BSC

Motion Technology

Quality System

Quality Endorsed Company

AS-NZS ISO9002-1994
Lic. QEC 4475
Standards Australia

NSK RHP

TRANSMISSION BEARING UNITS

NSK BALL BEARING UNITS

- Wide Series Bearings
- Cast Series Housings
- Narrow Series Bearings
- Press Metal Housings
- Agricultural Specials

RHP BALL BEARING UNITS

- Wide 1000 Series Bearings
- Cast 1000 Series Housings
- Silver-Lube SS Bearings & Polymer Housings
- Agricultural Specials

NSK SPLIT HOUSING ROLLER BEARING UNIT

- Roller Bearing Fitting procedure
- Housing Seal Fitting
- SNK (SNA-G-U) Split Housings
- Lubrication replenishment

MOLYKOTE

- Bearing Lubricant

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Table 2-8 Fitting Between Inner Rings of Ball Bearing Units and Shafts

Type of Bearing	Operating Conditions	Class of Fitting	Remarks
Cylindrical Bores	Normal	h7, h8, js7, j7	--
	When expansion or contraction of shaft is required at bore surface.	h7, h8	Use dog point set screw in shaft keyway. Flats on shaft or cartridge housing.
	When load is heavy or shocks and vibration exists (1).	k6, k7, m6	--
Tapered Bores (UK)	When mounted with adapters	h9	Tolerances for out-of-roundness & cylindricality of shaft should be about IT6.

Note (1): Especially when shocks are applied, it is necessary to adopt J7 (J6) or K7 (K6) as the fitting class for the spherical bore surfaces of bearing enclosures.
Remarks: In any case, when the expansion or contraction of the shaft is significant, it is necessary to distinguish between free-end and fixed-end bearings.

Table 2-9 Limiting Speeds of Ball Bearing Units

Bearing Numbers		Bearing Nominal Dia (d) (mm)		Limiting Speeds (Units:RPM) Class of Fitting on Shaft			
				js7, (j7)	h7	h8	h9
UC201	-	12	-	6700	5900	4300	1600
UC202	-	15	-	6700	5500	4000	1500
UC203	-	17	-	6700	5300	3800	1400
UC204	-	20	-	6700	4900	3500	1250
UC205	-	25	-	5600	4100	3000	1050
UC206	UC X05	30	25	4700	3400	2400	880
UC207	UC X06	35	30	4000	3000	2100	760
UC208	UC X07	40	35	3600	2600	1900	680
UC209	UC X08	45	40	3300	2400	1700	620
UC210	UC X09	50	45	3000	2200	1600	570
UC211	UC X10	55	50	2700	2000	1400	510
UC212	UC X11	60	55	2400	1800	1250	460
UC213	UC X12	65	60	2300	1700	1150	420
UC214	UC X13	70	65	2200	1600	1100	400
UC215	UC X14	75	70	2000	1500	1000	380
UC216	UC X15	80	75	1900	1400	960	350
UC217	UC X16	85	80	1800	1300	900	330
UC218	UC X17	90	85	1700	1200	840	310
UC305	-	25	-	5000	3700	2600	940
UC306	-	30	-	4300	3100	2200	800
UC307	-	35	-	3800	2800	2000	720

Bearing Numbers		Bearing Nominal Dia (d) (mm)		Limiting Speeds (Units:RPM) Class of Fitting on Shaft			
				js7, (j7)	h7	h8	h9
UC308	-	40	-	3400	2500	1700	640
UC309	-	45	-	3000	2200	1500	560
UC310	-	50	-	2700	2000	1400	500
UC311	-	55	-	2500	1800	1300	470
UC312	-	60	-	2300	1700	1150	430
UC313	-	65	-	2100	1500	1100	400
UC314	-	70	-	2000	1400	1000	370
UC315	-	75	-	1800	1300	930	340
UC316	-	80	-	1700	1250	870	320
UC317	-	85	-	1600	1150	810	300
UC318	-	90	-	1500	1100	760	280
UC319	-	95	-	1400	1000	720	260
UC320	-	100	-	1300	940	660	240
UC321	-	105	-	1250	900	630	230
UC322	-	110	-	1200	830	590	210
UC324	-	120	-	1100	750	530	190
UC326	-	130	-	1000	680	480	180
UC328	-	140	-	900	620	440	160

Remarks:
1. If a shaft's tolerance range is either k or m or a ball bearing with an adapter is used, the limiting speeds listed in the column of js7 (j7) can be used.
2. The limiting speeds of ball bearings for high speed units are 150% of the values in the column js7 (j7).
3. The limiting speeds of AS2, AEL2, UEL2 are equal to that of UC2

Bearing Internal Clearance

Bearing internal clearance (initial clearance) is the amount of internal clearance a bearing has before being installed on a shaft or in a housing.
As shown in Fig. 5.1, when either the inner ring or the outer ring is fixed and the other ring is free to move, displacement can take place in either an axial or radial direction. This amount of displacement (radially or axially) is termed the internal clearance and, depending on the direction, is called the radial internal clearance or the axial internal clearance.
When the internal clearance of a bearing is measured, a slight measurement load is applied to the raceway so the internal clearance may be measured accurately. However, at this time, a slight amount of elastic deformation of the bearing occurs under the measurement load, and the clearance measurement value (measured clearance) is slightly larger than the true clearance. This discrepancy between the true bearing clearance and the increased amount due to the elastic deformation must be compensated for. These compensation values are given in Table 5.1.

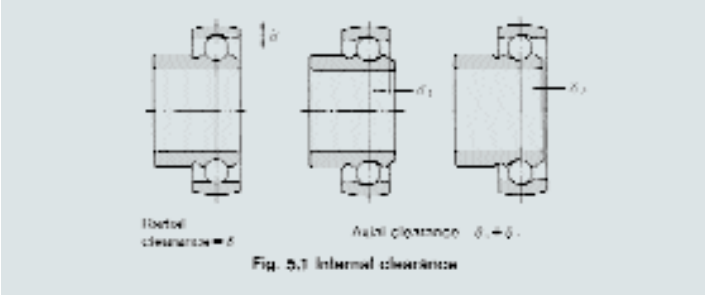


Fig. 5.1 Internal clearance

Table 5.1 Adjustment of radial internal clearance based on measured load

Nominal Bore Diameter *d* (mm) over	incl.	Measuring Load (N)	Radial Clearance Increase C2	CN	C3	C4	C5
10	18	24.5	3~4	4	4	4	4
18	50	49	4~5	5	6	6	6
20	200	147	6~8	8	9	9	9

Internal Clearance Selection

The internal clearance of a bearing under operating conditions (effective clearance) is usually smaller than the same bearing's initial clearance before being installed and operated. This is due to several factors including bearing fit, the difference in temperature between the inner and outer rings, etc. As a bearings operating clearance has an effect on bearing life, heat generation, vibration, noise, etc.; care must be taken in selecting the most suitable operating clearance.

Effective internal clearance:
The internal clearance differential between the initial clearance and the operating (effective) clearance (the amount of clearance reduction caused by interference fits, or clearance variation due to the temperature difference between the inner and outer rings) can be calculated by the following formula:

$$\delta_{eff} = \delta_o - (\delta_r + \delta_t) \quad \cdots (5.1)$$

where,
δ_{eff} : Effective internal clearance, mm
δ_o : Bearing internal clearance, mm
δ_r : Reduced amount of clearance due to interference, mm
δ_t : Reduced amount of clearance due to temperature differential of inner and outer rings, mm

Reduced clearance due to interference:
When bearings are installed with interference fits on shafts and in housings, the inner ring will expand and the outer ring will contract; thus reducing the bearings' internal clearance. The amount of expansion or contraction varies depending on the shape of the bearing, the shape of the shaft or housing, dimensions of the respective parts, and the type of materials used. The differential can range from approximately 70% to 90% of the effective interference.

$$\delta_r = [0.70 \sim 0.90] \cdot \Delta d_{eff} \quad \cdots (5.2)$$

where,
δ_r : Reduced amount of clearance due to interference, mm
Δd_{eff} : Effective interference, mm

Reduced internal clearance due to inner/outer ring temperature difference:
During operation, normally the outer ring will be from 5° to 10° cooler then the inner ring or rotating parts. However, if the cooling effect of the housing is large, the shaft is connected to a heat source, or a heated substance is conducted through the hollow shaft; the temperature difference between the two rings can be even greater. The amount of internal clearance is thus further reduced by the differential expansion of the two rings.

$$\delta_t = \alpha \cdot \Delta T \cdot D_e \quad \cdots (5.3)$$

where,
δ_t : Amount of reduced clearance due to heat differential, mm
α : Bearing steel linear expansion coefficient 12.5×10^{-6}/°C
ΔT : Inner/outer ring temperature differential, °C
D_e : Outer ring raceway diameter, mm

Outer ring raceway diameter, D_e, values can be approximated by using formula 5.4.
For ball bearings,

$$D_e = 0.20 \, [d + 4.0D] \quad \cdots (5.4)$$

where,
d : Bearing bore diameter, mm
D : Bearing outside diameter, mm

Bearing Internal Clearance Selection Standards

Theoretically, in regard to bearing life, the optimum operating internal clearance for any bearing would be a slight negative clearance after the bearing had reached normal operating temperature.
Unfortunately, under actual operating conditions, maintaining such optimum tolerance is often difficult at best. Due to various fluctuating operating conditions this slight minus clearance can quickly become a large minus, greatly lowering the life of the bearing and causing excessive heat to be generated. Therefore, an initial internal clearance which will result in a slightly greater than negative internal operating clearance should be selected.
Under normal operating conditions (e.g. normal load, fit, speed, temperature, etc), a standard internal clearance will give a very satisfactory operating clearance.
Table 5.2 lists non-standard clearance recommendations for various applications and operating conditions.

Table 5.2 Examples of applications where bearing clearances other than normal clearance are used

Operating Conditions	Applications	Selected Clearance
Shaft is heated and housing is cooled	Conveyor of casting machine	C5
Shaft or inner ring is heated	Annealing pit, Drying pit, Curing pit	C4
Allows for shaft deflection and fitting errors	Disc Harrows	C4
	Combines	C3
Tight-fitted for both inner and outer rings	Large blowers	C3
To reduce noise and vibration when rotating	Multi-wing fan of air conditioners	C2

Lubrication

As bearings in NSK bearing units have sufficient high-grade grease sealed in at the time of manufacture, there is no need for replenishment while in use. The amount of grease necessary for lubrication is, in general, very small. With the NSK bearing units, the amount of grease occupies about a half to a third of the space inside the bearing.

Maximum permissible speed of rotation

The maximum speed possible while ensuring the safety and long life of ball bearings used in the unit is limited by their size, the circumferential speed at the point where the seal comes into contact, and the load acting on them.

To indicate the maximum speed permissible, it is customary to use the value of *dn* or *dmn* (d is the bore of the bearing; dm if the diameter of the pitch circle = (I.D. + O.D.) /2; n is the number of revolutions).

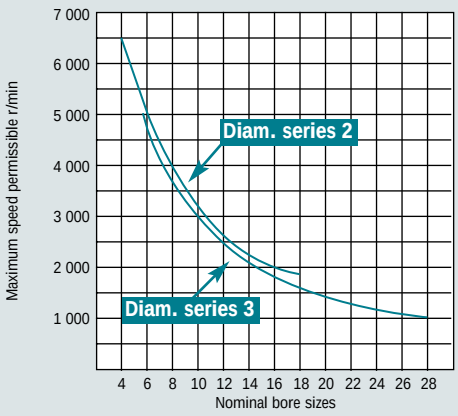
Problems connected with the lubrication of bearings are the generation of heat and seizures occurring at the sliding parts inside the bearing, particular at the points where the ball is in contact with the retainer, inner and outer rings. The contact pressure at the points where friction occurs on the retainer is only slightly affected by the load acting on the bearing; the amount of heat generated there is approximately in proportion to the sliding velocity. Therefore, this sliding velocity serves as a yardstick to measure the limit of the rotating speed of the bearing. In the case of a bearing unit, however, there is another large factor that has to be taken into account - the circumferential speed at the part where the seal is in contact.

The graph in Fig 6.1 indicates the maximum speed of rotation permissible, taking into account the aforementioned factors.

There are two common methods of locking the bearing unit onto the shaft - the set screw system and the eccentric collar system. However, in both of these systems high-speed operation will cause deformation of the inner ring, which may result in vibration of the bearing. For high-speed operation, therefore, it is recommended that an interference fit or a clearance fit with a near-zero clearance be used.

For standard bearing units with the contact type seal, the maximum speed permissible is 120 000 / d. Where a higher speed is required, bearing units with the non-contact type seal, are advised. Please contact NSK regarding the use of the latter type. Additionally, it is necessary that the surface on which the housing is mounted be finished to as a high a degree of accuracy as possible. A regularity of within ±0.05mm, ±0.002 inch is required.

Fig 6-1



Replenishment of Grease

Sealed-in grease

With NSK bearing units, no relubrication is the general rule. The standard self-lubricating type of bearing units contain high-grade lithium-based grease which, being suitable for long-term use, is ideal for sealed-type bearings. Relubrication, therefore, is unnecessary under most operating conditions.

At high temperatures, or where there is exposure to water or excessive dust, the highest quality grease is essential. Therefore, NSK uses it own specially selected brands which are shown in Table 6.1. It is necessary to use the same brand when replenishing grease.

Mixing of different kinds of grease

Whether or not different kinds of grease may be mixed usually depends on their thickeners. The commonly used criteria are shown in Table 6.2. Properties which are most susceptible to influences from mixing are viscosity, dropping point and penetration. Water and heat resisting properties as well as mechanical stability are also lowered. Therefore, when mixing in a grease which is different to that which is already in use, it is essential that the thickener (soap base) and the base oil be of the same group.

When relubricating NSK bearing unit, it is advisable to use the brands of grease shown in Table 6.1.

Relubrication frequency

Relubrication frequency varies with the kind and quality of grease used as well as the operating conditions. Therefore, it is difficult to establish a general rule, but under ordinary operating conditions, it is desirable that grease be replenished before one third (1/3) of its calculated life elapses. It is necessary, however, to take into consideration such factors as hardening of grease in the oil hole, making replenishment impossible; deterioration of grease while operation of the machine is suspended, and so forth.

In Table 6.3 below are shown standard relubrication frequencies. Irrespective of the calculated life of the grease, this list takes into consideration such factors as the rotational speed of the bearings, operating temperatures and environmental conditions, with a view to safety.

Re-greasing

The performance of a bearing is greatly influenced by the quantity of grease. In order to avoid over-filling, it is advisable to replenish the grease while the machine is in operation.

Continue to insert grease until a little oozes out from between the outer ring raceway and the periphery of the slinger, for optimum performance.

Table 6.2 Mixing properties of grease

Soap Base	Ca	Na	Al	Ba	Li
Ca	❍	▲	▲	✕	▲
Na	▲	❍	▲	✕	✕
Al	▲	▲	❍	✕	✕
Ba	✕	✕	✕	❍	✕
Li	▲	✕	✕	✕	❍

❍ Mixing will not produce any appreciable change of properties
▲ Mixing may produce considerable variations of properties
✕ Mixing will cause a drastic change of properties

Table 6.1 Brands of grease used in NSK bearing units

Bearing Units	Name of Grease	Grease Thickening Agent	Base Oil	Symbols	Operating Temperature Range
Standard	Alvania grease 3	Li soap	Mineral Oil	D1	-15° to 100° C (+5° to 212° F).
Heat-resistant	SH44M	Li soap	Silicone Oil	HT2D1	Normal temp. to +160° C (320° F).
Cold-resistant	SH33L	Li soap	Silicone Oil	CT1D1	-60° C (-76° F) to normal temp.

Table 6.3 Standard relubrication frequencies

Type of unit	Symbol	dn Value	Environmental conditions	Operating temp. C	F	Relubrication frequency Hours	Period
Standard	D1	40 000 and below	Ordinary	-15 to + 80,	+5 to +176	1 550 to 3 000	6 to 12 mo.
Standard	D1	70 000 and below	Ordinary	-15 to +80,	+5 to +176	1 000 to 2 000	3 to 6 mo.
Standard	D1	70 000 and below	Ordinary	+80 to +100,	+176 to +212	500 to 700	1 mo.
Heat-resistant	HT2D1	70 000 and below	Ordinary	+ 140 to +170,	+284 to +338	300 to 700	1 mo.
Heat-resistant	HT2D1	70 000 and below	Ordinary	+170 to +200,	+338 to +392	100	1 wk.
Cold-resistant	CT1D1	70 000 and below	Ordinary	-60 to +80,	-76 to +176	1 000 to 2 000	3 to 6 mo.
Standard	D1	70 000 and below	Very Dusty	-15 to +100,	+5 to +212	100 to 500	1 wk. to 1 mo.
Standard	D1	70 000 and below	Exposed to water splashes	-15 to 100,	+5 to +212	30 to 100	1 day to 1 wk.

