	KM 32	MB 32	IMPACT 30-40
140	H2332	M 160 x 3	210	147	28	9.2	KM 32	MB 32	IMPACT 30-40
5.1/2	HE2332	M 160 x 3	210	147	28	9.2	KM 32	MB 32	IMPACT 30-40
5.7/16	HA2332	M 160 x 3	210	147	28	9.2	KM 32	MB 32	IMPACT 30-40
5.15/16	HA3134	M 170 x 3	220	122	29	8.4	KM 34	MB 34	IMPACT 30-40
6	HE3134	M 170 x 3	220	122	29	8.4	KM 34	MB 34	IMPACT 30-40
6.7/16	HA3136	M 180 x 3	230	131	30	9.5	KM 36	MB 36	IMPACT 30-40
6.1/2	HE3136	M 180 x 3	230	131	30	9.5	KM 36	MB 36	IMPACT 30-40
6.15/16	HA3138	M 190 x 3	240	141	31	11.0	KM 38	MB 38	IMPACT 30-40
7	HE3138	M 190 x 3	240	141	31	11.0	KM 38	MB 38	IMPACT 30-40
7.3/16	HA3140	M 200 x 3	250	150	32	12.0	KM 40	MB 40	IMPACT 30-40
7.15/16	HA3144	M 220 x 4	280	161	32	14.7	HM 44T	MB 44	IMPACT 40-52
8	HE3144	M 220 x 4	280	161	32	14.7	HM 44T	MB 44	IMPACT 40-52