Shaft Diameter inch	Shaft Diameter mm	Bearing Series											
	12.000		P203D1		UP201D1	T201D1	F201D1	FC201D1	FL201D1	FA201D1	HB201D1	C201D1	FH201D1	HP201D1
1/2	12.700													
9/16	14.288		P203D1		UP202D1	T202D1	F202D1	FC202D1	FL202D1	FA202D1	HB202D1	C202D1	FH202D1	HP202D1
	15.000													
5/8	15.875													
	17.000		P203D1		UP203D1	T203D1	F203D1	FC203D1	FL203D1	FA203D1	HB203D1	C203D1	FH203D1	HP203D1
11/16	17.462													
3/4	19.050		P204D1		UP204D1	T204D1	F204D1	FC204D1	FL204D1	FA204D1	HB204D1	C204D1	FH204D1	HP204D1
	20.000													
13/16	20.638		P205D1	SB205D1	UP205D1	T205D1	F205D1	FC205D1	FL205D1	FA205D1	HB205D1	C205D1	FH205D1	HP205D1
7/8	22.225													
15/16	23.812													
	25.000													
1	25.400													
1-1/16	26.988		P206D1	SB206D1	UP206D1	T206D1	F206D1	FC206D1	FL206D1	FA206D1	HB206D1	C206D1	FH206D1	HP206D1
1-1/8	28.575													
	30.000													
1-3/16	30.162													
1-1/4	31.750													
1-1/4	31.750		P207D1	SB207D1	UP207D1	T207D1	F207D1	FC207D1	FL207D1	FA207D1	HB207D1	C207D1	FH207D1	HP207D1
1-5/16	33.338													
1-3/8	34.925													
	35.000													
1-7/16	36.512													
1-7/16	36.512		P208D1	SB208D1	UP208D1	T208D1	F208D1	FC208D1	FL208D1	FA208D1	HB208D1	C208D1	FH208D1	HP208D1
1-1/2	38.100													
1-9/16	39.688													
	40.000													
1-5/8	41.275		P209D1	SB209D1	UP209D1	T209D1	F209D1	FC209D1	FL209D1	FA209D1	HB209D1	C209D1	FH209D1	HP209D1
1-11/16	42.862													
1-3/4	44.450													
	45.000													
1-13/16	46.038		P210D1	SB210	UP210D1	T210D1	F210D1	FC210D1	FL210D1	FA210D1	HB210D1	C210D1	FH210D1	HP210D1
1-7/8	47.625													
1-15/16	49.212													
	50.000													
2	50.800													
2	50.800		P211D1	SB211D1		T211D1	F211D1	FC211D1	FL211D1	FA211D1	HB211D1	C211D1		
2-1/16	52.388													
2-1/8	53.975													
	55.000													
2-3/16	55.562													
2-1/4	57.150		P212D1	SB212D1		T212D1	F212D1	FC212D1	FL212D1		HB212D1	C212D1		
2-5/16	58.738													
	60.000													
2-3/8	60.325													
2-7/16	61.912		P213D1	SB213D1		T213D1	F213D1	FC213D1	FL213D1		HB213D1	C213D1		
2-1/2	63.500													
	65.000													
2-5/8	66.675		P214D1	SB214D1		T214D1	F214D1	FC214D1	FL214D1					
2-11/16	68.262													
2-3/4	69.850													
	70.000													
2-13/16	71.438		P215D1	SB215D1		T215D1	F215D1	FC215D1	FL215D1					
2-7/8	73.025													
2-15/16	74.612													
	75.000													
3	76.200													
3-1/8	79.375		P216D1	SB216D1		T216D1	F216D1	FC216D1	FL216D1					
	80.000													
3-3/16	80.962													
3-1/4	82.550		P217D1	SB217D1		T217D1	F217D1	FC217D1	FL217D1					
	85.000													
3-7/16	87.312		P218D1	SB218D1			F218D1	FC218D1	FL218D1					
3-1/2	88.900													
	90.000													

Housing fits are J7 and, as such, it is recommended the housing is heated before assembly to maximise bearing life, using either

- Induction heater;
- Desk Lamp with high watt bulb;
- Immersion in hot water (Grease machined surface); or
- Heating in oven max 80°c.

Conversions

	New NSK no.	Old NSK No.	Description
Pillow Type	P	P	Pillow Block
	HP	PH	Elevated Pillow Block
	UP	PA	Tapped Base Pillow Block
	1P	IP	Heavy Duty Pillow Block
	–	PK	Cast Steel Pillow Block
	PB	LP	Light Duty Pillow Block
	PP	PP	Pressed Steel Pillow Block
Others	T	T	Take Up Units
	C	C	Cylindrical Carteidges
	HB	EH	Hanger Units

	New NSK no.	Old NSK No.	Description
Flange Type	F	F	Square Flanged Housing
	FC	FC	Round Flanged Cartridge Unit
	FS	FS	Square Flanged Cartridge Unit
	FL	FL	Oval Flanged Unit
	FH	FK	Offset Flanged Unit
	FA	FA	Sector Flanged Unit
	FB	LF	Light Duty Oval Flanged Unit
	PF	PF	Pressed Steel Round Flanged Unit
	PFL	PFL	Pressed Steel Round Flanged Unit

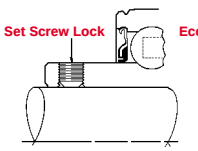
SUPERIOR SEALS

NSK STANDARD (200)

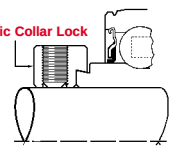
TRIPLE LIP SEAL (NSK = LLS)(RHP = T)

RHP STANDARD (1000)

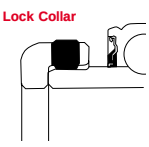
SHAFT LOCKING



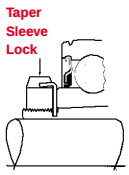
AS, UC, UCS & 1000 (Set Screw)



UEL, DEC, JEL, ECG JELS, REL, UELS (Eccentric Collar)



(1200SG & 1025LSG) refer page 11



UK (Adaptor Sleeve*)

Shaft Diameter inch	Shaft Diameter mm	UC	UEL	UK	UK-H	UC-LLS	(BLACK OXIDE) UC-V19	SET SCREW	SET SCREW TRIPLE LIP	ECC LOCK	ECC LOCK TRIPLE LIP
	12.000	UC201-D1						J1017-12G			
1/2	12.700	UC201-008D1						J1017-1/2G			
9/16	14.288	UC202-009D1									
	15.000	UC202-D1						J1017-15G	J PREFEX RELUBRICATABLE IN NSK HOUSINGS		
5/8	15.875	UC202-010D1						J1017-5/8G			
	17.000	UC203-D1						J1017-17G			
11/16	17.462	UC203-011D1									
3/4	19.050	UC204-012D1	UEL204-012D1W3	UK205-D1	HE2305			J1020-3/4G	J1020-3/4G	J1020-3/4DECG	
	20.000	UC204-D1	UEL204-D1D1W3	UK205-D1	H2305			J1020-20G	J1020-20G	J1020-20DECG	
13/16	20.638	UC205-013D1	UEL205-013D1W3								
7/8	22.225	UC205-014D1	UEL205-014D1W3	UK206-D1	HS2306			J1025-7/8G	J1025-7/8G	J1025-7/8DECG	JT1025-7/8DECG
15/16	23.812	UC205-015D1	UEL205-015D1W3	UK206-D1	HA2306			J1025-15/16G	J1025-15/16G	J1025-15/16DECG	JT1025-15/16DECG
	25.000	UC205-D1	UEL205-D1W3	UK206-D1	H2306	UCL205-D1LLS	UC205-D1V19	J1025-25G	JT1025-25G	J1025-25DECG	JT1025-25DECG
1	25.400	UC205-100D1	UEL205-100D1W3	UK206-D1	HE2306	UC205-100D1LLS	UC205-100D1V19	J1025-1G	JT1025-1G	J1025-1DECG	JT1025-1DECG
1-1/16	26.988	UC206-101D1	UEL206-101D1W3			UC206-101D1LLS	UC206-101D1V19				
1-1/8	28.575	UC206-102D1	UEL206-102D1W3	UK207-D1	HS2307	UC206-102D1LLS	UC206-101D2V19	J1030-1-1/8G	J1030-1-1/8G	J1030-1-1/8DECG	JT1030-1-1/8DECG
	30.000	UC206-D1	UEL206-D1W3	UK207-D1	H2307	UC206-D1LLS	UC206-D1V19	J1030-30G	JT1030-30G	J1030-30DECG	JT1030-30DECG
1-3/16	30.162	UC206-103D1	UEL206-103D1W3	UK207-D1	HA2307	UC206-103D1LLS	UC206-103D1V19	J1030-1-3/16G	JT1030-1-3/16G	J1030-1-3/16DECG	JT1030-1-3/16DECG
1-1/4	31.750	UC206-104D1	UEL206-104D1			UC206-104D1LLS	UC206-104D1V19	J1030-1-1/4G	JT1030-1-1/4G	J1030-1-1/4DECG	JT1030-1-1/4DECG
1-1/4	31.750	UC207-104D1	UEL207-D1W3	UK208-D1	HE2308	UC207-104D1LLS	UC207-104D1V19	J1035-1-1/4G	JT1035-1-1/4G	J1035-1-1/4DECG	JT1035-1-1/4DECG
1-5/16	33.338	UC207-105D1	UEL207-105D1W3			UC207-105D1LLS	UC207-105D1V19	J1035-1-5/16G			
1-3/8	34.925	UC207-106D1	UEL207-106D1W3	UK208-D1	HS2308	UC207-106D1LLS	UC207-106D1V19	J1035-1-3/8G	JT1035-1-3/8G	J1035-1-3/8DECG	JT1035-1-3/8DECG
	35.000	UC207-D1	UEL207-D1W3	UK208-D1	H2308	UC207-D1LLS	UC207-D1V19	J1035-35G	JT1035-35G	J1035-35DECG	JT1035-35DECG
1-7/16	36.512	UC207-107D1	UEL207-107D1W3			UC207-107D1LLS	UC207-107D1V19	J1035-1-7/16G	JT1035-1-7/16G	J1035-1-7/16DECG	JT1035-1-7/16DECG
1-7/16	36.512	UC208-107D1	UEL208-107D1W3	UK209-D1	HA2309	UC208-107D1LLS	UC208-107D1V19	J1040-1-7/16G	JT1040-1-7/16G		
1-1/2	38.100	UC208-108D1	UEL208-108D1W3	UK209-D1	HE2309	UC208-108D1LLS	UC208-108D1V19	J1040-1-1/2G	JT1040-1-1/2G	J1040-1-1/2DECG	JT1040-1-1/2DECG
1-9/16	39.688	UC208-109D1	UEL208-109D1W3			UC208-109D1LLS	UC208-109D1V19				
	40.000	UC208-D1	UEL208-D1W3	UK209-D1	H2309	UC208-D1LLS	UC208-D1V19	J1040-40G	JT1040-40G	J1040-40DECG	JT1040-40DECG
1-5/8	41.275	UC209-110D1	UEL209-110D1W3	UK209-D1	HS2309	UC209-110D1LLS	UC209-110D1V19	J1045-1-5/8G	JT1045-1-5/8G	J1045-1-5/8DECG	JT1045-1-5/8DECG
1-11/16	42.862	UC209-111D1	UEL209-111D1W3	UK210-D1	HA2310	UC209-111D1LLS	UC209-111D1V19	J1045-1-11/16G	JT1045-1-11/16G	J1045-1-11/16DECG	JT1045-1-11/16DECG
1-3/4	44.450	UC209-112D1	UEL209-112D1W3	UK210-D1	HE2310	UC209-112D1LLS	UC209-112D1V19	J1045-1-3/4G	JT1045-1-3/4G	J1045-1-3/4DECG	JT1045-1-3/4DECG
	45.000	UC209-D1	UEL209-D1W3	UK210-D1	H2310	UC209-D1LLS	UC209-D1V19	J1045-45G	JT1045-45G	J1045-45DECG	JT1045-45DECG
1-13/16	46.038	UC210-113D1	UEL210-D1W3			UC210-113D1LLS	UC210-113D1V19				
1-7/8	47.625	UC210-114D1	UEL210-114D1W3	UK211-D1	HS2311	UC210-114D1LLS	UC210-114D1V19	J1050-1-7/8G	JT1050-1-7/8G	J1050-1-7/8DECG	JT1050-1-7/8DECG
1-15/16	49.212	UC210-115D1	UEL210-115D1W3	UK211-D1	HA2311	UC210-115D1LLS	UC210-115D1V19	J1050-1-15/16G	JT1050-1-15/16G	J1050-1-15/16DECG	JT1050-1-15/16DECG
	50.000	UC210-D1	UEL210-D1W3	UK211-D1	H2311	UC210-D1LLS	UC210-D1V19	J1050-50G	JT1050-50G	J1050-50DECG	JT1050-50DECG
2	50.800	UC210-200D1	UEL210-200D1W3	UK211-D1	HE2311	UC210-200D1LLS	UC210-200D1V19	J1050-2G	JT1050-2G	J1055-2DECG	JT1055-2DECG
2	50.800	UC211-200D1	UEL211-200D1W3			UC211-200D1LLS	UC211-200D1V19	J1055-2G	JT1055-2G	J1055-2DECG	JT1055-2DECG
2-1/16	52.388	UC211-201D1	UEL211-201D1W3			UC211-201D1LLS	UC211-201D1V19				
2-1/8	53.975	UC211-202D1	UEL211-202D1W3	UK212-D1	HS2312	UC211-202D1LLS	UC211-202D1V19	J1055-2-1/8G	JT1055-2-1/8G	J1055-2-1/8DECG	JT1055-2-1/8DECG
	55.000	UC211-D1	UEL211-D1W3	UK212-D1	H2312	UC211-D1LLS	UC211-D1V19	J1055-55G	JT1055-55G	J1055-55DECG	JT1055-55DECG
2-3/16	55.562	UC211-203D1	UE211-203D1W3	UK213-D1	HA2313	UC211-203D1LLS	UC211-203D1V19	J1055-2-3/16G	JT1055-2-3/16G	J1055-2-3/16DECG	JT1055-2-3/16DECG
2-1/4	57.150	UC212-204D1	UEL212-204D1W3	UK213-D1	HE2313	UC212-204D1LLS	UC212-204D1V19	J1060-2-1/4G	JT1060-2-1/4G	J1060-2-1/4DECG	JT1060-2-1/4DECG
2-5/16	58.738	UC212-205D1	UEL212-205D1W3			UC212-205D1LLS	UC212-205D1V19				
	60.000	UC212-D1	UEL212-D1W3	UK213-D1	H2313	UC212-D1LLS	UC212-D1V19	J1060-60G	JT1060-60G	J1060-60DECG	JT1060-60DECG
2-3/8	60.325	UC212-206D1	UEL212-206D1	UK213-D1	HS2313	UC212-206D1LLS	UC212-206D1V19	J1060-2-3/8G	JT1060-2-3/8G	J1060-2-3/8DECG	JT1060-2-3/8DECG
2-7/16	61.912	UC213-207D1	UEL213-D1W3	UK215-D1	HA2315	UC213-207D1LLS	UC213-207D1V19	J1060-2-7/16G	JT1060-2-7/16G	J1060-2-7/16DECG	JT1060-2-7/16DECG
2-1/2	63.500	UC213-208D1	UEL213-208D1W3	UK215-D1	HE2315	UC213-208D1LLS	UC213-208D1V19	J1065-2-1/2G	JT1070-2-1/2G	J1065-2-1/2DECG	JT1070-2-1/2DECG
	65.000	UC213-D1	UEL213-D1W3	UK215-D1	H2315	UC213-D1LLS	UC213-D1V19	J1065-65G	JT1070-65G	J1070-65DECG	JT1070-65DECG
2-5/8	66.675	UC214-210D1	UEL214-D1W3			UC214-210D1LLS	UC214-210D1V19	J1070-2-5/8G	JT1070-2-5/8G	J1070-2-5/8DECG	
2-11/16	68.262	UC214-210D1	UEL214-211D1W3	UK216-D1	HA2316	UC214-210D1LLS	UC214-210D1V19	J1070-2-11/16G	JT1070-2-11/16G	J1070-2-11/16DECG	
2-3/4	69.850	UC214-212D1	UEL214-212D1W3	UK216-D1	HE2316	UC214-212D1LLS	UC214-212D1V19	J1075-2-3/4G		J1075-2-3/4DECG	
	70.000	UC214-D1	UEL214-D1W3	UK216-D1	H2316	UC214-D1LLS	UC214-D1V19	J1070-70G	JT1070-70G	J1070-70DECG	JT1070-70DECG
2-13/16	71.438	UC215-213D1	UEL215-D1W35			UC215-213D1LLS	UC215-213D1V19				
2-7/8	73.025	UC215-214D1	UEL215-214D1W3			UC215-214D1LLS	UC215-214D1V19	J1075-2-7/8G		J1075-2-7/8DECG	
2-15/16	74.612	UC215-215D1	UEL215-215D1W3	UK217-D1	HA2317	UC215-215D1LLS	UC215-215D1V19	J1075-2-15/16G	JT1080-2-15/16G	J1075-2-15/16DECG	
	75.000	UC215-D1	UEL215-D1W3	UK217-D1	H2317	UC215-D1LLS	UC215-D1V19	J1075-75G	JT1080-75G	J1075-75DECG	
3	76.200	UC215-300D1	UEL215-300D1W3	UK217-D1	HE2317	UC215-300D1LLS	UC215-300D1V19	J1075-3G	JT1080-3G		
3-1/8	79.375	UC216-302D1		UK218-D1	HS2318						
	80.000	UC216-D1		UK218-D1	H2318			J1080-80G	JT1080-80G		
3-3/16	80.962	UC216-303D1		UK218-D1	HA2318			J1080-3-3/16G			
3-1/4	82.550	UC217-304D1						J1080-3-1/4G			
	85.000	UC217-D1						J1085-85G			
3-7/16	87.312	UC218-307D1						J1085-3-7/16G			
3-1/2	88.900	UC218-3008D1						J1090-3-1/2G			
	90.000	UC218-D1						J1090-90G			

Fan face seal standard wide series

Conversions

UB = AS EW = UEL EN = AEL

Spherical O.D.