Inch Adapter Sleeves



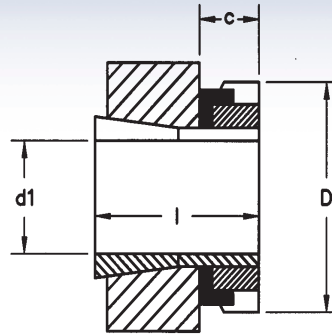
Part No. (Bore)	Weight lbs.	Dimension in Inches				Lock Nut	Lock Washer
		d1	l	D	c		
SNW 05 X 3/4	0.2	3/4	1.27	1.6	0.46	N 05	W 05
SNW 05 X 11/16	0.3	11/16	1.27	1.6	0.46	N 05	W 05
SNW 06 X 15/16	0.2	15/16	1.35	1.8	0.46	N 06	W 06
SNW 06 X 1	0.2	1	1.35	1.8	0.46	N 06	W 06
SNW 07 X 1-1/16	0.4	1-1/16	1.46	2.1	0.48	N 07	W 07
SNW 07 X 1-1/4	0.3	1-1/4	1.46	2.1	0.48	N 07	W 07
SNW 07 X 1-1/8	0.3	1-1/8	1.46	2.1	0.48	N 07	W 07
SNW 07 X 1-3/16	0.3	1-3/16	1.46	2.1	0.48	N 07	W 07
SNW 08 X 1-1/4	0.4	1-1/4	1.50	2.3	0.50	N 08	W 08
SNW 08 X 1-3/8	0.4	1-3/8	1.50	2.3	0.50	N 08	W 08
SNW 08 X 1-5/16	0.4	1-5/16	1.50	2.3	0.50	N 08	W 08
SNW 09 X 1-3/8	0.6	1-3/8	1.58	2.5	0.50	N 09	W 09
SNW 09 X 1-1/2	0.6	1-1/2	1.58	2.5	0.50	N 09	W 09
SNW 09 X 1-7/16	0.6	1-7/16	1.58	2.5	0.50	N 09	W 09
SNW 10 X 1-11/16	0.7	1-11/16	1.77	2.7	0.56	N 10	W 10
SNW 10 X 1-3/4	0.7	1-3/4	1.77	2.7	0.56	N 10	W 10
SNW 10 X 1-5/8	0.7	1-5/8	1.77	2.7	0.56	N 10	W 10
SNW 11 X 1-13/16	0.8	1-13/16	1.85	3.0	0.56	N 11	W 11
SNW 11 X 1-3/4	0.8	1-3/4	1.85	3.0	0.56	N 11	W 11
SNW 11 X 1-7/8	0.8	1-7/8	1.85	3.0	0.56	N 11	W 11
SNW 11 X 1-15/16	0.9	1-15/16	1.85	3.0	0.56	N 11	W 11
SNW 11 X 2	0.9	2	1.85	3.0	0.56	N 11	W 11
SNW 13 X 2	1.0	2	2.10	3.4	0.63	N 13	W 13
SNW 13 X 2-1/4	1.4	2-1/4	2.10	3.4	0.63	N 13	W 13
SNW 13 X 2-3/16	1.4	2-3/16	2.10	3.4	0.63	N 13	W 13
SNW 13 X 2-5/16	1.3	2-5/16	2.10	3.4	0.63	N 13	W 13
SNW 15 X 2-1/2	2.3	2-1/2	2.30	3.9	0.67	AN 15	W 15
SNW 15 X 2-3/8	2.4	2-3/8	2.30	3.9	0.67	AN 15	W 15
SNW 15 X 2-5/8	2.2	2-5/8	2.30	3.9	0.67	AN 15	W 15
SNW 15 X 2-7/16	2.2	2-7/16	2.30	3.9	0.67	AN 15	W 15
SNW 16 X 2-11/16	2.4	2-11/16	2.38	4.2	0.67	AN 16	W 16
SNW 16 X 2-3/4	2.4	2-3/4	2.38	4.2	0.67	AN 16	W 16
SNW 17 X 2-15/16	2.9	2-15/16	2.49	4.4	0.70	AN 17	W 17
SNW 17 X 3	2.9	3	2.49	4.4	0.70	AN 17	W 17
SNW 18 X 3-1/4	4.0	3-1/4	2.49	4.7	0.78	AN 18	W 18
SNW 18 X 3	4.0	3	2.65	4.7	0.78	AN 18	W 18
SNW 20 X 3-1/2	4.0	3-1/2	2.87	5.2	0.84	AN 20	W 20
SNW 20 X 3-7/16	4.0	3-7/16	2.87	5.2	0.84	AN 20	W 20
SNW 22 X 3-11/16	4.9	3-11/16	3.21	5.7	0.91	AN 22	W 22
SNW 22 X 3-15/16	4.8	3-15/16	3.21	5.7	0.91	AN 22	W 22
SNW 22 X 4	4.8	4	3.21	5.7	0.91	AN 22	W 22
SNW 24 X 4-1/4	6.2	4-1/4	3.47	6.1	0.94	AN 24	W 22
SNW 24 X 4-3/16	6.2	4-3/16	3.47	6.1	0.94	AN 24	W 24
SNW 26 X 4-7/16	9.7	4-7/16	3.76	6.8	1.00	AN 26	W 26
SNW 26 X 4-1/2	9.7	4-1/2	3.76	6.8	1.00	AN 26	W 26
SNW 28 X 4-15/16	10.5	4-15/16	3.98	7.1	1.06	AN 28	W 28
SNW 28 X 4-7/8	10.5	4-7/8	3.98	7.1	1.06	AN 28	W 28
SNW 28 X 5	10.5	5	3.98	7.1	1.06	AN 28	W 28
SNW 30 X 5-1/4	16.0	5-1/4	4.24	7.7	1.13	AN 30	W 30
SNW 30 X 5-3/16	16.0	5-3/16	4.24	7.7	1.13	AN 30	W 30
SNW 32 X 5-1/2	16.0	5-1/2	4.58	8.1	1.19	AN 32	W 32
NW 32 X 5-7/16	16.0	5-7/16	4.58	8.1	1.19	AN 32	W 32
SNW 32 X 5-3/4	16.0	5-3/4	4.58	8.1	1.19	AN 32	W 32
SNW 34 X 5-15/16	19.5	5-15/16	4.85	8.7	1.22	AN 34	W 34
SNW 34 X 6	19.5	6	4.85	8.7	1.22	AN 34	W 34
SNW 36 X 6-7/16	20.5	6-7/16	5.04	9.1	1.25	AN 36	W 36
SNW 36 X 6-1/2	20.5	6-1/2	5.04	9.1	1.25	AN 36	W 36
SNW 38 X 6-15/16	23.5	6-15/16	5.26	9.5	1.28	AN 38	W 38
SNW 38 X 7	23.5	7	5.26	9.5	1.28	AN 38	W 38
SNW 40 X 7-3/16	30.5	7-3/16	5.48	9.8	1.34	AN 40	W 40
SNW 40 X 7-3/8	30.5	7-3/8	5.48	9.8	1.34	AN 40	W 40
SNW 44 X 7-1/2	32.5	7-1/2	5.90	11.0	1.41	N 44	W 44
SNW 44 X 7-7/8	32.5	7-7/8	5.90	11.0	1.41	N 44	W 44
SNW 44 X 7-15/16	32.5	7-15/16	5.90	11.0	1.41	N 44	W 44
SNW 44 X 8	32.5	8	5.90	11.0	1.41	N 44	W 44

Inch Adapter Sleeves



Part No. (Bore)	Weight lbs.	Dimension in Inches				Lock Nut	Lock Washer
		d1	l	D	c		
SNW 109 X 1-7/16	0.7	1-7/16	2.13	2.53	0.50	N 09	W 09
SNW 109 X 1-1/2	0.7	1-1/2	2.13	2.53	0.50	N 09	W 09
SNW 110 X 1-11/16	0.9	1-11/16	2.39	2.69	0.56	N 10	W 10
SNW 110 X 1-3/4	0.9	1-3/4	2.39	2.69	0.56	N 10	W 10
SNW 111 X 1-7/8	0.9	1-7/8	2.52	2.97	0.56	N 11	W 11
SNW 111 X 1-15/16	0.9	1-15/16	2.52	2.97	0.56	N 11	W 11
SNW 111 X 2	0.9	2	2.52	2.97	0.56	N 11	W 11
SNW 113 X 2-1/4	1.8	2-1/4	2.77	3.38	0.63	N 13	W 13
SNW 113 X 2-3/16	1.8	2-3/16	2.77	3.38	0.63	N 13	W 13
SNW 115 X 2-3/8	3.0	2-3/8	3.08	3.88	0.70	AN 15	W 15
SNW 115 X 2-7/16	3.0	2-7/16	3.08	3.88	0.70	AN 15	W 15
SNW 115 X 2-1/2	3.0	2-1/2	3.08	3.88	0.70	AN 15	W 15
SNW 116 X 2-11/16	3.2	2-11/16	3.20	4.16	0.67	AN 16	W 16
SNW 116 X 2-3/4	3.2	2-3/4	3.20	4.16	0.67	AN 16	W 16
SNW 117 X 2-15/16	3.4	2-15/16	3.31	4.41	0.70	AN 17	W 17
SNW 117 X 3	3.4	3	3.31	4.41	0.70	AN 17	W 17
SNW 118 X 3-3/16	4.0	3-3/16	3.55	4.66	0.78	AN 18	W 18
SNW 118 X 3-1/4	4.0	3-1/4	3.55	4.66	0.78	AN 18	W 18
SNW 120 X 3-7/16	6.3	3-7/16	3.97	5.19	0.84	AN 20	W 20
SNW 120 X 3-1/2	6.3	3-1/2	3.97	5.19	0.84	AN 20	W 20
SNW 122 X 3-11/16	6.5	3-11/16	4.35	5.72	0.91	AN 22	W 22
SNW 122 X 3-15/16	6.5	3-15/16	4.35	5.72	0.91	AN 22	W 22
SNW 122 X 4	6.5	4	4.35	5.72	0.91	AN 22	W 22
SNW 124 X 4-3/16	7.8	4-3/16	4.65	6.13	0.94	AN 24	W 24
SNW 124 X 4-1/4	7.8	4-1/4	4.65	6.13	0.94	AN 24	W 24
SNW 126 X 4-7/16	12.5	4-7/16	4.98	6.75	1.00	AN 26	W 26
SNW 126 X 4-1/2	12.5	4-1/2	4.98	6.75	1.00	AN 26	W 26
SNW 128 X 4-15/16	13.0	4-15/16	5.32	7.09	1.06	AN 28	W 28
SNW 128 X 5	13.0	5	5.32	7.09	1.06	AN 28	W 28
SNW 130 X 5-3/16	18.0	5-3/16	5.62	7.69	1.13	AN 30	W 30
SNW 130 X 5-1/4	18.0	5-1/4	5.62	7.69	1.13	AN 30	W 30
SNW 132 X 5-7/16	18.0	5-7/16	5.92	8.06	1.19	AN 32	W 32
SNW 134 X 5-15/16	21.0	5-15/16	6.19	8.66	1.22	AN 34	W 34
SNW 134 X 6	21.0	6	6.19	8.66	1.22	AN 34	W 34
SNW 136 X 6-7/16	20.5	6-7/16	6.46	9.06	1.25	AN 36	W 36
SNW 136 X 6-1/2	20.5	6-1/2	6.46	9.06	1.25	AN 36	W 36
SNW 138 X 6-15/16	28.0	6-15/16	6.76	9.47	1.28	AN 38	W 38
SNW 138 X 7	28.0	7	6.76	9.47	1.28	AN 38	W 38
SNW 140 X 7-3/16	35.5	7-3/16	7.10	9.84	1.34	AN 40	W 40
SNW 144 X 7-15/16	46.5	7-15/16	7.29	11.00	1.41	N 44	W 44
SNW 144 X 8	46.5	8	7.29	11.00	1.41	N 44	W 44