Conversions

UR = UCS UBR = ASS ENR = AELS

Flat outer ring

NSK 200 SERIES PRESS STEEL COVERS AND HOUSINGS

Bearing Units with Covers

The NSK bearing unit with a cover consists of a standard bearing unit and an outside covering for extra **protection against dust**. Special consideration has been given to its design with respect to dust proofing.

Sealing devices are provided in both the bearing and the housing, so that units of this type operate satisfactorily even in such **adverse environments as flour mills, steel mills, foundries, galvanizing plants and chemical plants**, where excessive dust is produced and/ or liquids are used. They are also eminently suitable for outdoor environments where **dust and rain are inevitable**, and in heavy industrial machinery such as construction and transportation equipment.

The rubber seal of the cover contacts with the shaft by its two lips, as shown in Fig 2.2 and 2.3. By filling the groove between the two lips with grease, an excellent sealing effect is obtained and, at the same time, the contacting portions of the lips are lubricated. Furthermore, the groove is so designed that when the shaft is inclined the rubber seal can move in the radial direction.

When bearing units are **exposed to splashes of water** rather than to dust, a drain hole (5 to 8mm, 0.2 to 0.3 inches in diameter) is provided at the bottom of the cover, and grease should be applied to the side of the bearing itself instead of into the cover.

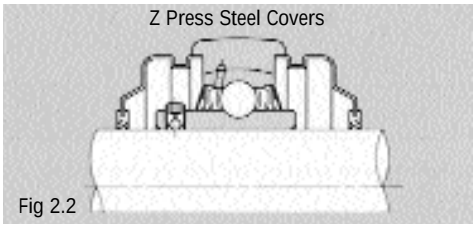


Fig 2.2

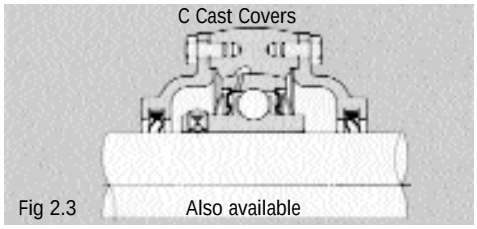


Fig 2.3 Also available

Shaft Diameter inch	Shaft Diameter mm	Covers: Open end	Covers: Closed end	Prepaired Housings: P	F	FC	FL	T
	12.00							
1/2	12.700	Z201	ZM201	Z(ZM) P201D1	Z(ZM)F201D1	Z(ZM)FC201D1	Z(ZM)FL201D1	Z(ZM)T201D1
9/16	14.288							
	15.000	Z202	ZM202	Z(ZM) P202D1	Z(ZM)F202D1	Z(ZM)FC202D1	Z(ZM)FL202D1	Z(ZM)T202D1
5/8	15.875							
	17.000							
11/16	17.462	Z203	ZM203	Z(ZM) P203D1	Z(ZM)F203D1	Z(ZM)FC203D1	Z(ZM)FL203D1	Z(ZM)T203D1
3/4	19.050							
	20.000	Z204	ZM204	Z(ZM) P204D1	Z(ZM)F204D1	Z(ZM)FC204D1	Z(ZM)FL204D1	Z(ZM)T204D1
13/16	20.638							
7/8	22.225							
15/16	23.812	Z205	ZM205	Z(ZM) P205D1	Z(ZM)F205D1	Z(ZM)FC205D1	Z(ZM)FL205D1	Z(ZM)T205D1
	25.000							
1	25.400							
1-1/16	26.988							
1-1/8	28.575							
	30.000	Z206	ZM206	Z(ZM) P206D1	Z(ZM)F206D1	Z(ZM)FC206D1	Z(ZM)FL206D1	Z(ZM)T206D1
1-3/16	30.162							
1-1/4	31.750							
1-5/16	33.338							
1-3/8	34.925	Z207	ZM207	Z(ZM) P207D1	Z(ZM)F207D1	Z(ZM)FC207D1	Z(ZM)FL207D1	Z(ZM)T207D1
	35.000							
1-7/16	36.512							
1-1/2	38.100	Z208	ZM208	Z(ZM) P208D1	Z(ZM)F208D1	Z(ZM)FC208D1	Z(ZM)FL208D1	Z(ZM)T208D1
1-9/16	39.688							
	40.000							
1-5/8	41.275							
1-11/16	42.862	Z209	ZM209	Z(ZM) P209D1	Z(ZM)F209D1	Z(ZM)FC209D1	Z(ZM)FL209D1	Z(ZM)T209D1
1-3/4	44.450							
	45.000							
1-13/16	46.038							
1-7/8	47.625							
1-15/16	49.212	Z210	ZM210	Z(ZM) P210D1	Z(ZM)F210D1	Z(ZM)FC210D1	Z(ZM)FL210D1	Z(ZM)T210D1
	50.000							
2	50.800							
2-1/16	52.388							
2-1/8	53.975	Z211	ZM211	Z(ZM) P211D1	Z(ZM)F211D1	Z(ZM)FC211D1	Z(ZM)FL211D1	Z(ZM)T211D1
	55.000							
2-3/16	55.562							
2-1/4	57.150							
2-5/16	58.738	Z212	ZM212	Z(ZM) P212D1	Z(ZM)F212D1	Z(ZM)FC212D1	Z(ZM)FL212D1	Z(ZM)T212D1
	60.000							
2-3/8	60.325							
2-7/16	61.912							
2-1/2	63.500	Z213	ZM213	Z(ZM) P213D1	Z(ZM)F213D1	Z(ZM)FC213D1	Z(ZM)FL213D1	Z(ZM)T213D1
	65.000							
2-5/8	66.675							
2-11/16	68.262	Z214	ZM214	Z(ZM) P214D1	Z(ZM)F214D1	Z(ZM)FC214D1	Z(ZM)FL214D1	Z(ZM)T214D1
2-3/4	69.850							
	70.000							
2-13/16	71.438							
2-7/8	73.025							
2-15/16	74.612	Z215	ZM215	Z(ZM) P215D1	Z(ZM)F215D1	Z(ZM)FC215D1	Z(ZM)FL215D1	Z(ZM)T215D1
	75.000							
3	76.200							
3-1/8	79.375							
	80.000	Z216	ZM216	Z(ZM) P216D1	Z(ZM)F216D1	Z(ZM)FC216D1	Z(ZM)FL216D1	Z(ZM)T216D1
3-3/16	80.962							
3-1/4	82.550							
	85.000	Z217	ZM217	Z(ZM) P217D1	Z(ZM)F217D1	Z(ZM)FC217D1	Z(ZM)FL217D1	Z(ZM)T217D1
3-7/16	87.312							
3-1/2	88.900	Z218	ZM218	Z(ZM) P218D1	Z(ZM)F218D1	Z(ZM)FC218D1	Z(ZM)FL218D1	Z(ZM)T218D1
	90.000							

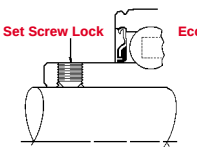
SUPERIOR SEALS

SHAFT LOCKING

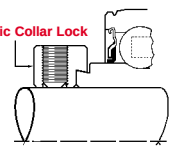
NSK STANDARD (200)

TRIPLE LIP SEAL (NSK = LLS)(RHP = T)

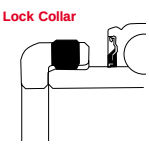
RHP STANDARD (1000)



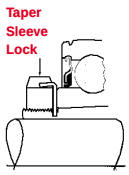
AS, UC, UCS & 1000 (Set Screw)



UEL, DEC, JEL, ECG JELS, REL, UELS (Eccentric Collar)



(1200SG & 1025LSG) refer page 11



UK (Adaptor Sleeve*)

Shaft Diameter		NSK						Shaft Diameter		NSK	NSK
inch	mm							inch	mm		
13/16	20.638	UCX05-013D1									
7/8	22.225	UCX05-014D1									
15/16	23.812	UCX05-015	PX05D1	FX05D1	FCX05D1	FLX05D1	TX05D2	CX05D1	3/4	19.050	UKX05D1	HE2305
	25.000	UCX05D1								20.000	UX05D1	H2305X
1	25.400	UCX05-100D1										
1-1/16	26.988	UCX06-101D1										
1-1/8	28.575	UCX06-102D1							7/8	22.225	UKX06D1	HS2306
	30.000	UCX06D1	PX06D1	FX06D1	FCX06D1	FLX06D1	TX06D1	CX06D1		25.000	UKX06D1	H2306X
1-3/16	30.162	UCX06-103D1							1	25.400	UKX06D1	HE2306X
1-1/4	31.750	UCX06-104D1										
1-5/16	33.338	UCX07-105D1										
1-3/8	34.925	UCX07-106D1	PX07D1	FX07D1	FCX07D1	FLX07D1	TX07D1	CX07D1	1-1/8	28.575	UKX07D1	HS2307
	35.000	UCX07-107D1								30.000	UKX07D1	H2307X
1-7/16	36.512	UCX07-107D1										
1-7/16	36.512											
1-1/2	38.100	UCX08-108D1	PX08D1	FX08D1	FCX08D1	FLX08D1	TX08D1	CX08D1	1-1/4	31.750	UKX08D1	HE2308X
1-9/16	39.688	UCX08-109D1							1-3/8	34.925	UKX08D1	HS2308X
	40.000	UCX08D1								35.000	UKX08D1	H2308X
1-5/8	41.275	UCX09-110D1							1-7/16	36.512	UKX09D1	HA2309
1-11/16	42.862	UCX09-111D1							1-1/2	38.100	UKX09D1	HE2309X
1-3/4	44.450	UCX09-112D1	PX09D1	FX09D1	FCX09D1	FLX09D1	TX09D1	CX09D1				
	45.000	UCX09D1								40.000	UKX09D1	H2309X
1-13/16	46.038	UCX09-113D1							1-5/8	41.275	UKX09D1	HS2309X
1-7/8	47.625	UCX10-114D1							1-5/8	41.275	UKX11D1	HS2310X
1-15/16	49.212	UCX10-115D1	PX10D1	FX10D1	FCX10D1	FLX10D1	TX10D1	CX10D1	1-11/16	42.862	UKX11D1	HA2310
	50.000	UCX10D1							1-3/4	44.450	UKX11D1	HE2310X
2	50.800	UCX10-200D1								45.000	UKX11D1	H2310X
2-1/16	52.388	UCX11-201D1										
2-1/8	53.975	UCX11-202D1							1-7/8	47.625	UKX11D1	HS2311
	55.000	UCX11D1	PX11D1	FX11D1	FCX11D1				1-15/16	49.212	UKX11D1	HA2311
2-3/16	55.562	UCX11-203D1								50.000	UKX11D1	H2311X
2-1/4	57.150	UCX11-204D1							2	50.800	UKX11D1	HE2311XY
2-5/16	58.738	UCX11-205D1								55.000	UKX12D1	H2312X
	60.0	UCX12D1										
2-3/8	60.325	UCX12-206D1	PX12D1	FX12D1	FCX12D1				2-1/8	53.975	UKX12D1	HS2312
2-7/16	61.912	UCX12-207D1										
2-1/2	63.500	UCX13-208D1							2-3/16	55.562	UKX13D1	HA2313X
	65.000	UCX13D1	PX13D1	FX13D1	FCX13D1				2-1/4	57.150	UKX13D1	HE2313X
2-9/16	65.087	UCX13-209D1								60.000	UKX13D1	H2313X
2-5/8	66.675	UCX14-210D1										
2-11/16	68.262	UCX14-211D1	PX14D1	FX14D1	FCX14D1				2-3/8	60.325	UKX13D1	HS2313X
2-3/4	69.850	UCX14-212D1										
	70.0	UCX14D1										
2-13/16	71.438	UCX15-213D1										
2-7/8	73.025	UCX15-214D1							2-7/16	61.912	UKX15D1	HA2315
2-15/16	74.612	UCX15-215D1	PX15D1	FX15D1	FCX15D1				2-1/2	63.500	UKX15D1	HE2315X
	75.0	UCX15D1								65.000	UKX15D1	H2315X
3	76.200	UCX15-300D1										
3-1/16	77.787	UCX16-301D1										
3-1/8	79.375	UCX16-302D1							2-11/16	68.262	UKX16D1	HA2316
	80.000	UCX16D1	PX16D1	FX16D1	FCX16D1				2-3/4	69.850	UKX16D1	HE2316X
3-3/16	80.962	UCX16-303D1								70.000	UKX16D1	H2316X
3-1/4	82.550	UCX16-304D1										
3-5/16	84.139	UCX17-305D1							2-15/16	74.612	UKX17D1	HA2317X
	85.000	UCX17D1	PX17D1	FX17D1	FCX17D1					75.000	UKX17D1	H2317X
3-7/16	87.312	UCX17-307D1							3	76.200	UKX17D1	HE2317X
3-7/16	87.312	UCX18-307D1										
3-1/2	88.900	UCX18-308D1	PX18D1	FX18D1	FCX18D1					80.000	UKX18D1	H2318X
	90.000	UCX18D1							3-3/16	80.962	UKX18D1	HA2318X
3-13/16	96.837	UCX20-313D1										
3-7/8	98.425	UCX20-314D1										
	100.00	UCX20D1	PX20D1	FX20D1	FCX20D1					90.000	UKX20D1	H2320X
3-15/16	100.012	UCX20-315D1										
4	101.600	UCX20-400D1										

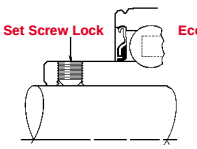
SUPERIOR SEALS

NSK STANDARD (200)

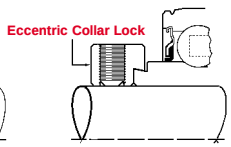
TRIPLE LIP SEAL (NSK = LLS)(RHP = T)

RHP STANDARD (1000)

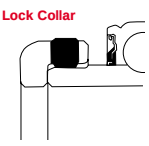
SHAFT LOCKING



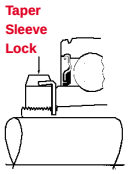
AS, UC, UCS & 1000 (Set Screw)



UEL, DEC, JEL, ECG JELS, REL, UELS (Eccentric Collar)



(1200SG & 1025LSG) refer page 1



UK (Adaptor Sleeve*)

Shaft Diameter inch	Shaft Diameter mm	NSK UC	NSK UEL						Shaft Diameter inch	Shaft Diameter mm	NSK	NSK
13/16	20.638	UC305D1	UEL305D1	P305D1	F305D1	FL305D1	T305D1	C305D1	3/4	19.050	UK305D1	HE2305
7/8	22.225	UC305-013D1	UEL305-013D1							20.000	UK305D1	H2305X
15/16	23.182	UC305-041D1	UEL305-041D1									
	25.000	UC305-015D1	UEL305-015D1									
1	25.400	UC305-100D1	UEL305-100D1									
1-1/16	26.988	UC306-101D1	UEL306-101D1	P306D1	F306D1	FL306D1	T306D1	C306D1	7/8	22.225	UK306D1	HS2306
1-1/8	28.575	UC306-102D1	UEL306-102D1							25.000	UK306D1	H2306X
	30.000	UC306-D1	UEL306-D1						1	25.400	UK306D1	HE2306
1-3/16	30.162	UC306-103D1	UEL306-103D1									
1-1/4	31.750	UC306-104D1	UEL306-104D1									
1-1/4	31.750	UC307-104D1	UEL307-104D1	P307D1	F307D1	FL307D1	T307D1	C307D1	1-1/18	28.575	UK307D1	HS2307
1-5/16	33.338	UC307 -105D1	UEL307-105D1							30.000	UK307D1	H2307X
1-3/8	34.925	UC307-106D1	UEL307-106D1									
	35.000	UC307-D1	UEL307 -D1									
1-7/16	36.512	UC307-107D1	UEL307-107D1									
1-7/16	36.512	UC308-107D1		P308D1	F308D1	FL308D1	T308D1	C308D1	1-1/4	31.750	UK308D1	HE2308X
1-1/2	38.100	UC308-108D1	UEL308-107D1						1-3/8	34.925	UK308D1	HS2308X
1-9/16	39.688	UC308-109D1	UEL308-109D1							35.000	UK308D1	H2308X
	40.000	UC308-D1	UEL308-D1									
1-5/8	41.275	UC309-110D1	UEL309-110D1	P309D1	F309D1	FL309D1	T309D1	C309D1	1-7/16	36.512	UK309D1	HA2309
1-11/16	42.862	UC309-111D1	UEL309-111D1						1-1/2	38.100	UK309D1	HE2309X
1-3/4	44.450	UC309-112D1	UEL309-112D1							40.000	UK309D1	H2309X
	45.000	UC309-D1	UEL309-D1						1-5/8	41.275	UK309D1	HS2309X
1-13/16	46.038	UC310-113D1	UEL310-113D1	P310D1	F310D1	FL310D1	T310D1	C310D1	1-5/8	41.275	UK310D1	HS2309X
1-7/8	47.625	UC310-114D1	UEL310-114D1						1-11/16	42.862	UK310D1	HA2310
1-15/16	49.212	UC310-115D1	UEL310-115D1						1-3/4	44.450	UK310D1	HE2310X
	50.000	UC310-D1	UEL310-D1							45.000	UK310D1	H2310X
2	50.800	UC311-200D1	UEL311-200D1	P311D1	F311D1	FL311D1	T311D1	C311D1	1-7/8	47.625	UK311D1	HS2311
2-1/16	52.388	UC311-201D1	UEL311-201D1						1-15/16	49.212	UK311D1	HA2311
2-1/8	53.975	UC311-202D1	UEL311-202D1							50.000	UK311D1	H2311X
	55.000	UC311-D1	UEL311-D1						2	50.800	UK311D1	HE2311XY
2-3/16	55.562	UC311-203D1	UEL311-203D1									
2-1/4	57.150	UC312-204D1	UEL312-204D1	P312D1	F312D1	FL312D1	T312D1	C312D1	2-1/8	53.975	UK312D1	HS2312
2-5/16	58.738	UC312-205D1	UEL312-205D1							55.000	UK312D1	HS2312X
	60.000	UC312-D1	UEL312 -D1									
2-3/8	60.325	UC312-206D1	UEL312-206D1									
2-7/16	61.912	UC312-207D1	UEL312-207D1									
2-1/2	63.500	UC313-208D1	UEL313-208D1	P313D1	F313D1	FL313D1	T313D1	C313D1	2-3/16	55.562	UK313D1	HA2313
	65.000	UC313-D1	UEL313-D1						2-1/4	57.150	UK313D1	HE2313X
2-9/16	65.087	UC313-209D1	UEL313-209D1							60.000	UK313D1	H2313X
2-5/8	66.675	UC314-210D1	UEL314-210D1	P314D1	F314D1	FL314D1	T314D1	C314D1	2-3/8	60.325	UK313D1	HS2313X
2-11/16	68.262	UC314-211D1	UEL314-211D1									
2-3/4	69.850	UC314-212D1	UEL314-212D1									
	70.000	UC314-D1	UEL314-D1									
2-13/16	71.438	UC315-213D1	UEL315-213D1	P315D1	F315D1	FL315D1	T315D1	C315D1	2-7/16	61.912	UK315D1	HA2315
2-7/8	73.025	UC315-214D1	UEL315-214D1						2-1/2	63.500	UK315D1	HE2315X
2-15/16	74.612	UC315-215D1	UEL315-215D1							65.000	UK315D1	H2315X
	75.000	UC315-D1	UEL315- D1									
3	76.200	UC315-300D1	UEL315-300D1									
3-1/16	77.781	UC316-301D1	UEL316-301D1	P316D1	F316D1	FL316D1	T316D1	C316D1	2-11/16	68.262	UK316D1	HA2316
3-1/8	79.375	UC316-302D1	UEL316-302D1						2-3/4	69.850	UK316D1	HE2316X
	80.000	UC316-D1	UEL316-D1							70.000	UK316D1	H2316X
3-3/16	80.962	UC316-303D1	UEL316-303D1									
3-1/4	82.550	UC317-304D1	UEL317-304D1	P317D1	F317D1	FL317D1	T317D1	C317D1	2-15/16	74.612	UK317D1	HA2317X
3-5/16	84.137	UC317-305D1	UEL317-305D1							75.000	UK317D1	H2317X
	85.000	UC317-D1	UEL317-D1						3	76.200	UK317D1	HE2317X
3-7/16	87.312	UC317-307D1	UEL317-307D1									
3-1/16	87.312	UC318-307D1	UEL318-307D1	P318D1	F318D1	FL318D1	T318D1	C318D1		80.000	UK318D1	H2318X
3-1/2	88.900	UC318-308D1	UEL318-308D1						3-3/16	80.962	UK318D1	HA2318X
	90.000	UC318-D1	UEL318-D1									
3-5/8	92.151	UC319-310D1	UEL319-310D1	P319D1	F319D1	FL319D1	T319D1	C319D1	3-1/4	82.550	UK319D1	HE2319X
3-11/16	93.662	UC319-311D1	UEL319-311D1							85.000	UK319D1	H2319X
	95.000	UC319-D1	UEL319 -D1									
3-3/4	95.250	UC319-312D1	UEL319-312D1									
3-13/16	96.831	UC320-313D1	UEL320-313D1	P320D1	F320D1	FL320D1	T320D1	C320D1	3-7/16	87.312	UK320D1	HA2320
3-7/8	98.425	UC320-314D1	UEL320-314D1						3-1/2	88.900	UK320D1	HE2320X
	100.000	UC320D1	UEL320-D1							90.000	UK320D1	H2320X
3-15/16	100.012	UC320-315D1	UEL320-315D1									
4	101.600	UC320-400D1	UEL320-400D1									
	105.000	UC321D1	UEL321D1	P321D1	F321D1	FL321D1	T321D1	C321D1		100.000	UK322D1	H2322X
	110.000	UC322D1	UEL322D1	P322D1	F322D1	FL322D1	T322D1	C322D1		110.000	UK324D1	H2324X
	120.000	UC324D1	-	P324D1	F324D1	FL324D1	T324D1	C324D1		115.000	UK326D1	H2326
	130.000	UC326D1	-	P326D1	F326D1	FL326D1	T326D1	C326D1		125.000	UK328D1	H2328
	140.000	UC328D1	-	P328D1	F328D1	FL328D1	T328D1	C328D1				

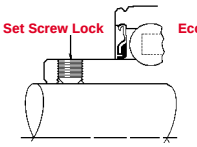
SUPERIOR SEALS

NSK STANDARD (200)

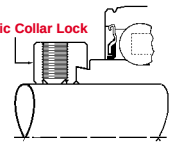
TRIPLE LIP SEAL (NSK = LLS)(RHP = T)

RHP STANDARD (1000)

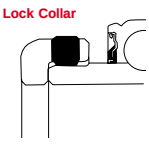
SHAFT LOCKING



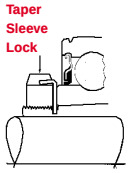
AS, UC, UCS & 1000 (Set Screw)



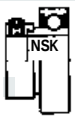
UEL, DEC, JEL, ECG JELS, REL, UELS (Eccentric Collar)



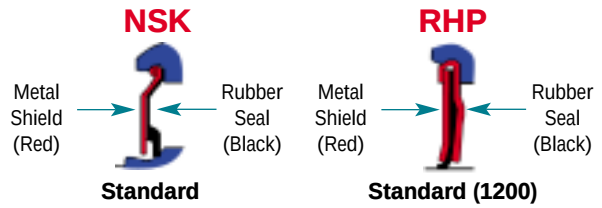
(1200SG & 1025LSG) refer page 11



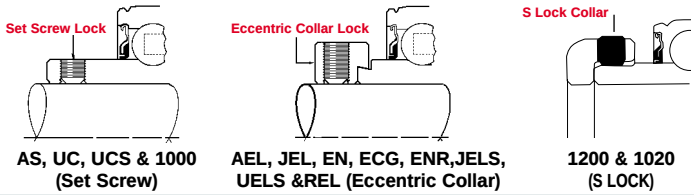
UK (Adaptor Sleeve*)

Shaft Diameter								
inch	mm							
Inch	mm							
	12.00	UCS201LD1N		ASS201N			AELS201NW3	JELS201W3
1/2	12.700	UCS201-008LD1N		ASS201-008N			AELS201-008NW3	JELS201-008W3
9/16	14.288	UCS202-009LD1N		ASS202-009N			AELS202-009NW3	JELS202-009W3
	15.000	UCS202-LD1N		ASS202N			AELS202NW3	JELS202W3
5/8	15.875	UCS202-010LD1N		ASS202-010N			AELS202-010NW3	JEL202-010W3
	17.000	UCS203LD1N		ASS203N			AELS203NW3	JELS203W3
11/16	17.462	UCS203-011LD1N		ASS203-011N			AELS203-011NW3	JELS203-011W3
3/4	19.050	UCS204-012LD1N		ASS204-012N	UELS204-012LD1NW3		AELS204-012NW3	JELS204-012W3
	20.000	UCS204LD1N		ASS204N	UELS204LD1NW3		AELS204NW3	JELS204W3
13/16	20.638	UC205-013LD1N	UCS305-013D1	ASS205-013N	UELS205-013LD1NW3	UELS305-013D1W3	AELS205-013NW3	JELS205-013W3
7/8	22.225	UC205-014LD1N	UCS305-014D1	ASS205-014N	UELS205-014LD1NW3	UELS305-014D1W3	AELS205-014NW3	JELS205-014W3
15/16	23.812	UC205-015LD1N	UCS305-015D1	ASS205-015N	UELS205-015LD1NW3	UELS305-015D1W3	AELS205-015NW3	JELS205-015W3
	25.000	UC205LD1N	UCS305D1	ASS205N	UELS205LD1NW3	UELS30501D1W3	AELS205NW3	JELS205W3
1	25.400	UCS205-100LD1N	UCS305-100D1	ASS205-100N	UELS205-100LD1NW3	UELS305-100D1W3	AELS205-100NW3	JELS205-100W3
1-1/16	26.988	UCS206-101LD1N	UCS306-101D1	ASS206-101N	UELS206-101LD1NW3	UELS306-101D1W3	AELS206-101NW3	JELS206-101W3
1-1/8	28.575	UCS206-102LD1N	UCS306-102D1	ASS206-102N	UELS206-102LD1NW3	UELS306-102D1W3	AELS206-102NW3	JELS206-102W3
	30.000	UCS206LD1N	UCS306D1	ASS206N	UELS206LD1NW3	UELS306D1W3	AELS206NW3	JELS206W3
1-3/16	30.162	UCS206-103LD1N	UCS306-103D1	ASS206-103N	UELS206-103LD1NW3	UELS306-103D1W3	AELS206-103NW3	JELS206-103W3
1-1/4	31.750	UCS206-104LD1N	UCS306-104D1	ASS206-104N	UEL206-104LD1NW3	UELS306-104D1W3	AELS206-104NW3	JELS206-104W3
1-1/4	31.750	UCS207-104LD1N	UCS307-104D1	ASS207-104N	UELS207-104LD1NW3	UELS307-104D1W3	AELS207-104NW3	JELS207-104W3
1-5/16	33.338	UCS207-105LD1N	UCS307-105D1	ASS207-105N	UELS207-105LD1NW3	UELS307-105D1W3	AELS207-105NW3	JELS207-105W3
1-3/8	34.925	UCS207-106LD1N	UCS307-106D1	ASS207-106N	UELS207-106LD1NW3	UELS307-106D1W3	AELS207-106NW3	JELS207-106W3
	35.000	UCS207LD1N	UCS307D1	ASS207N	UELS207LD1NW3	UELS307D1W3	AELS207NW3	JALS207W3
1-7/16	36.512	UCS207-107LD1N	UCS307-107D1	ASS207-107N	UELS207-107LD1NW3	UELS307-107D1W3	AELS207-107NW3	JALS207-107W3
1-1/2	38.100	UCS208-108LD1N	UCS308-108D1	ASS208-108N	UELS208-108LD1NW3	UELS308-108D1W3	AELS208-108NW3	JELS208-108W3
1-9/16	39.688	UCS208-109LD1N	UCS308-109D1	ASS208-109N	UELS208-109LD1NW3	UELS308-109D1W3	AELS208-109NW3	JELS208-109W3
	40.000	UCS208LD1N	UCS308D1	ASS208N	UELS208LD1NW3	UELS308D1W3	AELS208NW3	JELS208W3
1-5/8	41.275	UCS209-110LD1N	UCS309-110D1		UELS209-110LD1NW3	UELS309-110D1W3		
1-11/16	42.862	UCS209-111LD1N	UCS309-111D1		UELS209-111LD1NW3	UELS309-111D1W3		
1-3/4	44.450	UCS209-112LD1N	UCS309-112D1		UELS209-112LD1NW3	UELS309-112D1W3		
	45.000	UCS209LD1N	UCS309D1		UELS209LD1NW3	UELS309D1W3		
1-13/16	46.038	UCS210-113LD1N	UCS310-113D1		UELS210-113LD1NW3	UEKS310-113D1W3		
1-7/8	47.625	UCS210-114LD1N	UCS310-114D1		UELS210-114LD1NW3	UEKS310-114D1W3		
1-15/16	49.212	UCS210-115LD1N	UCS310-115D1		UELS210-115LD1NW3	UEKS310-115D1W3		
	50.000	UCS210LD1N	UCS310D1		UELS210LD1NW3	UELS310D1W3		
2	50.800	UCS210-200LD1N	UCS310-200D1		UELS210-200LD1NW3	UEKS310-200D1W3		
2-1/16	52.388	UCS211-201LD1N	UCS311-201D1		UELS211-201LD1NW3	UEKS311-201D1W3		
2-1/8	53.975	UCS211-202LD1N	UCS311-202D1		UELS211-202LD1NW3	UEKS311-202D1W3		
	55.000	UCS211LD1N	UCS311D1		UELS211LD1NW3	UELS311D1W3		
2-3/16	55.562	UCS211-203LD1N	UCS311-203D1		UELS211-203LD1NW3	UEKS311-203D1W3		
2-1/4	57.150	UCS212-204LD1N	UCS312-204D1		UELS212-204LD1W3	UELS312-204D1W3		
2-5/16	58.738	UCS212-205LD1N	UCS312-205D1		UELS212-205LD1W3	UELS312-205D1W3		
	60.000	UCS212LD1N	UCS312D1		UELS212LD1NW3	UELS312D1W3		
2-3/8	60.325	UCS212-206LD1N	UCS312-206D1		UELS212-206LD1W3	UELS312-206D1W3		
2-7/16	61.912	UCS212-207LD1N	UCS312-207D1		UELS212-207LD1W3	UELS312-207D1W3		
2-1/2	63.500	UCS213-208LD1N	UCS313-208D1					
2-9/16	65.087		UCS313-209D1					
	65.000	UCS213LD1N	UCS313D1					
2-5/8	66.675		UCS314-210D1			UEL312-210D1W3		
2-11/16	68.262		UCS314-211D1			UEL312-211D1W3		
2-3/4	69.850		UCS314-212D1			UEL312-212D1W3		
	70.000		UCS314D1			UELS314D1W3		
2-13/16	71.438		UCS315-213D1			UELS315-213D1W3		
2-7/8	73.025		UCS315-214D1			UELS315-214D1W3		
2-15/16	74.612		UCS315-215D1			UELS315-215D1W3		
	75.000	UCS215D1	UCS315D1			UELS315D1W3		
3	76.200		UCS315-300D1			UELS315-300D1W3		
3-1/16	77.781		UCS316-301D1			UELS316-301D1W3		
3-1/8	79.375		UCS316-302D1			UELS316-302D1W3		
	80.000	UCS216D1	UCS316D1			UELS316D1W3		
3-3/16	80.962		UCS316-303D1			UELS316-303D1W3		
3-1/4	82.550		UCS317-304D1			UELS317-304D1W3		
3-5/16	84.137		UCS317-305D1			UELS317-305D1W3		
	85.000	UCS217D1	UCS317D1			UELS317D1W3		
3-7/16	87.372		UCS318-307D1			UELS318-307D1W3		
3-1/2	88.900		UCS318-308D1			UELS318-308D1W3		
	90.000	UCS218D1	UCS318D1			UELS318D1W3		
3-5/8	92.151		UCS319-310D1			UELS319-310D1W3		
3-11/16	93.662		UCS319-311D1			UELS319-311D1W3		
	95.000		UCS319D1			UELS319D1W3		
3-3/4	95.250		UCS319-312D1			UELS319-312D1W3		
3-13/16	96.837		UCS320-313D1			UELS320-313D1W3		
3-7/8	98.425		UCS320-314D1			UELS320-314D1W3		
3-15/16	100.012		UCS320-315D1					
	100.000		UCS320D1			UELS320D1W3		
4	101.600		UCS320-400D1			UELS320-400D1W3		
	105.000		UCS321D1			UELS321D1W3		
	110.000		UCS322D1			UELS322D1W3		
	120.000		UCS324D1					
	130.000		UCS326D1					
	140.000		UCS328D1					