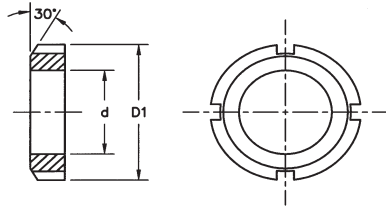
Inch Adapter Sleeves



Part No. (Bore)	Weight lbs.	Dimension in Inches				Lock Nut	Lock Washer
		d_1	l	D	c		
SNW 3024 X 4-3/16	6.2	4-3/16	2.95	5.69	0.94	AN 24	W 24
SNW 3026 X 4-7/16	7.5	4-7/16	3.24	6.13	1.00	AN 26	W 26
SNW 3026 X 4-1/2	7.5	4-1/2	3.24	6.13	1.00	AN 26	W 26
SNW 3028 X 4-15/16	8.5	4-15/16	3.34	6.50	1.06	AN 28	W 28
SNW 3028 X 5	8.5	5	3.34	6.50	1.06	AN 28	W 28
SNW 3030 X 5-3/16	9.8	5-3/16	3.49	7.13	1.13	AN 30	W 30
SNW 3030 X 5-1/4	9.8	5-1/4	3.49	7.13	1.13	AN 30	W 30
SNW 3032 X 5-7/16	12.0	5-7/16	3.71	7.50	1.19	AN 32	W 32
SNW 3034 X 5-15/16	13.5	5-15/16	4.02	7.88	1.22	AN 34	W 34
SNW 3034 X 6	13.5	6	4.02	7.88	1.22	AN 34	W 34
SNW 3036 X 6-7/16	15.0	6-7/16	4.34	8.25	1.25	AN 36	W 36
SNW 3036 X 6-1/2	15.0	6-1/2	4.34	8.25	1.25	AN 36	W 36
SNW 3038 X 6-15/16	17.0	6-15/16	4.41	8.69	1.28	AN 38	W 38
SNW 3038 X 7	17.0	7	4.41	8.69	1.28	AN 38	W 38
SNW 3040 X 7-3/16	19.5	7-3/16	4.75	9.44	1.34	AN 40	W 40
SNW 3044 X 7-15/16	24.5	7-15/16	5.13	10.25	1.38	N 44	W 44
SNW 3044 X 8	24.5	8	5.13	10.25	1.38	N 44	W 44
SNP 3048 X 8-7/16	31.0	8-7/16	5.43	11.44	1.70	N 048	P 48
SNP 3048 X 8-1/2	31.0	8-1/2	5.43	11.44	1.70	N 048	P 48
SNP 3048 X 8-15/16	32.0	8-15/16	5.43	11.44	1.70	N 048	P 48
SNP 3048 X 9	32.0	9	5.43	11.44	1.70	N 048	P 48
SNP 3052 X 9-7/16	41.0	9-7/16	6.02	12.19	1.77	N 052	P 52
SNP 3052 X 9-1/2	40.0	9-1/2	6.02	12.19	1.77	N 052	P 52
SNP 3056 X 9-15/16	47.0	9-15/16	6.19	13.00	1.86	N 056	P 56
SNP 3056 X 10	46.0	10	6.19	13.00	1.86	N 056	P 56
SNP 3056 X 10-7/16	45.0	10-7/16	6.19	13.00	1.86	N 056	P 56
SNP 3056 X 10-1/2	45.0	10-1/2	6.19	13.00	1.86	N 056	P 56
SNP 3060 X 10-15/16	59.0	10-15/16	6.73	14.19	1.97	N 060	P 60
SNP 3060 X 11	59.0	11	6.73	14.19	1.97	N 060	P 60
SNP 3064 X 11-1/2	66.0	11-1/2	6.95	15.00	2.06	N 064	P 64
SNP 3064 X 12	66.0	12	6.95	15.00	2.06	N 064	P 64
SNP 3068 X 12-7/16	78.0	12-7/16	7.54	15.75	2.19	N 068	P 68
SNP 3068 X 12-1/2	78.0	12-1/2	7.54	15.75	2.19	N 068	P 68
SNP 3072 X 13-7/16	86.0	13-7/16	7.58	16.50	2.19	N 072	P 72
SNP 3076 X 13-15/16	95.0	13-15/16	7.74	17.75	2.41	N 076	P 76
SNP 3076 X 14	95.0	14	7.74	17.75	2.41	N 076	P 76
SNP 3080 X 15	100.0	15	8.41	18.50	2.56	N 080	P 80
SNP 3084 X 15-3/4	105.0	15-3/4	8.50	19.31	2.56	N 084	P 84
SNP 3088 X 16	143.0	16	8.98	20.47	2.36	N 088	P 88
SNP 3088 X 16-1/2	143.0	16-1/2	8.98	20.47	2.36	N 088	P 88
SNP 3092 X 17	153.0	17	9.21	21.26	2.36	N 092	P 92
SNP 3096 X 18	161.0	18	9.33	22.05	2.36	N 096	P 96
SNP 3500 X 18-1/2	180.0	18-1/2	9.72	22.83	2.68	N 500	P 500