SUPERIOR SEALS



SHAFT LOCKING



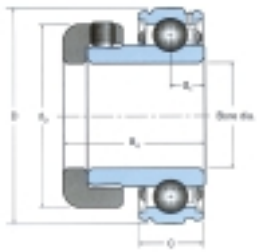
Shaft Size inch	Shaft Size mm	Bearing Number AEL (Ecc Lock)	AS (Set Screw)	RHP-ECG (GREASABLE)			CAST IRON		RUBBER INSERT	
	12.000	AEL201	AS201	1217-12ECG	40MS	40MST	LF203	40PB	47RPB	40PBS
1/2		AEL201-8	AS201-8	1217-1/2ECG	40MS	40MST	LF203	40PB	47RPB	40PBS
	15.000	AEL202	AS202	1217-15ECG	40MS	40MST	LF203	40PB	47RPB	40PBS
5/8		AEL202-10	AS202-10	1217-5/8ECG	40MS	40MST	LF203	40PB	47RPB	40PBS
	17.000	AEL203	AS203	1217-17ECG	40MS	40MST	LF203	40PB	47RPB	40PBS
11/16		AEL203-11	AS203-11	1217-11/16ECG						
3/4		AEL204-12	AS204-12	1220-3/4ECG	47MS	47MST	LF204	47PB	52RPB	47PBS
	20.000	AEL204	AS204	1220-20ECG	47MS	47MST	LF204	47PB	52RPB	47PBS
7/8		AEL205-14	AS205-14	1225-7/8ECG	52MS	52MST	LF205	52PB	62RPB	52PBS
15/16		AEL205-15	AS205-15	1225-15/16ECG	52MS	52MST	LF205	52PB	62RPB	52PBS
	25.000	AEL205	AS205	1225-25ECG	52MS	52MST	LF205	52PB	62RPB	52PBS
1		AEL205-16	AS205-16	1225-1ECG	52MS	52MST	LF205	52PB	62RPB	52PBS
1-1/16		AEL206-17	AS206-17		62MS	62MST	LF206	62PB	72RPB	62PBS
1-1/8		AEL206-18	AS206-18	1230-1-1/8ECG	62MS	62MST	LF206	62PB		62PBS
	30.000	AEL206	AS206	1230-30ECG	62MS	62MST	LF206	62PB	72RPB	62PBS
1-3/16		AEL206-19	AS206-19	1230-1-3/16ECG	62MS	62MST	LF206	62PB		62PBS
1-1/4		AEL206-20	AS206-20	1230-1-1/4ECG	62MS	62MST	LF206	62PB		62PBS
1-1/4		AEL207-20	AS207-20	1235-1-1/4ECG	72MS	72MST	LF207	72PB		72PBS
1-3/8		AEL207-22	AS207-22	1235-1-3/8ECG	72MS	72MST	LF207	72PB		72PBS
	35.000	AEL207	AS207	1235-35ECG	72MS	72MST	LF207	72PB		72PBS
1-7/16		AEL207-23	AS207-23	1235-1-7/16ECG	72MS	72MST	LF207	72PB		72PBS
	40.000	AEL208	AS208	1240-40ECG	80MS					
1-1/2		AEL208-24		1240-1-1/2ECG	80MS					
1-3/4		AEL209-28		1245-1-3/4ECG	85MS					
	45.000	AEL209		1245-45ECG	85MS					
1-13/16		AEL210-29			90MS					
1-7/8		AEL210-30		1250-1-7/8ECG	90MS					
1-15/16		AEL210-31		1250-1-15/16ECG	90MS					
	50.000	AEL210		1250-50ECG	90MS					
2		AEL210-32		1250-2ECG	90MS					
2		AEL211-32		1255-2ECG	100MS					
	55.000	AEL211		1255-55ECG	100MS					

Also Available FT (RHP) and MSTU take up housings

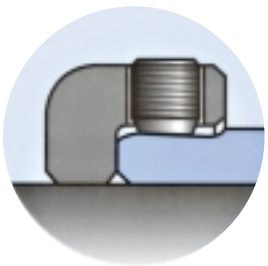
NOTE: 2 piece press metal housings.

"S" Lock Improved Shaft Locking Bearing

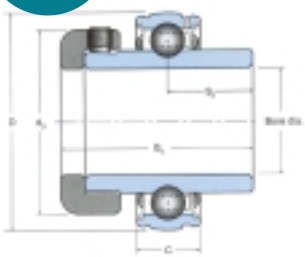
NEW PRODUCT RELEASE



To suit all the above housings



- Easier to fit, with no shaft preparation needed
- Simple collar positioning for easy assembly
- Easier removal and replacement
- Safe, simple and secure locking
- Reduced fitting, downtime and replacement costs
- No set screw damage to shaft



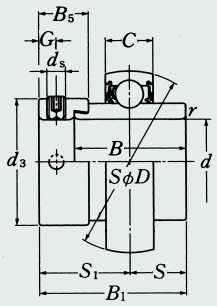
To suit housings on page 19

Shaft diameter		RHP Designation 1200SG series	Dimensions D	C	B_4	S_1	d_3	Designation 1000SG series	Dimensions D	C	B_4	S_1	d_3
mm	inches		mm inches						mm Inches				
20		1220-20SG	47.000	14.000	31.57	7.50	39.30	1020-20LSG	47.000	14.00	41.13	17.10	39.30
	3/4	1200-3/4SG	*1.8504*	*.551*	*1.243*	*.295*	*1.547*	1020-3/4SG	*1.8504*	*.551*	*1.619*	*.673*	*1.547*
25		1225-25SG	52.000	15.00	33.15	7.50	44.25	1025-25LSG	52.000	15.00	43.07	17.50	44.25
	1	1225-1SG	*2.0472*	*.591*	*1.305*	*.295*	*1.742*	1025-1LSG	*2.0472*	*.591*	*1.696*	*.689*	*1.742*
30		1230-30SG	62.000	16.00	37.01	9.00	50.35	1030-30LSG	62.000	16.00	46.23	18.30	50.35
	1 1/4	1230-1.1/4SG	*2.4409*	*.630*	*1.457*	*.354*	*1.982*	1030-1.1/4LSG	*2.4409*	*.630*	*1.820*	*.720*	*1.982*
35		1235-35SG	72.000	17.00	43.00	9.50	60.85	1035-35LSG	72.000	17.00	52.30	18.80	60.85
	1 1/4	1235-1.1/4SG	*2.8346*	*.669*	*1.693*	*.374*	*2.396*	1035-1.1/4LSG	*2.8346*	*.669*	*2.059*	*.740*	*2.396*
	1 7/16	1235-1.7/16SG						1035-1.7/16LSG					
40		1240-40SG	80.000	18.00	45.10	11.00	66.85	1040-40LSG	80.000	18.00	55049	21.40	66.85
	1 1/2	1240-1.1/2SG	*3.1496*	*.709*	*1.776*	*.433*	*2.632*	1040-1.1/12LSG	*3.1496*	*.709*	*2.185*	*.843*	*2.632*

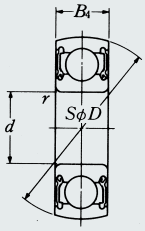
Bore Size	O.D.	I.R Width	O.R Width	RHP	NSK				
FLAT O.D									
1"	80mm	36.51mm	18mm	DF240/8=2	5AS08-1	W208PP6	DC208TT6	RA200	4508A2TR16SC
1-1/8"	80mm	36.51mm	18mm	DF240/9=2	5AS08-1-1/8	W208PP5	DC208TT5	YQN208108C5	4508A2TR18SC
1-1/8"	80mm	36.51mm	30.18mm	PDF240/9	4AS08-1/185D	W208PP8	DC208TT8		4508B2TR18SC
1-1/8"	90mm	30.18mm	30.18mm	PDF150/9	7AS10-1-1/8D1	W210PP4	DC210TT4		4510C2TR18SC
1-1/2"	80mm	42.96mm	21mm	DF140/1-1/2=36	5AC08-1-1/2	W208PP10	DC208TT10		4508A2TR24RC
1-1/2"	90mm	30.18mm	30.18mm			W210PP8			
1-1/2"	100mm	33.34mm	33.34mm	PDF155/12	7AS11-1-1/2	W211PP3	DC211TT3	YQN211108C3	4511C2TR24SC
1-1/2"	100mm	44.45mm	33.34mm			GW211PP17			
1-1/2"	4"	44.45mm	36.52mm		6AS11-1-1/2V1	W211PP5	DC211TT5		4511B2TR24SC
1-3/4"	100mm	44.45mm	33.34mm			GW211PP25			
1-15/16"	90mm	33.34mm	33.34mm	PDF150-1-15/16	7AC10-1-15/16V1	W210PP2	DC210TT2		4510C2TR31RC
1-15/16"	90mm	49.2mm	20mm		5AC10-1-15/16				
1-15/16"	90mm	36.53mm	22.8mm			GW210PP9			
2-3/16"	100mm	33.34mm	33.34mm	PDF155-2-3/16	7AC11-2-31/6	W211PP2	DC211TT2		4511C2TR35RC
2-3/4"	125mm	50.8mm	39.9mm			GW214PP11			
40mm	100mm	33.34mm	33.34mm	PDF155-12A	6E7AS11-1-19/32V1	W211PP30			
40mm	4"	44.45mm	36.52mm	PDF11002		W211PP34			
70mm	125mm	39.69mm	39.69mm			W214PP2	DC214TT2		
SPHERICAL O.D.									
7/8"	80mm	36.53mm	22mm		4AS08-7/8	W208PPB11	DS208TT11		4508B2TR14S
7/8"	80mm	36.53mm	18mm	DNF240/7=2	1AS08-7/8	W208PPB13	DS208TT13		4508A2TR14S
1"	80mm	36.53mm	18mm	DNF240/7=2	1AS08-/	W208PPB6	DS208TT6	YQN208100B6	4508A2TR16S
1-1/8"	80mm	36.53mm	18mm	DNF240/9=2	1AS08-1-1/8	W208PPB5	DS208TT5	YQN208102B5	4508A2TR18S
1-1/8"	80mm	36.53mm	30.18mm	PDNF240/9	2AS08-1-1/8	W208PPB8	DS208TT8	YQN208102B8	4508B2TR18S
1-1/8"	87mm	36.45mm	30.11mm	PDNF11015	4AS08-1-1/8	W208PPB12	DS208TT12A	YQN208102B12	4508B2TR18S-1
1-1/8"	85.738mm	36.53mm	30.18mm			W208PPB17	DS208TT17		4508B2TR18RS
1-1/8"	90mm	30.18mm	30.18mm	PDNF150/9G	3AS10-1-1/8G1	GW210PPB4	DS20TTR4		4510C2TR18S
1-1/8"	90mm	36.53mm	30.18mm	PDNF250/9	2AS10-1-1/8D1	W210PPB6	DS210TT6		4510B2TR18S
1-1/4"	85mm	36.53mm	30.18mm	PDNF245/10	2AS09-1-1/4D1	W209PPB5	DS209TT5		
1-1/4"	85mm	36.53mm	22mm	DNF245/10	2AS09-1-1/4	W209PPB8	DS209TT8	YQN209104B8	4509B2TR20S
1-1/4"	87mm	36.53mm	30.18mm		4AS09-1-1/4	W209PPB7	DS209TT7		4509B2TR20S1
1-1/2"	80mm	42.96mm	18mm			W208PPB2	DS208TT2		4508B2TR24S
1-1/2"	80mm	42.96mm	30.18mm	PDNF140-1-1/2=36	2AC08-1-1/2	W208PPB23	DS208TT2A		4508B2TR24R
1-1/2"	85mm	30.8mm	30.8mm	PDNF145-1-1/2=28	3AC09-1-1/2	W209PPB4	DS209TT4	YPN209108B4	4509C2TR25R
1-1/2"	87mm	30.18mm	30.18		1AC09D1V1	W209PPB6	DS209TT6		4509C2TR24R
1-1/2"	100mm	33.34mm	33.34mm	PDNF/155/12	3AS11-1-1/2	W211PPB3	DS211TT3	YQN211108B3	4511C2TR24SC1
1-1/2"	100mm	44.45mm	33.34mm			GW211PPB23			
1-1/2"	103.56mm	44.45mm	36.52mm	PDNF11018	4AS11-1-1/2	W211PPB6	DS211TT6	YQN211108B6	4511B2TR24S1
1-3/4"	90mm	30.18mm	30.18mm	PDNF150-1-3/4=5	3AC10-1-3/4	W210PPB5	DS210TT5		4510C2TR28R
1-3/16"	80mm	30.18mm	18mm	DNF140-1-3/16=2	1AC08-1-3/16	W208PPB7	DS208TT7	YPN208103B7	4508A2TR19R
1-15/16"	90mm	30.18mm	30.18mm	PDNF150-1-15/16	3AC10-1-15/16	W210PPB2	DS210TT2	YPN210115B2	4510C2TR31R
1.785"	100mm	33.34mm	25mm			GW211PPB13	DS211TTR13		
2.195mm	100mm	39.69mm	25mm		1AC11-2-3/16D1V1	GW211PPB9	DS211TTR9	YPN211203B9G	
2-3/16"	100mm	33.34mm	33.34mm	PDNF155-2-3/16	3AC11-2-3/16	W211PPB2	DS211TT2	YPN211203B2	4511C2TR35R
28mm	80mm	36.53mm	30.18mm			W208PPB3	DS208TT3		4508D2TR24R1
40mm	100mm	44.45mm	25mm			GW211PPB29			
40mm	100mm	33.34mm	33.34mm			W211PPB30			4511C2TR24-1
45mm	85mm	30.18mm	30.18mm	PDNF145-45	3AC09	W209PPB2	DS209TT2	YPN209112B2	4509C2TR28R
45mm	85mm	36.53mm	22mm	DNF245-45=28	1AC09D1	GW209PPB11	DS209TTR10	YPN209115P10C	
70mm	125mm	61.9mm	39.69m			GW214PPB5	DS214TTR5		

Dimensions are in metric unless specified

REL Eccentric Locking Collar Type



CS Spherical O.D.

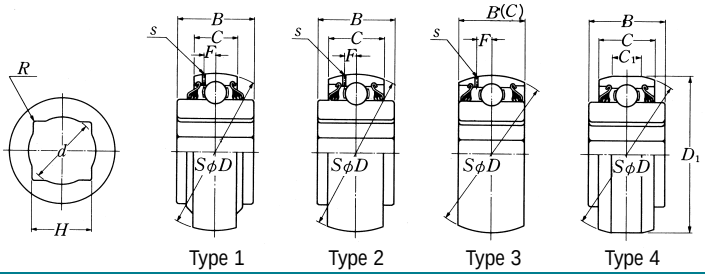


Shaft mm	Bearing number	Nominal Dimensions mm d	D	inch B4	rs 1) min.
10	CS200LLU	10	30	9	0.6
		0.3937	1.1811	0.354	0.024
12	CS201LLU	12	32	10	0.6
		0.4724	1.2598	0.394	0.024
15	CS202LLU	15	35	11	0.6
		0.5906	1.3780	0.433	0.024
17	CS203LLU	17	40	12	0.6
		0.6693	1.5748	0.472	0.024
20	CS204LLU	20	47	14	1
		0.7874	1.8504	0.551	0.039
25	CS205LLU	25	52	15	1
		0.9843	2.0472	0.591	0.039
30	CS206LLU	30	62	16	1
		1.1811	2.4409	0.630	0.039
35	CS207LLU	35	72	17	1.5
		1.3780	2.8346	0.669	0.059
40	CS208LLU	40	80	18	1.5
		1.5748	3.1496	0.709	0.059

Shaft dia. mm inch	NSK Bearing Number	Other Part No.	Nominal Dimensions mm inch d	D	B1	B	C	rs	S1	G	ds	d3
20	REL204W3	E20KRRB	20	47	43.7	34.2	15	1	26.6	4.8	M6x0.75	33.0
3/4	REL204-012W3	1012KRRB	0.7500	1.8504	1.720	1.3465	0.5906	0.039	1.047	0.189	1/4-28UNF	1.299
25	REL205W3	E25KRRB	25	52	44.4	34.9	15.1	1	17.45	4.8	M6x0.75	38.0
13/16	REL205-013W3		0.8125									
7/8	REL205-014W3	1014KRRB	0.8750	2.0472	1.748	1.3740	0.5906	0.039	1.059	0.189	1/4-28UNF	1.496
15/16	REL205-015W3	1015KRRB	0.9375									
1	REL205-100W3	1100KRRB	1.0000									
30	REL206W3	E30KRRB	30	62	48.4	36.5	18	1	30.1	6	M8x1	44.5
1 1/16	REL206-101W3	1101KRRB	1.0625									
1 1/8	REL206-102W3	1102KRRB	1.1250	2.4409	1.906	1.4370	0.7087	0.039	1.185	0.236	5/16-24NF	1.752
1 3/16	REL206-103W3	1103KRRB	1.1875									
1 1/4	REL206-104W3	1103KRRB	1.2500									
35	REL207W3	E35KRRB	35	72	51.1	37.6	19	1.5	32.3	6.8	M10x1.25	55.5
1 1/4	REL207-104W3	1104KRRB	1.2500									
1 5/16	REL207-105W3	1105KRRB	1.3125	2.8346	2.012	1.4803	0.7480	0.059	0.740	0.268	3/8-24UNF	2.185
1 3/8	REL207-106W3	1106KRRB	1.3750									
1 7/16	REL207-107W3	1107KRRB	1.4375									
40	REL208W3	E40KRRB	40	80	56.3	42.8	22	1.5	34.9	6.8	M10x1.25	60.0
1 1/2	REL208-108W3	1108KRRB	1.5000	3.1496	2.217	1.6850	0.8661	0.059	1.374	0.268	3/8-24UNF	2.362
1 9/16	REL208-109W3	1109KRRB	1.5625									
45	REL209W3	E45KRRB	45	85	56.3	42.8	22	1.5	34.9	6.8	M10x1.25	63.5
1 5/8	REL209-110W3	1110KRRB	1.6250									
1 11/16	REL209-111W3	1111KRRB	1.6875	3.3465	2.217	1.6850	0.8661	0.059	1.374	0.268	3/8-24UNF	2.500
1 3/4	REL209-112W3	1112KRRB	1.7500									
50	REL241W3	E50KRRB	50	90	62.7	49.2	22	1.5	38.1	6.8	M10x1.25	69.5
1 13/16	REL210-113W3		1.8125									
1 7/8	REL210-114W3	1114KRRB	1.8750	3.5433	2.469	1.9370	0.8661	0.059	1.500	0.268	3/8-24UNF	2.736
1 15/16	REL210-115W3	1115KRRB	1.9375									
2	REL210-200W3		2.0000									
55	REL211W3	E55KRRB	55	100	71.4	55.5	24	2	43.6	8	M10x1.25	76
2	REL211-200W3	1200KRRB	2.0000									
2 1/16	REL211-201W3		2.0625	3.9370	2.811	2.1850	0.9449	0.079	1.717	0.315	3/8-24UNF	2.992
2 1/8	REL211-202W3	1202KRRB	2.1250									
2 3/16	REL211-203W3	1203KRRB	2.1875									
60	REL212W3	E60KRRB	60	110	77.8	61.9	27	2	46.8	8	M10x1.25	84
2 1/4	REL212-204W3		2.2500									
2 5/16	REL212-205W3		2.3125	4.3307	3.063	2.4370	1.0630	0.079	1.843	0.315	3/8-24UNF	3.307
2 3/8	REL212-206W3		2.3750									
2 7/16	REL212-207W3	1207KRRB	2.4375									

If relubrication type is needed, please order with suffex "D1"

Ball bearing Square bore, spherical O.D.



Type 1 Type 2 Type 3 Type 4

Shaft Size	NSK Bearing 1) number	RHP Number / Other P/N	Type	H mm / inch	d	D	C	B
7/8	1AS08-7/8	DNF140/7=2	1	22.987±0.127	24.4	80 0 -0.013	18	0 -0.12	36.5	0 -0.12
		W208PPB13		0.9050±0.0050	0.961	3.1496 0 -0.0005	0.7087	0 -0.0047	1.4370	0 -0.0047
7/8	4AS08-7/8		4	22.987±0.127	24.4	97.338 0 -0.025	30.2	0 -0.12	36.5	0 -0.12
		W208PPB11		0.9050±0.0050	0.961	3.4385 0 -0.0010	1.1890	0 -0.0047	1.4370	0 -0.0047
1	1AS08-1	DNF240/8=2	1	26.162±0.127	27.8	80 0 -0.013	18	0 -0.12	36.5	0 -0.12
		W208PPB6		1.0300±0.0050	1.095	3.1496 0 -0.0005	0.7087	0 -0.0047	1.4370	0 -0.0047
1	2AS08-1D1	PDNF240/8	2	26.162±0.127	27.8	80 0 -0.013	30.2	0 -0.12	36.5	0 -0.12
		W208PPB9		1.0030±0.0050	1.095	3.1496 0 -0.0005	1.189	0 -0.0047	1.4370	0 -0.0047
1	4AS08-1	PDNF240/8	4	26.162±0.127	27.8	87.338 0 -0.025	30.2	0 -0.12	36.5	0 -0.12
		W208PPB9		1.0300±0.0050	1.095	3.4385 0 -0.0010	1.1890	0 -0.0047	1.4370	0 -0.0047
1 1/8	1AS08-1 1/8	DNF240/9=2	1	29.972±0.127	31.4	80 0 -0.013	18	0 -0.12	36.5	0 -0.12
		W208PPB5		1.1800±0.0050	1.236	3.1496 0 -0.0005	0.7087	0 -0.0047	1.4370	0 -0.0047
1 1/8	2AS08-1 1/8	PDNF140/9	4	29.972±0.127	31.4	87.338 0 -0.025	30.2	0 -0.12	36.5	0 -0.12
		W208PPB8		1.1800±0.0050	1.236	3.4385 0 -0.0010	1.1890	0 -0.0047	1.4370	0 -0.0047
1 1/8	4AS08-1 1/8	PDNF11015	4	29.972±0.127	31.4	87.338 0 -0.025	30.2	0 -0.12	36.5	0 -0.12
		W208PPB12		1.1800±0.0050	1.236	3.4385 0 -0.0010	1.1890	0 -0.0047	1.4370	0 -0.0047
1 5/32	1AS08-1 5/32D1		1	30±0.127	31.8	80 0 -0.013	21	0 -0.12	36.5	0 -0.12
				1.1811±0.0050	1.252	3.1496 0 -0.0005	0.8268	0 -0.0047	1.4370	0 -0.0047
1 1/4	AS09-1 1/4D1	DNF240/9=2	2	32.766±0.127	34.8	85 0 -0.015	30.2	0 -0.12	36.5	0 -0.12
		W208PPB5		1.2900±0.0050	1.370	3.3465 0 -0.0006	1.1890	0 -0.0047	1.4370	0 -0.0047
1 1/4	4AS09-1 1/4		4	32.766±0.127	34.8	87.338 0 -0.025	30.2	0 -0.12	36.5	0 -0.12
		W208PPB7		1.2900±0.0050	1.370	3.4385 0 -0.0010	1.1890	0 -0.0047	1.4370	0 -0.0047
1 1/8	2AS10-1 1/8D1	PDNF250/9	2	29.972±0.127	31.4	90 0 -0.015	30.2	0 -0.12	36.5	0 -0.12
		W210PPB6		1.1800±0.0050	1.236	3.5433 0 -0.0006	1.1890	0 -0.0047	1.4370	0 -0.0047
1 1/8	3AS10-1 1/8D1		3	29.972±0.127	31.4	90 0 -0.015	30.2	0 -0.12	30.2	0 -0.12
				1.1800±0.0050	1.236	3.5433 0 -0.0006	1.1890	0 -0.0047	1.1890	0 -0.0047
1 1/2	1AS11-1 1/2D1		1	38.89±0.127	41.2	100 0 -0.015	25	0 -0.15	44.45	0 -0.15
				1.5311±0.0050	1.622	3.9370 0 -0.0006	0.9843	0 -0.0059	1.7500	0 -0.0059

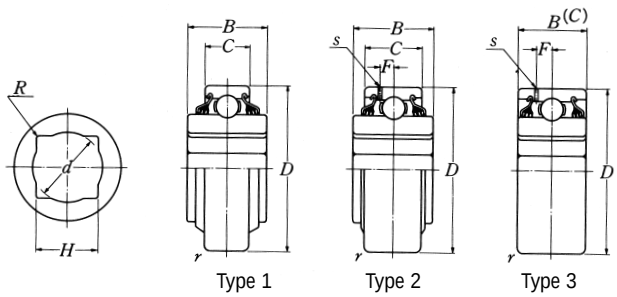
Remarks:1) Bearings suffixed with D1 have oil holes on the outer ring

Ball bearing Square bore, spherical O.D. (cont.)

Shaft Size Size Inch	NSK Bearing 1) number	RHP Number / Other P/N	Type	Nominal dimensions mm/inch H	d	D		C		B	
1 1/2	3AS11-1 1/2D1	PDNF/155/12	3	38.89±0.127	41.2	100	0 -0.015	33.3	0 -0.15	33.3	-0.15
		W211PPB3		1.5311±0.0050	1.622	3.9370	0 -0.0006	1.3110	0 -0.0059	1.3110	0 -0.0059
1 1/2	4AS11-1 1/2	PDNF11018	4	38.89±0.127	41.2	104.725	0 -0.0025	36.5	0 -0.15	44.45	0 -0.15
		W211PPB6		1.5311±0.0050	0.089	4.1230	0 -0.0010	1.4370	0 -0.0059	1.7500	0 -0.0059
2	3AS14-2D1		3	52.2±0.127	54.9	125	0 -0.020	39.69	0 -0.15	39.69	0 -0.15
				2.0051±0.0050	0.157	4.9213	0 -0.0008	1.5626	0 -0.0059	1.5626	0 -0.0059

Remarks:1) Bearings suffixed with D1 have oil holes on the outer ring

Square bore, cylindrical O.D.

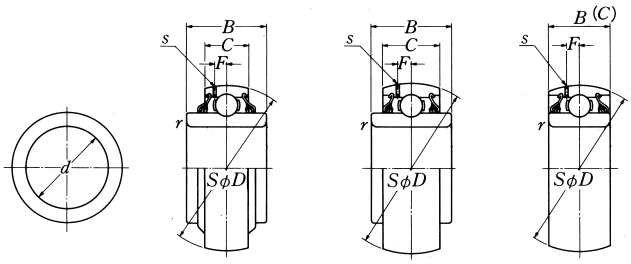


Type 1 Type 2 Type 3

Shaft Size Size	NSK Bearing 1) number	RHP number / Other P/N	Type	Nominal dimensions mm/inch H	d	D		C		B	
1	5AS08-1	DF240/8=2	5	26.162±0.127	27.8	80	0 -0.013	18	0 -0.12	36.5	0 -0.12
		W208PP6		1.0300±0.0050	1.095	3.1496	0 -0.0005	0.7087	0 -0.0047	1.4370	0 -0.0047
1	6AS08-1D1		6	26.162±0.127	27.8	80	0 -0.013	30.2	0 -0.12	36.5	0 -0.12
				1.0300±0.0050	1.095	3.1496	0 -0.0005	1.1890	0 -0.0047	1.4370	0 -0.0047
1 1/8	5AS08-1 1/8	DF240/9=2	5	29.972±0.127	31.4	80	0 -0.013	18	0 -0.12	36.5	0 -0.12
		W208PP5		1.1800±0.0050	1.236	3.1496	0 -0.0005	0.7087	0 -0.0047	1.4370	0 -0.0047
1 1/8	6AS08-1 1/8D1	PDF240/9	6	29.972±0.127	31.4	80	0 -0.013	30.2	0 -0.12	36.5	0 -0.12
		W208PP8		1.1800±0.0050	1.236	3.1469	0 -0.0005	1.1890	0 -0.0047	1.4370	0 -0.0047
1 1/8	7AS10-1 1/8D1	PDF150/9	7	29.972±0.127	31.4	90	0 -0.015	30.2	0 -0.12	30.2	0 -0.12
		W210PP4		1.1800±0.0050	1.236	3.5433	0 -0.0006	1.1890	0 -0.0047	1.1890	0 -0.0047
1 1/2	7AS11-1 1/2D1	PDF155/12	7	38.89±0.127	41.2	100	0 -0.015	33.3	0 -0.15	33.3	0 -0.15
		W211PP3		1.5311±0.0050	1.622	3.9370	0 -0.0006	1.3110	0 -0.0059	1.3110	0 -0.0059

Remarks:1) Bearings suffixed with D1 have oil holes on the outer ring

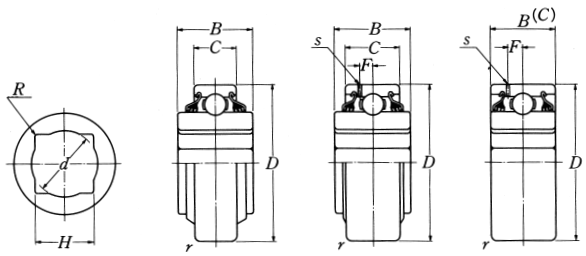
Ball bearings round bore, spherical O.D.



Type 1 Type 2 Type 3

Shaft Size Size Inch	NSK Bearing 1) number	RHP Number Other P/N	Type	mm/inch d		D		C		B	
1 3/16	1AC08-1 3/16	DNF140-13/16=2	1	30.175	0 -0.013	80	0 -0.013	18	0 -0.12	30.2	0 -0.12
		W208PPB7		1.1880	0 -0.0005	3.1496	0 -0.0005	0.7087	0 -0.0047	1.1890	0 -0.0047
1.7717	3AC09D1		3	45	0 -0.013	85	0 -0.015	30.2	0 -0.12	30.2	0 -0.12
				1.7717	0 -0.0005	3.3465	0 -0.0006	1.1890	0 -0.0047	1.1890	0 -0.0047
1 1/2	3AC09-1 1/2D1	PNDF145-1 1/2=28	3	38.989	0 -0.254	85	0 -0.015	30.2	0 -0.12	30.2	0 -0.12
		W209PPB4		1.5350	0 -0.0100	3.3465	0 -0.0006	1.1890	0 -0.0047	1.1890	0 -0.0047
1 3/4	3AC10-1 3/4D1	PDNF150-1 3/4=5	3	45.339	0 -0.254	90	0 -0.015	30.2	0 -0.12	30.2	0 -0.12
		W210PPB5		1.7850	0 -0.0100	3.5433	0 -0.0006	1.1890	0 -0.0047	1.1890	0 -0.0047
1 15/16	3AC10-1 15/16D1		3	49.225	0 -0.013	90	0 -0.015	30.2	0 -0.12	30.2	0
				1.9380	0 -0.0005	3.5433	0 -0.0006	1.1890	0 -0.0047	1.1890	0 -0.0047
2 3/16	3AC1-2 3/16D1	PDNF155-2 3/16	3	55.575	0 -0.015	100	0 -0.015	33.3	0 -0.15	33.3	0 -0.15
		W211PPB2		2.1880	0 -0.0006	3.9370	0 -0.0006	1.3110	0 -0.0059	1.3110	0 -0.0059
2.7559	3AC14D1		3	70	0 -0.015	125	0 -0.020	39.69	0 -0.15	39.69	0 -0.15
				2.7559	0 -0.0006	4.9213	0 -0.0008	1.5626	0 -0.0059	1.5626	0 -0.0059
1 15/16	3AC14-1 15/16D1		3	49.225	0 -0.015	125	0 -0.020	39.69	0 -0.15	39.69	0 -0.15
				1.9380	0 -0.0006	4.9213	0 -0.0008	1.5626	0 -0.0059	1.5626	0 -0.0059

Ball Bearings round bore, cylindrical O.D.



Type 1 Type 2 Type 3

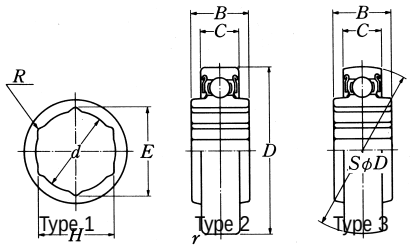
Shaft Size Size Inch	NSK Bearing 1) number	RHP Number Other P/N	Type	mm/inch d		D		C		B	
1.1811	5AC06		5	30	0 -0.010	62	0 -0.013	16	0 -0.12	25.4	0 -0.12
				1.1811	0 -0.0004	2.4409	0 -0.0005	0.6299	0 -0.0047	1.0000	0 -0.0047

Remarks:1) Bearings suffixed with D1 have oil holes on the outer ring

Ball Bearing round bore, cylindrical O.D. cont.

Shaft Size Inch	NSK Bearing 1) number	RHP Number Other P/N	Type	Nominal dimensions mm/inch d		D		C		B	
1 15/16	5AC10-1 15/16		5	49.225	0 -0.013	90	0 -0.015	20	0 -0.12	49.2	0 -0.12
				1.9380	0 -0.0005	3.5433	0 -0.0006	0.7874	0 -0.0047	1.9370	0 -0.0047
1 13/32	7AC10-1 13/32D1		7	35.725	0 -0.013	90	0 -0.015	30.2	0 -0.12	30.2	0 -0.12
				1.4065	0 -0.0005	3.5433	0 -0.0006	1.1890	0 -0.0047	1.1890	0 -0.0047
1 15/16	7AC10-1 15/16D1		7	49.225	0 -0.013	90	0 -0.015	30.2	0 -0.12	30.2	0 -0.12
				1.9380	0 -0.0005	3.5433	0 -0.0006	1.1890	0 -0.0047	1.1890	0 -0.0047
2 3/16	7AC11-2 3/16D1	PDF155 2 3/16	7	55.575	0 -0.015	100	0 -0.015	33.3	0 -0.15	33.3	0 -0.15
		W211PP2		2.1880	0 -0.0006	3.9370	0 -0.0006	1.3110	0 -0.0059	1.3110	0 -0.0059

Ball Bearing Hex-bore



Shaft Size Inch	NSK Bearing 1) number	RHP Number Other P/N	Type	Nominal dimensions mm/inch H		E	D		C		
9/16	1AH03-9/16		1	14.3	+0.127 0	14.7	16.435	40	0 -0.013	12	0 -0.12
				0.5630	+0.0050 0	0579	0.6470	1.5748	0 -0.0005	0.4724	0 -0.0047
11/16	1AH04-11/16		1	17.653	+0.127 0	18.1	20.307	47	0 -0.013	14	0 -0.12
		204KRR2		0.6950	+0.0050 0	0.713	0.7995	1.8504	0 -0.0005	0.5512	0 -0.0047
7/8	1AH05-7/8		1	22.250	+0.127 0	22.8	25.615	52	0 -0.013	15	0 -0.12
		205KRR2		0.8760	+0.0050 0	0.898	1.0085	2.0472	0 -0.0005	0.5906	0 -0.0047
1	1AH06-1		1	25.425	+0.127 0	26.1	29.281	62	0 -0.013	16	0 -0.12
		206KRR6		1.0010	+0.0050 0	1.028	1.1528	2.4409	0 -0.0005	0.6299	0 -0.0047
7/8	2AH05-7/8		2	22.25	+0.127 0	22.8	25.615	52	0 -0.013	15	0 -0.12
		205KRRB2		0.8760	+0.0050 0	0.898	1.0085	2.0472	0 -0.0005	0.5906	0 -0.0047
1	2AH06-1		2	25.425	+0.127 0	26.1	29.281	62	0 -0.013	16	0 -0.12
		206KRRB6		1.0010	+0.0050 0	1.028	1.1528	2.4409	0 -0.0005	0.6299	0 -0.0047
1 1/8	2AH07-1 1/8		2	28.6	+0.127 0	29.3	32.947	72	0 -0.013	17	0 -0.12
		207KRRB9		1.1260	+0.0050 0	1.154	1.2971	2.8346	0 -0.0005	0.6693	0 -0.0047
1 1/2	2AH09-1 1/2		2	38.125	+0.127 0	39	43.946	85	0 -0.015	19	0 -0.12
		209KRRB62		1.5010	+0.0050 0	1.535	1.73025	3.3465	0 -0.0006	0.7480	0 -0.0047

Remarks:1) Bearings suffixed with D1 have oil holes on the outer ring

Less is More

The consolidation of the NSK and RHP companies gives you two premium product lines. The combination of Japanese and European technologies provides the best of both worlds. The two brands offer solutions to maintenance problems for both metric and imperial applications. Each brand offers its own innovations to reduce your plant maintenance costs.