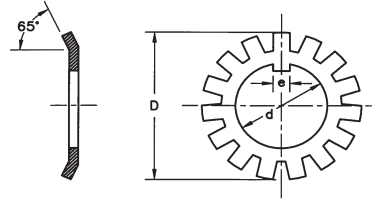


Inch Lock Nuts



Part No.	Thread per inch	d in.	D1 in.
N 00	32	0.39	0.76
N 01	32	0.47	0.88
N 02	32	0.59	1.01
N 03	32	0.66	1.13
N 04	32	0.78	1.38
N 05	32	0.97	1.57
N 06	18	1.17	1.76
N 07	18	1.38	2.07
N 08	18	1.56	2.26
N 09	18	1.77	2.54
N 10	18	1.97	2.69
N 11	18	2.16	2.97
N 12	18	2.36	3.16
N 13	18	2.55	3.38
N 14	18	2.75	3.63
AN 15	12	2.93	3.88
AN 16	12	3.14	4.16
AN 17	12	3.34	4.41
AN 18	12	3.53	4.66
AN 19	12	3.73	4.94
AN 20	12	3.92	5.19
AN 21	12	4.12	5.44
AN 22	12	4.33	5.72
AN 24	12	4.72	6.13
AN 26	12	5.11	6.76
AN 28	12	5.50	7.10
AN 30	12	5.89	7.69
AN 32	8	6.28	8.07
AN 34	8	6.66	8.66
AN 36	8	7.07	9.07
AN 38	8	7.47	9.47
AN 40	8	7.85	9.85
N 44	8	8.63	11.01

Inch Lock Washers



Part No.	d in.	D1 in.	e in.
W 00	0.41	0.88	0.12
W 01	0.48	1.02	0.12
W 02	0.60	1.16	0.12
W 03	0.68	1.33	0.12
W 04	0.80	1.53	0.18
W 05	0.99	1.72	0.18
W 06	1.19	1.92	0.18
W 07	1.40	2.25	0.18
W 08	1.58	2.47	0.29
W 09	1.79	2.73	0.29
W 10	1.99	2.92	0.29
W 11	2.18	3.11	0.29
W 12	2.40	3.34	0.29
W 13	2.59	3.58	0.29
W 14	2.79	3.83	0.29
W 15	2.97	4.11	0.29
W 16	3.18	4.38	0.35
W 17	3.40	4.63	0.35
W 18	3.58	4.94	0.35
W 19	3.80	5.22	0.35
W 20	3.99	5.50	0.35
W 21	4.19	5.70	0.35
W 22	4.40	6.06	0.35
W 24	4.80	6.47	0.35
W 26	5.19	7.03	0.44
W 28	5.58	7.44	0.59
W 30	5.98	8.06	0.59
W 32	6.39	8.44	0.59
W 34	6.76	9.06	0.72
W 36	7.17	9.44	0.72
W 38	7.58	9.88	0.72
W 40	7.98	10.31	0.84
W 44	8.70	11.44	0.94

Straight Bore Fits of Radial Bearings with Solid Steel Shafts

Load Conditions		Examples	Shaft Diameter (mm)			Tolerance of Shaft
			Ball Bearings	Cylindrical or Tapered Roller Brgs.	Spherical Roller Bearings	
Radial Bearings with Cylindrical Bores						
Rotating Outer Ring Load	Easy axial displacement of inner ring on shaft desirable	Wheels on Stationary axles	All Shaft Diameters			g6
	Easy axial displacement of inner ring on shaft unnecessary	Tension Pulleys, Rope Sheaves				h6
Rotating Inner Ring Load or Direction of Load Indeterminate	Light Load (<0.06C _r ⁽¹⁾)	Electrical Appliances, Pumps, Blowers, Transport Vehicles, Precision Machinery, Machine Tools	<18	–	–	js5
			18 to 100	<40	–	js6 (j6)
			100 to 200	40 to 140	–	K6
			–	140 to 200	–	m6
	Normal Loads (0.06 to 0.13 C _r ⁽¹⁾)	General Bearing Applications, Medium and Large Motors, Turbines, Pumps, Engine Main Bearings, Gears, Woodworking Machines	<18	–	–	js5~6(j5~6)
			18 to 100	<40	<40	k5 or 6
			100 to 140	40 to 100	40 to 65	m5 or 6
			140 to 200	100 to 140	65 to 100	m6
			200 to 280	140 to 200	100 to 140	n6
			–	200 to 400	140 to 280	p6
	Heavy Loads (>0.13C _r ⁽¹⁾)	Railway Axle Boxes, Industrial Vehicles, Traction Motors, Construction Equipment, Crushers	–	–	280 to 500	r6
			–	–	>500	r7
–			50 to 140	50 to 100	n6	
–			140 to 200	100 to 140	p6	
Axial Loads Only		–	–	200 to 500	r6	
		–	–	200 to 500	r7	
			All Shaft Diameters			js6 (j6)