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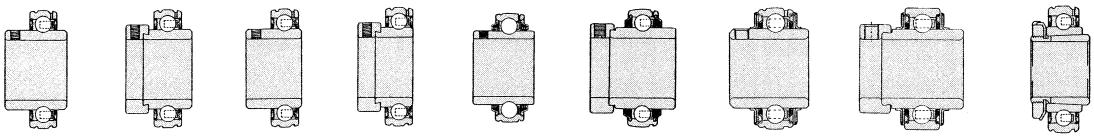
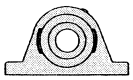
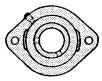
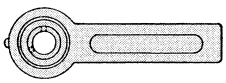


Cast iron one piece	1000G	1000DEC	1200G	1200ECG	T100G	T1000DECG	1000-GFS	1000DECGFS	1000-KG
	NP SL MP	NP-DEC SL-DEC	NP-A SL-A	NP-EC SL-EC	TNP TSL TMP	TNP-DEC TSL-DEC	NP-FS SL-FS MP-FS	NP-DECFS SL-DECFS	NP1000-K MP1000-K
	SNP CNP	SNP-DEC CNP-DEC	SNP-A CNP-A	SNP-EC CNP-EC	TSNP TCNP	TSNP-DEC TCNP-DEC	SNP-FS CNP-FS	SNP-DECFS CNP-DECFS	
	SF MSF	SF-DEC	SF-A	SF-EC	TSF TMSF	TSF-DEC	SF-FS MSF-FS	SF-DECFS	MSF1000-K
	SFT MSFT	SFT-DEC	SFT-A	SFT-EC	TSFT TMSFT	TSFT-DEC	SFT-FS MSFT-FS	SFT0-DECFS	MSFT1000-K
	LFTC	LFTC-DEC	LFTC-A	LFTC-EC	TFC	TLFC-DEC	LFTC-FS	LFTC-DECFS	
	FC	FC-DEC	FC-A	FC-EC	TFC	TFC-DEC	FC-FS	FC-DECFS	
	MFC				TMPC		MFC-FS		
	ST MST	ST-DEC	ST-A	ST-EC	TST TMST	TST-DEC	ST-FS MST-FS	ST-DECFS	MST1000-K
	BT		BT-A	BT-EC	TBT		BT-FS		
	SLC MSC	SLC-DEC	SLC-A	SLC-EC	TSLC TMSC	TSLC-DEC	SLC-FS MSC-FS	SLC-DECFS	
	SCHB SCH				TSCHB TSCH		SCHB-FS SCH-FS		

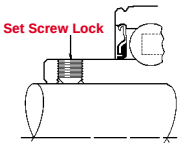
Heavy Duty Insert (GN000KRRB)

Shaft Size	D	B	Bearing Number	(Other)	Shaft Size	D	B	Bearing Number	(Other)
1-1/8	72	48.6	3030-1 1/8DECG	(GN102KRRB)	1 3/4	110	62.9	3045-1 3/4 DECG	(GN112KRRB)
1-3/16	72	48.6	3030-1 3/16DECG	(GN103KRRB)	1-7/8	110	62.9	3050-1 7/8DECG	(GN114KRRB)
1-1/4	80	51.8	3030-1 1/4DECG	(GN104KRRB)	1-15/16	120	71.7	3050-1 15/16DECG	(GN115KRRB)
1-3/8	80	51.8	3030-1 3/8DECG	(GN106KRRB)	2	120	71.7	30505-2DECG	(GN200KRRB)
1-7/16	90	55.0	3030-1 7/16DECG	(GN107KRRB)	2-3/16	130	78.0	3055-2-3/16DECG	(GN203KRRB)
1-1/2	90	55.0	3030-1-1/2DECG	(GN108KRRB)	2-7/16	130	78.0	3060-2-7/16DECG	(GN207KRRB)
1-5/8	100	56.6	3030-1-5/8DECG	(GN110KRRB)	2-11/16	150	85.6	3070-2-11/16DECG	(GN211KRRB)
1-11/16	100	56.6	3030-1-11/16DECG	(GN111KRRB)	2-15/16	160	91.6	3050-2-15/16DECG	(GN215KRRB)

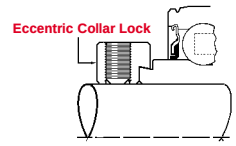
D. Outside Diameter B. Width

Standard (1000)

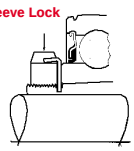
Triple Lip Seal (1000)



AS, UC, UCS & 1000 (Set Screw)



UEL, DEC, JEL, ECG, JELS, UELS & REL (Eccentric Collar)



UK (Adaptor Sleeve)

Shaft Diameter		WIDE 200 SERIES USE WITH CAST IRON RE-GREASABLE HOUSING					NARROW 200 SERIES	
inch	mm	RHP 1000 DEC	RHP (T)1000 DEC	RHP 1000	RHP (T)1000	COVER	RHP	RHP Greaseable
	12.000	1017-12G				1017-17P	1217-12EC	1217-12ECG
1/2	12.700	1017-1/2G				1017-17P	1217-1/2EC	1217-1/2ECG
9/16	14.288							
	15.000	1017-15G				1017-17P	1217-15EC	1217-15ECG
5/8	15.875	1017-5/8G				1017-17P	1217-5/8EC	1217-5/8ECG
	17.000	1017-17G				1017-17P	1217-17EC	1217-17ECG
11/16	17.462						1217-11/16EC	1217-11/16ECG
3/4	19.050	1020-3/4G	T1020-3/4G	1020-3/4DECG		1020-20P	1217-3/46EC	1217-3/4ECG
	20.000	1020-20G	T1020-20G	1020-20DECG		1020-20P	1220-20EC	1220-20ECG
13/16	20.638							
7/8	22.225	1025-7/8G	T1025-7/8G	1025-7/8DECG	T1025-7/8DECG	1025-25P	1225-7/8EC	1225-7/8ECG
15/16	23.812	1025-15/16G	T1025-15/16G	1025-15/16DECG	T1025-15/16DECG	1025-25P	1225-25EC	1225-25ECG
	25.000	1025-25G	T1025-25G	1025-25DECG	T1025-25DECG	1025-25P	1225-1EC	1225-1ECG
1	25.400	1025-1G	T1025-1G	1025-1DECG	T1025-1DECG			
1-1/16	26.988							
1-1/8	28.575	1030-1-1/8G	T1030-1-1/8G	1030-1-1/8DECG	T1030-1-1/8DECG	1030-30P	1230-1-1/8EC	1230-1-1/8ECG
	30.000	1030-30G	T1030-30G	1030-30DECG	T1030-30DECG	1030-30P	1230-30EC	1230-30ECG
1-3/16	30.162	1030-1-3/16G	T1030-1-3/16G	1030-1-3/16DECG	T1030-1-3/16DECG	1030-30P	1230-1-13/16EC	1230-1-13/16ECG
1-1/4	31.750	1030-1-1/4G	T1030-1-1/4G	1030-1-1/4DECG	T1030-1-1/4DECG	1030-30P	1230-1-1/4EC	1230-1-1/4ECG
1-1/4	31.750	1035-1-1/4G	T1035-1-1/4G	1035-1-1/4DECG	T1035-1-1/4DECG	1035-35P	1235-1-1/4EC	1235-1-1/4ECG
1-5/16	33.338	1035-1-5/16G				1035-35P	1235-1-3/8EC	1235-1-3/8ECG
1-3/8	34.925	1035-1-3/8G	T1035-1-3/8G	1035-1-3/8DECG	T1035-1-3/8DECG	1035-35P	1235-1-35EC	1235-1-35ECG
	35.000	1035-35G	T1035-35G	1035-35DECG	T1035-35DECG	1035-35P	1235-1-7/16EC	1235-1-7/16ECG
1-7/16	36.512	1035-1-7/16G	T1035-1-7/16G	1035-1-7/16DECG		1035-35P		
1-7/16	36.512	1040-1-7/16G	T1040-1-7/16G			1040-40P		
1-1/2	38.100	1040-1-1/2G	T1040-1-1/2G	1040-1-1/2DECG	T1040-1-1/2DECG	1040-40P		
1-9/16	39.688						1240-1-1/2EC	1240-1-1/2ECG
	40.000	1040-40G	T1040-40G	1040-40DECG	T1040-40DECG	1040-40P	1240-40EC	1240-40ECG
1-5/8	41.275	1045-1-5/8G	T1045-1-5/8G	1045-1-5/8DECG	T1045-1-5/8DECG	1045-45P		
1-11/16	42.862	1045-1-11/16G	T1045-1-11/16G	1045-1-11/16DECG	T1045-1-11/16DECG	1045-145P		
1-3/4	44.450	1045-1-3/4G	T1045-1-3/4G	1045-1-3/4DECG	T1045-1-3/4DECG	1045-45P	1245-1-3/4EC	1245-1-3/4ECG
	45.000	1045-45G	T1045-45G	1045-45DECG	T1045-45DECG	1045-45P	1245-45EC	1245-45ECG
1-13/16	46.038							
1-7/8	47.625	1050-1-7/8G	T1050-1-7/8G	1050-1-7/8DECG	T1050-1-7/8DECG	1050-50P	1250-1-7/8EC	1250-1-7/8ECG
1-15/16	49.212	1050-1-15/16G	T1050-1-15/16G	1050-1-15/16DECG	T1050-1-15/16DECG	1050-50P	1250-1-15/16EC	1250-1-15/16ECG
	50.000	1050-50G	T1050-50G	1050-50DECG	T1050-50DECG	1050-50P	1250-1-50EC	1250-1-50ECG
2	50.800	1050-2G	T1050-2G	1055-2DECG	T1055-2DECG	1055-50P	1250-2EC	1250-2ECG
2	50.800	1055-2G	T1055-2G	1055-2DECG	T1055-2DECG	1055-55P	1255-2EC	1255-2ECG
2-1/16	52.388							
2-1/8	53.975	1055-2-1/8G	T1055-2-1/8G	1055-2-1/8DECG	T1055-2-1/8DECG	1055-55P		
	55.000	1055-55G	T1055-55G	1055-55DECG	T1055-55DECG	1055-55P	1255-55EC	1255-55ECG
2-3/16	55.562	1055-2-3/16G	T1055-2-3/16G	1055-2-3/16DECG	T1055-2-3/16DECG	1055-55P		
2-1/4	57.150	1060-2-1/4G	T1060-2-1/4G	1060-2-1/4DECG	T1060-2-1/4DECG	1060-60P		
2-5/16	58.738							
	60.000	1060-60G	T1060-60G	1060-60DECG	T1060-60DECG	1060-60P		
2-3/8	60.325	1060-2-3/8G	T1060-2-3/8G	1060-2-3/8DECG	T1060-2-3/8DECG	1060-60P		
2-7/16	61.912	1060-2-7/16G	T1060-2-7/16G	1060-2-7/16DECG	T1060-2-7/16DECG	1060-65P		
2-1/2	63.500	1065-2-1/2G	T1070-2-1/2G	1065-2-1/2DECG	T1070-2-1/2DECG	1070-65P		
	65.000	1065-65G	T1070-65G	1070-65DECG	T1070-65DECG	1070-65P		
2-5/8	66.675	1070-2-5/8G	T1070-2-5/8G	1070-2-5/8DECG		1070-70P		
2-11/16	68.262	1070-2-11/16G	T1070-2-11/16G	1070-2-11/16DECG		1070-70P		
2-3/4	69.850	1075-2-3/4G		1075-2-3/4DECG		1075-70P		
	70.000	1070-70G	T1070-70G	1070-70DECG	T1070-70DECG	1070-70P		
2-13/16	71.438							
2-7/8	73.025	1075-2-7/8G		1075-2-7/8DECG		1075-75P		
2-15/16	74.612	1075-2-15/16G	T1080-2-15/16G	1075-2-15/16DECG		1075-75P		
	75.000	1075-75G	T1080-75G	1075-75DECG		1075-75P		
3	76.200	1075-3G	T1080-3G			1080-75P		
3-1/8	79.375							
	80.000	1080-80G	T1080-80G			1080-80P		
3-3/16	80.962	1080-3-3/16G				1080-80P		
3-1/4	82.550	1080-3-1/4G				1080-85P		
	85.000	1085-85G				1085-85P		
3-7/16	87.312	1085-3-7/16G				1085-90P		
3-1/2	88.900	1090-3-1/2G				1090-90P	Use with Press Metal Housings	
	90.000	1090-90G				1090-90P		

Stainless Reputation

The new RHP Silver-Lube series is a range of corrosion resistant bearing units specifically for use in industries where frequent thorough washdowns are necessary, optimum hygiene standards are required and good chemical resistance is important over a wide temperature range.

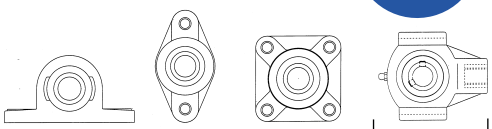
STAINLESS STEEL

■ Bearing inserts ■ Grease nipples ■ Bolt hole liners ■ Set screws ■ Flinger ■ Seal core

- **CORROSION RESISTANT UNITS**
- **STAINLESS STEEL BEARING INSERTS**
- **EFFECTIVE, EFFICIENT SEALING**
- **FOOD GRADE GREASE APPROVED TO USDA 11**
- **WIDE OPERATING TEMPERATURE**
- **END COVERS AVAILABLE**

Available in pillow block, two bolt and four bolt flange configurations and are capable of accommodating initial misalignment from mounting errors. In operation the units have proven reliable in the most hostile applications. Relubrication is possible for long trouble-free life; minimising maintenance, maximising productivity and helping maintain hygiene standards.

NEW PRODUCT RELEASE



Shaft	Bearing	PNP	PSFT	PSF	PST
3/4	J1020-3/4GCR	3/4 CR	3/4 CR	3/4 CR	3/4 CR
1	J1025-1 GCR	1CR	1CR	1CR	1CR
1 1/4	J1030-1 1/4GCR	1 1/4 RCR	1 1/4 RCR	1 1/4 RCR	1 1/4 RCR
1 1/4	J1035-1 1/4GCR	1 1/4 CR	1 1/4 CR	1 1/4 CR	1 1/4 CR
1 1/2	J1040-1 1/2GCR	1 1/2 CR	1 1/2 CR	1 1/2 CR	1 1/2 CR
20	J1020-20 GCR	20 CR	20 CR	20 CR	20 CR
25	J1025-25 GCR	25 CR	25 CR	25 CR	25 CR
30	J1030-30 GCR	30 CR	30 CR	30 CR	30 CR
35	J1035-35 GCR	35 CR	35 CR	35 CR	35 CR
40	J1040-40 GCR	40 CR	40 CR	40 CR	40 CR

P = Plastic housing CR = Stainless steel insert

YOU'LL PAY FOR CHEAP CHAIN

Cheap Roller Chain may seem like a quick fix, but it only makes matters worse because cheap chain translates into higher operating costs. Don't be fooled by the initial price.

Purchase roller chain at lowest cost per year - not lowest cost per foot.

If you're not totally convinced Diamond chain can reduce red ink, call BSC Motion Technology for an independent third party report* comparing six leading brands of chain.

BSC Motion Technology

DIAMOND CHAIN COMPANY

* this report was not sponsored or underwritten by Diamond Chain or BSC Motion Technology.