(1) C_r represents the basic load rating of the bearing

Tolerances for Shaft Diameters

Units: Inch

Shaft Diameter (mm)		Bearing Bore Tolerance	Shaft Tolerance							
over	incl		ABEC1	g6	h6	h9	h10	js5	js6	k5
3	6	+0	-0.0002	+0	+0	+0	±0.0001	±0.0002	+0.0002	+0.0004
		-0.0003	-0.0005	-0.0003	-0.0012	-0.0019			+0	+0
6	10	+0	-0.0002	+0	+0	+0	±0.0001	±0.0002	+0.0003	+0.0004
		-0.0003	-0.0006	-0.0004	-0.0014	-0.0023			+0	+0
10	18	+0	-0.0002	+0	+0	+0	±0.0002	±0.0002	+0.0004	+0.0005
		-0.0003	-0.0007	-0.0004	-0.0017	-0.0028			+0	+0
18	30	+0	-0.0003	+0	+0	+0	±0.0002	±0.0003	+0.0004	+0.0006
		-0.0004	-0.0008	-0.0005	-0.0020	-0.0033			+0.0001	+0.0001
30	50	+0	-0.0004	+0	+0	+0	±0.0002	±0.0003	+0.0005	+0.0007
		-0.0005	-0.0010	-0.0006	-0.0024	-0.0039			+0.0001	+0.0001
50	80	+0	-0.0004	+0	+0	+0	±0.0003	±0.0004	+0.0006	+0.0008
		-0.0006	-0.0011	-0.0007	-0.0029	-0.0047			+0.0001	+0.0001
80	120	+0	-0.0005	+0	+0	+0	±0.0003	±0.0004	+0.0007	+0.0010
		-0.0008	-0.0013	-0.0009	-0.0034	-0.0055			+0.0001	+0.0001
120	180	+0	-0.0006	+0	+0	+0	±0.0004	±0.0005	+0.0008	+0.0011
		-0.0010	-0.0015	-0.0010	-0.0039	-0.0063			+0.0001	+0.0001
180	250	+0	-0.0006	+0	+0	+0	±0.0004	±0.0006	+0.0009	+0.0013
		-0.0012	-0.0017	-0.0011	-0.0045	-0.0073			+0.0002	+0.0002
250	315	+0	-0.0007	+0	+0	+0	±0.0005	±0.0006	+0.0011	+0.0014
		-0.0014	-0.0019	-0.0013	-0.0051	-0.0083			+0.0002	+0.0002
315	400	+0	-0.0007	+0	+0	+0	±0.0005	±0.0007	+0.0011	+0.0016
		-0.0016	-0.0021	-0.0014	-0.0055	-0.0091			+0.0002	+0.0002
400	500	+0	-0.0008	+0	+0	+0	±0.0005	±0.0008	+0.0013	+0.0018
		-0.0018	-0.0024	-0.0016	-0.0061	-0.0098			+0.0002	+0.0002
500	630	+0	-0.0009	+0	+0	+0		±0.0009		+0.0017
		-0.0020	-0.0026	-0.0017	-0.0069	-0.0110				+0
630	800	+0	-0.0009	+0	+0	+0		±0.0010		+0.0020
		-0.0030	-0.0029	-0.0020	-0.0079	-0.0126				+0
800	1000	+0	-0.0010	+0	+0	+0		±0.0011		+0.0022
		-0.0039	-0.0032	-0.0022	-0.0091	-0.0142				+0
1000	1250	+0	-0.0011	+0	+0	+0		±0.0013		+0.0026
		-0.0049	-0.0037	-0.0026	-0.0102	-0.0165				+0
1250	1600	+0	-0.0012	+0	+0	+0		±0.0015		+0.0031
		-0.0063	-0.0043	-0.0031	-0.0122	-0.0197				+0
1600	2000	+0	-0.0013	+0	+0	+0		±0.0018		+0.0036
		-0.0079	-0.0049	-0.0036	-0.0146	-0.0236				+0



Tolerances for Shaft Diameters

Units: Inch

Shaft Diameter (mm)		Shaft Tolerance			
over	incl	m5	m6	n6	p6
3	6	+0.0004	+0.0005	+0.0006	+0.0008
		+0.0002	+0.0002	+0.0003	+0.0005
6	10	+0.0005	+0.0006	+0.0007	+0.0009
		+0.0002	+0.0002	+0.0004	+0.0006
10	18	+0.0006	+0.0007	+0.0009	+0.0011
		+0.0003	+0.0003	+0.0005	+0.0007
18	30	+0.0007	+0.0008	+0.0011	+0.0014
		+0.0003	+0.0003	+0.0006	+0.0009
30	50	+0.0008	+0.0010	+0.0013	+0.0017
		+0.0004	+0.0004	+0.0007	+0.0010
50	80	+0.0009	+0.0012	+0.0015	+0.0020
		+0.0004	+0.0004	+0.0008	+0.0013
80	120	+0.0011	+0.0014	+0.0018	+0.0023
		+0.0005	+0.0005	+0.0009	+0.0015
120	180	+0.0013	+0.0016	+0.0020	+0.0027
		+0.0006	+0.0006	+0.0011	+0.0017
180	250	+0.0015	+0.0018	+0.0024	+0.0031
		+0.0007	+0.0007	+0.0012	+0.0020
250	315	+0.0017	+0.0020	+0.0026	+0.0035
		+0.0008	+0.0008	+0.0013	+0.0022
315	400	+0.0018	+0.0022	+0.0029	+0.0039
		+0.0008	+0.0008	+0.0015	+0.0024
400	500	+0.0020	+0.0025	+0.0031	+0.0043
		+0.0009	+0.0009	+0.0016	+0.0027
500	630		+0.0028	+0.0035	+0.0048
			+0.0010	+0.0017	+0.0031
630	800		+0.0031	+0.0039	+0.0054
			+0.0012	+0.0020	+0.0035
800	1000		+0.0035	+0.0044	+0.0061
			+0.0013	+0.0022	+0.0039
1000	1250		+0.0042	+0.0052	+0.0073
			+0.0016	+0.0026	+0.0047
1250	1600		+0.0050	+0.0061	+0.0086
			+0.0019	+0.0031	+0.0055
1600	2000		+0.0059	+0.0072	+0.0103
			+0.0023	+0.0036	+0.0067

Units: Inch

Shaft Diameter (inch)		Shaft Tolerance	
over	incl	r6	r7
3	6	+0.0009	+0.0007
		+0.0006	+0.0006
6	10	+0.0011	+0.0013
		+0.0007	+0.0007
10	18	+0.0013	+0.0016
		+0.0009	+0.0009
18	30	+0.0016	+0.0019
		+0.0011	+0.0011
30	50	+0.0020	+0.0023
		+0.0013	+0.0013
50	65	+0.0024	+0.0028
		+0.0016	+0.0016
65	80	+0.0024	+0.0029
		+0.0017	+0.0017
80	100	+0.0029	+0.0034
		+0.0020	+0.0020
100	120	+0.0030	+0.0035
		+0.0021	+0.0021
120	140	+0.0035	+0.0041
		+0.0025	+0.0025
140	160	+0.0035	+0.0041
		+0.0026	+0.0026
160	180	+0.0037	+0.0043
		+0.0027	+0.0027
180	200	+0.0042	+0.0048
		+0.0030	+0.0030
200	225	+0.0043	+0.0050
		+0.0031	+0.0031
225	250	+0.0044	+0.0051
		+0.0033	+0.0033
250	280	+0.0050	+0.0057
		+0.0037	+0.0037
280	315	+0.0051	+0.0059
		+0.0039	+0.0039
315	355	+0.0057	+0.0065
		+0.0043	+0.0043
355	400	+0.0059	+0.0067
		+0.0045	+0.0045
400	450	+0.0065	+0.0074
		+0.0050	+0.0050
450	500	+0.0068	+0.0077
		+0.0052	+0.0052
500	560	+0.0076	+0.0087
		+0.0059	+0.0059
560	630	+0.0078	+0.0089
		+0.0061	+0.0061
630	710	+0.0089	+0.0100
		+0.0069	+0.0069
710	800	+0.0093	+0.0104
		+0.0073	+0.0073
800	900	+0.0105	+0.0118
		+0.0083	+0.0083
900	1000	+0.0109	+0.0122
		+0.0087	+0.0087
1000	1120	+0.0124	+0.0140
		+0.0098	+0.0098
1120	1250	+0.0128	+0.0144
		+0.0102	+0.0102
1250	1400	+0.0149	+0.0167
		+0.0118	+0.0118
1400	1600	+0.0161	+0.0179
		+0.0130	+0.0130
1600	1800	+0.0182	+0.0205
		+0.0146	+0.0146
1800	2000	+0.0194	+0.0217
		+0.0157	+0.0157

Directions: The shaft tolerances are determined by adding the top number in the tolerance group to the shaft size and adding the bottom number to the shaft size. This provides the maximum shaft size and the minimum shaft size, respectively.

For example: Shaft size = 0.4724"

Application = Electric Motor (Recommended shaft fit js6)

Shaft Tolerance (max) = 0.4724" + 0.0002" = 0.4726"

Shaft Tolerance (min) = 0.4724" - 0.0002" = 0.4722"

Tolerances for Shaft Diameters of Bearing on Adapters and in Split Pillow Block

Units: Inch

Shaft Diameter (mm)		Bearing Bore Tolerance	Shaft Tolerance
over	incl	ABEC1	h9
3	6	+0 -0.0003	+0 -0.0012
6	10	+0 -0.0003	+0 -0.0014
10	18	+0 -0.0003	+0 -0.0017
18	30	+0 -0.0004	+0 -0.0020
30	50	+0 -0.0005	+0 -0.0024
50	80	+0 -0.0006	+0 -0.0029
80	120	+0 -0.0008	+0 -0.0034
120	180	+0 -0.0010	+0 -0.0039
180	250	+0 -0.0012	+0 -0.0045
250	315	+0 -0.0014	+0 -0.0051
315	400	+0 -0.0016	+0 -0.0055
400	500	+0 -0.0018	+0 -0.0061
500	630	+0 -0.0020	+0 -0.0069
630	800	+0 -0.0030	+0 -0.0079
800	1000	+0 -0.0039	+0 -0.0091
1000	1250	+0 -0.0049	+0 -0.0102
1250	1600	+0 -0.0063	+0 -0.0122
1600	2000	+0 -0.0079	+0 -0.0146

Directions:

The shaft tolerances are determined by adding the top number in the tolerance group to the shaft size and adding the bottom number to the shaft size. This provides the maximum shaft size and the minimum shaft size, respectively.

Tolerances for Split Pillow Block Housing Bore Diameters

Units: Inch

Housing Bore Diameter (mm)		Bearing O.D. Tolerance	Housing Bore Tolerance
over	incl	ABEC1	H8
10	18	+0 -0.0003	+0.0011 +0
18	30	+0 -0.0004	+0.0013 +0
30	50	+0 -0.0004	+0.0015 +0
50	80	+0 -0.0005	+0.0018 +0
80	120	+0 -0.0006	+0.0021 +0
120	150	+0 -0.0007	+0.0025 +0
150	180	+0 -0.0010	+0.0025 +0
180	250	+0 -0.0012	+0.0028 +0
250	315	+0 -0.0014	+0.0032 +0
315	400	+0 -0.0016	+0.0035 +0
400	500	+0 -0.0018	+0.0038 +0
500	630	+0 -0.0020	+0.0043 +0
630	800	+0 -0.0030	+0.0049 +0
800	1000	+0 -0.0039	+0.0055 +0
1000	1250	+0 -0.0049	+0.0065 +0
1250	1600	+0 -0.0063	+0.0077 +0
1600	2000	+0 -0.0079	+0.0091 +0
2000	2500	+0 -0.0098	+0.0110 +0

Directions:

The housing bore tolerances are determined by adding the top number in the tolerance group to the housing bore size and adding the bottom number to the housing bore size. This provides the maximum and minimum housing bore size, respectively.



Loading Limited

SAF Allowable Cap Loads

Housing Assembly Part Number	Allowable Cap Load (lbs at 0°)
SAF509	1800
SAF510	2900
SAF511	4700
SAF513	4200
SAF515	5500
SAF516	5200
SAF517	5600
SAF518	7700
SAF520	8500
SAF522	13000
SAF524	14000
SAF526	15000
SAF528	18000
SAF530	21000
SAF532	21000
SAF534	20000
SAF536	20000
SAF538	25000
SAF540	32000
SAF544	38000

Suggested Assembly ft/lbs Torque Values to Produce Corresponding Bolt Loads

Bolt Size	Grade 2		Grade 5		Grade 7		Grade 8	
	Dry	Lub	Dry	Lub	Dry	Lub	Dry	Lub
5/16-18	11	8	17	13	21	16	25	18
5/16-24	12	9	19	14	24	18	25	20
3/8-16	20	15	30	23	40	30	45	35
3/8-24	23	17	35	25	45	30	50	38
7/16-14	32	24	50	35	60	45	70	55
7/16-20	36	27	55	40	70	50	80	60
1/2-13	50	35	75	55	95	70	110	80
1/2-20	55	40	90	65	100	80	120	90
9/16-12	70	55	110	80	135	100	150	110
9/16-18	80	60	120	90	150	110	170	120
5/8-11	100	75	150	110	190	140	220	130
5/8-18	110	85	180	150	210	160	240	140
3/4-10	175	130	260	200	320	240	380	280
3/4-16	200	150	300	220	360	280	420	320
7/8-9	170	125	430	320	520	400	600	460
7/8-14	180	140	470	360	580	440	660	500
1-8	250	190	640	480	800	600	900	650
1-12	270	260	710	530	860	660	1000	740
1-14	280	210	730	540	900	670	1020	760
1 1/8-7	350	270	800	600	1120	840	1280	960
1 1/8-12	400	300	880	660	1260	910	1410	1080
1 1/4-7	500	380	1120	840	1580	1100	1820	1360
1 1/4-12	550	420	1240	920	1760	1320	2000	1500
1 3/8-6	670	490	1460	1100	2080	1560	2380	1780
1 3/8-12	750	560	1680	1260	2380	1780	2720	2040
1 1/2-6	870	650	1940	1460	2740	2080	3160	2360
1 1/2-12	980	730	2200	1640	3100	2320	3560	2660

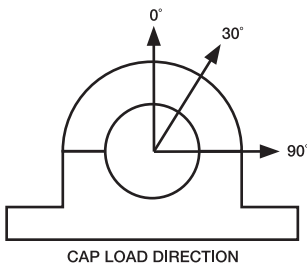


Table notes:

Allowable load at 30° shall be 80% of tabulated value. Allowable load at 90° shall be 140% of tabulated value.



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