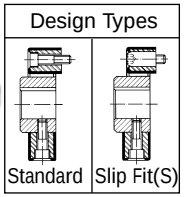
COUPLING ELEMENTS IDENTIFICATION CHART

JE Sleeve
• Dot= Neoprene

JES Sleeve
• Dot= Neoprene

E Sleeve
• Dot= Neoprene

H (Solid) & HS (Split)
HYTREL



Centa A Element

• (Yellow) Dot = 50 shore
No Dot = Standard (60 shore) (12-16 to a set)
• Dot= 75 shore

Centa D & E Element

Green = 90 shore
Yellow = 55 Shore

Centa B Element

Spider SOX (Standard)

Spider URE (Urethane)

Spider HYT (Hytrel)

Jaw In-Shear

LS Series

NEW PRODUCT RELEASE

LS offers a solution for simple, quick maintenance

Centa H Element

Centamax

Spider BZR (Bronze)

(Light duty only)
Spider SOX (Open Centre)

SW Kit (with circlip)

Tyre : S (Synthetic) & F (FRAS)

Polyurethane Tyre

LC Kit (with ring)

SW Spider

L225 Spider URE

AL150 Spider (8 Jaw)

HRC Element

URE

Flexi Cone Rings & Pins/Nuts

(4-10 cushion set)

NEP Element

HYT SBX
Standard (Set of 6)
C2955 (Set of 10)
C Cushions

Mite OD = 73mm
Nyflex OD = 95 mm

Nylon Sleeve
(Blue Sleeve Available)

Blue = 80 shore
White/Yellow = 92 shore
Red = 98/95 shore

CJ24/32-CJ65/75(8 jaw)
CJ15/90-CJ125/145 (10 jaw)

SAGA

BPX Element

Disc

Flexicross

Grid & Grease

Mini Soft

Mini Jaw

Beam

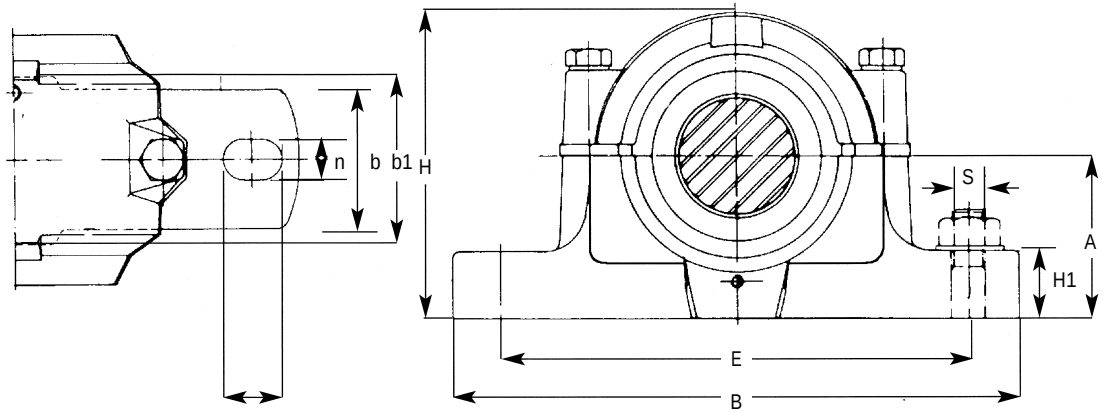
Oldham

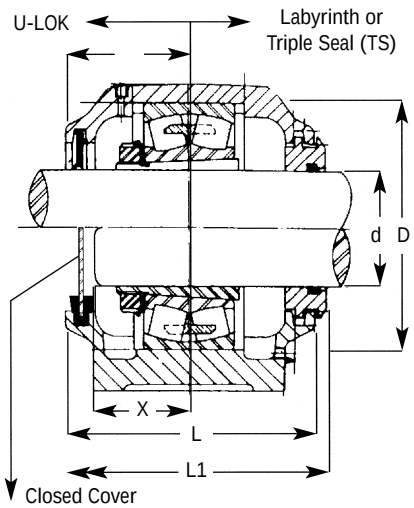
Other couplings stocked by BSC

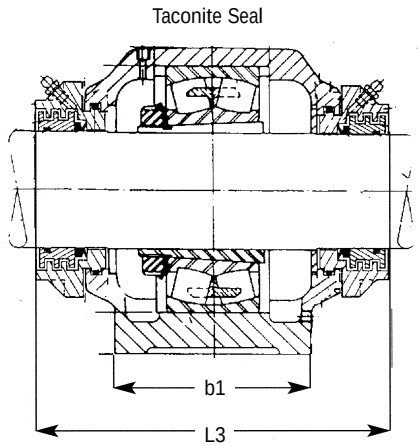
Gear
Disc
Spacer
Rigid
Flywheel
Bellows
Universal Joint

Lovejoy

SNK Housings are interchangeable with SNA/SNG/SNH/SNU







Housing Reference	Dimensions mm													Weight
	d	A	B	b	b1	E	H	H1	L	L1	L3	N x n	S	(kg)
505	20	40	165	42	46	130	71	19	67	-	-	20 x 13	10	1.50
SNU/SNK														
506*605	20	50	185	45	52	150	87	22	77	84	-	22 x 13	10	1.95
506*605	25	50	185	45	52	150	87	22	77	84	-	22 x 13	10	1.95
SNU/SNK														
507*606	25	50	185	45	52	150	92	22	82	89	-	20 x 13	10	2.20
507*606	30	50	185	45	52	150	92	22	82	89	137	20 x 13	10	2.20
SNU/SNK														
508*607	30	60	205	50	60	170	106	25	85	92	-	20 x 15	12	2.80
508*607	35	60	205	50	60	170	106	25	85	92	140	20 x 15	12	2.80
SNU/SNK														
510*608	35	60	205	50	60	170	112	25	90	99	-	20 x 15	12	3.15
509	40	60	205	50	60	170	109	25	85	94	142	20 x 15	12	3.05
SNU/SNK														
511*609	40	70	255	58	70	210	127	28	95	104	-	23 x 18	16	4.40
510*608	45	60	205	50	60	170	112	25	90	99	146	20 x 15	12	3.15
SNU/SNK														
512*610	45	70	255	60	70	210	133	30	105	114	-	23 x 18	16	5.75

Bearing		Adaptor	Locating Ring		U-LOK Kit No. 2 Halves/Kit	G-Seal No. 2 Halves/ Kit	Open V-Ring Kit No. 2 Sets/Kit	Labyrinth Seal No. Qty 1	Taconite Seal No. Qty 1	Closed Cover No. Qty 1	Housing Reference
Ball	Spherical	Sleeve	(SR D x w)	Qty							
1205K	-	H205	SR 52 x 10	1	U505	G505	TA505A	-	SNU505TACK	505A	505
2205K	22205K	H305	SR 52 x 7	1							**SNU**
1305K	-	H305	SR 62 x 7.5								
2305K	-	H2305	SR 62 x 8	1	U605	G605	TA605A	-	-	506A	506*605
1206K	-	H206	SR 62 x 8	2	U506	G506	TA506A	TS506U	SNU506TACK	506A	506*605
2206K	22206K	H306	SR 62 x 6	2							**SNU**
1306K	-	H306	SR 72 x 7.5	2							
2306K	-	H2306	SR 72 x 7	1	U606	G606	TA606A	-	-	507A	507*606
1207K	-	H207	SR 72 x 8.5	2	U507	G507	TA507A	TS507U	SNU507TACK	507A	507*606
2207K	22207K	H307	SR 72 x 5.5	2							**SNU**
1307K	-	H307	SR 80 x 9	2							
2307K	-	H2307	SR 80 x 8	1	U607	G607	TA607A	-	-	508S	508*607
1208K	-	H208	SR 80 x 10.5	2	U508	G508	TA508A	TS508U	SNU508TACK	508A	508*607
2208K	22208K	H308	SR 80 x 8	2							**SNU**
1308K	21308K	H308	SR 90 x 9	2							
2308K	22308K	H2308	SR 90 x 8	1	U608	G608	TA608A	-	-	510A	510*608
1209K	-	H209	SR 85 x 5.5	2	U509	G509	TA509A	TS509U	SNU509TACK	509A	509
2209K	22209K	H309	SR 85 x 7	1							**SNU**
1309K	21309K	H309	SR 100 x 9.5	2							
2309K	22309K	H2309	SR 100 x 8	1	U609	G609	TA609A	-	-	511A	511*609
1210K	-	H210	SR 90 x 10.5	2	U510	G510	TA510A	TS510U	SNU510TACK	510A	510*608
2210K	22210K	H310	SR 90 x 9	2							**SNU**
1310K	21310K	H310	SR 110 x 10.5	2							
2310K	22310K	H2310	SR 110 x 8	1	U610	G610	TA610A	-	-	512A	512*610

511*609	50	70	255	58	70	210	127	28	95	104	152	23 x 18	16	4.40		1211K	-	H211	SR 100 x 11.5	2	U511	G511	TA511A	TS511U	SNU511TACK	511A	511*609
SNU/SNK																2211K	22211K	H311	SR 100 x 9.5	2							**SNU**
513*611	50	80	275	65	80	230	148	30	110	119	-	24 x 18	16	6.20		1311K	21311K	H311	SR 120 x 11	2	U611	G611	TA611A	-	-	513A	513*611
																2311K	22311K	H2311	SR 120 x 8	1							
512*610	55	70	255	60	70	210	133	30	105	114	162	23 x 18	16	5.75		1212K	-	H212	SR 110 x 13	2	U512	G512	TA512A	TS512U	SNU512TACK	512A	512*610
SNU/SNK																2212K	22212K	H312	SR 110 x 10	2							**SNU**
516*612	55	80	280	65	80	230	154	30	115	124	-	26 x 18	16	6.80		1312K	21312K	H312	SR 130 x 12.5	2	U612	G612	TA612A	-	-	515A	515*612
																2312K	22312K	H2312	SR 130 x 10	1							
513*611	60	80	275	65	80	230	148	30	110	119	166	24 x 18	16	6.20		1213K	-	H213	SR 120 x 14	2	U513	G513	TA513A	TS513U	SNU513TACK	513A	513*611
SNU/SNK																2213K	22213K	H313	SR 120 x 10	2							**SNU**
516*613	60	95	315	75	90	260	175	32	120	132	-	29 x 22	20	9.10		1313K	21313K	H313	SR 140 x 12.5	2	U613	G613	TA613A	-	-	516A	516*613
																2313K	22313K	H2313	SR 140 x 10	1							
515*612	65	80	280	65	80	230	154	30	115	124	172	26 x 18	16	6.80		1215K	-	H215	SR 130 x 15.5	2	U515	G515	TA515A	TS515U	SNU515TACK	515A	515*612
SNU/SNK																2215K	22215K	H315	SR 130 x 12.5	2							**SNU**
518*615	65	100	345	85	100	290	192	35	140	152	-	27 x 22	20	12.40		1315K	21315	H315	SR 160 x 14	2	U615	G615	TA615A	-	-	518A	518*615
																2315K	22315	H2315	SR 160 x 10	1							
516*613	70	95	315	75	90	260	175	32	120	132	180	29 x 22	20	9.10		1216K	-	H216	SR 140 x 16	2	U516	G516	TA516A	TS516U	SNU516TACK	516A	516*613
SNU/SNK																2216K	22216K	H316	SR 140 x 12.5	2							**SNU**
519*616	70	112	345	85	100	290	209	35	145	157	-	27 x 22	20	14.70		1316K	21316K	H316	SR 170 x 14.5	2	U616	G616	TA616A	-	-	519A	519*616
																2316K	22316K	H2316	SR 170 x 10	1							
517	75	95	320	75	90	260	181	32	125	137	186	30 x 22	20	9.70		1217K	-	H217	SR 150 x 16.5	2	U517	G517	TA517A	TS517U	SNU517TACK	517A	517
SNU/SNK																2217K	22217K	H317	SR 150 x 12.5	2							**SNU**
520*617	75	112	380	95	110	320	215	40	160	172	-	32 x 26	24	18.60		1317K	21317K	H317	SR 180 x 14.5	2	U617	G617	TA617A	-	-	520A	520*617
																2317K	22317K	H2317	SR 180 x 10	1							
SNU/SNK																1218K	-	H218	SR 160 x 17.5	2	U518	G518	TA518A	TS518U	SNU518TACK	518A	**SNU**
518*615	80	100	345	85	100	290	192	35	140	152	200	27 x 22	20	12.40		2218K	22218K	H318	SR 160 x 12.5	2							518*615
																-	23218K	H2318	SR 160 x 12.5	1							
519*616	85	112	345	85	100	290	209	35	145	157	202	27 x 22	20	14.70		1219K	-	H219	SR 170 x 18	2	U519	G519	TA519A	TS519U	SNU519TACK	519A	519*616
SNU/SNK																2219K	22219K	H319	SR 170 x 12.5	2							**SNU**
522*619	85	125	410	100	120	350	239	45	175	187	-	32 x 26	24	22.50		-	22319K	H2319	SR 200 x 13	1	U619	G619	TA619A	-	-	522A	522*619
520*617	90	112	380	95	110	320	215	40	160	172	216	32 x 26	24	18.60		1220K	-	H220	SR 180 x 18	2	U520	G520	TA520A	TS520U	SNU520TACK	520A	520*617
SNU/SNK																2220K	22220K	H320	SR 180 x 12	2							**SNU**
524*620	90	140	410	100	120	350	271	45	185	197	-	32 x 26	24	31.00		-	23220K	H2320	SR 180 x 9.7	1							
																-	22320K	H2320	SR 215 x 13	1	U620	G620	TA620A	-	-	524A	524*620
SNU/SNK																1222K	-	H222	SR 200 x 21	2	U522	G522	TA522A	TS522U	SNU522TACK	522A	**SNU**
522*619	100	125	410	100	120	350	239	45	175	187	232	32 x 26	24	22.50		2222K	22222K	H322	SR 200 x 13.5	2							522*619
																-	23222K	H2322	SR 200 x 10.2	1							
SNU/SNK																-	22224K	H3124	SR 215 x 14	2	U524	G524	TS524A	TS524U	SNU524TACK	524A	**SNU**
524*620	110	140	410	100	120	350	271	45	185	197	242	32 x 26	24	31.00		-	23224K	H2324	SR 215 x 10	1							524*620
SNU/SNK																22226K		H3126	SR 230 x 13	2	U526	G526	TA526A	TS526U	SNU526TACK	526A	
526	115	150	445	110	130	380	290	50	190	202	246	35 x 28	24	33.80		-	23226K	H2326	SR 230 x 10	1							**SNU** 526
SNU/SNK																		H3128	SR 250 x 15	2	U528	G528	TA528A	TS528U	SNU528TACK	528A	
528	125	150	500	130	150	420	302	50	205	217	262	42 x 35	30	44.30		-	23228K	H2328	SR 250 x 10	1							**SNU**528
SNU/SNK																-	22230K	H3130	SR 270 x 16.5	2	U530	G530	TA530A	TS530U	SNU530TACK	530A	
530	135	160	530	140	160	450	323	60	220	233	276	42 x 35	30	53.60		-	23230K	H2330	SR 270 x 10	1							**SNU** 530
SNU/SNK																-	22232K	H3132	SR 290 x 17	2	U532	G532	TA532A	TS532U	SNU532TACK	532A	
532	140	170	550	140	160	470	344	60	235	248	292	42 x 35	30	58.00		-	23232K	H2332	SR 290 x 10								**SNU** 532

MOUNTING OF SPHERICAL ROLLER BEARINGS WITH TAPERED BORES

Spherical Roller Bearings with Tapered Bores are mounted on Tapered Shafts directly, or on Cylindrical Shafts with an Adaptor Sleeve Type H (Fig. 1A), or Withdrawal Sleeve Type AH (Fig. 1B).

The following steps should be taken to ensure correct fitting of the bearing.

1. Place Adaptor Sleeve on shaft in approximate location.
2. Place the bearing on a bench vertically, and rotate the Inner Ring allowing the rollers to settle into their correct position. The radial internal clearance should be measured using Feeler Gauges. Insert Feeler Blade between the uppermost set of rollers and the Outer Ring Raceway (Fig. 2A), using a thin blade initially, gradually increasing the blade thickness until the blade can just be inserted.

   In this measurement as shown in (Fig. 1C), the clearances for both rows of rollers must be measured simultaneously and these two values should be kept roughly the same by adjusting the relative postion of the Outer and Inner Rings. The average of these two measurements taken for both rows may be used as the untitled internal clearance.

3. Mount the bearing onto the Adaptor Sleeve, fit washer and nut and tighten up by hand. Position bearing in correct location and tighten nut, thereby forcing the bearing up the taper on the sleeve. the internal clearance should be measured during tightening, until the appropriate residual clearance (as per Table 1) is reached. Measurement of clearance should be taken between the lower most set of rollers and the outer ring raceway (fig. 2B). Individual measurement of each set of rollers is required. Reduction in internal clearance can be calculated from Residual Clearance minus unfitted clearance.

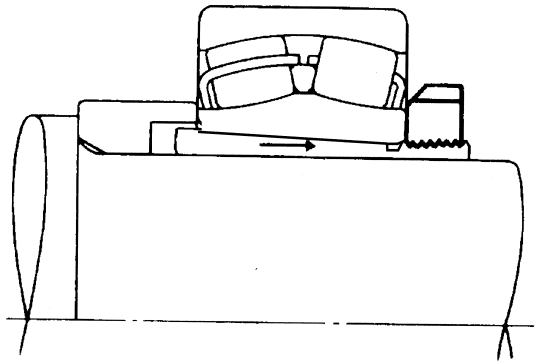


Fig. 1A Mounting with Adaptor Sleeve Type H

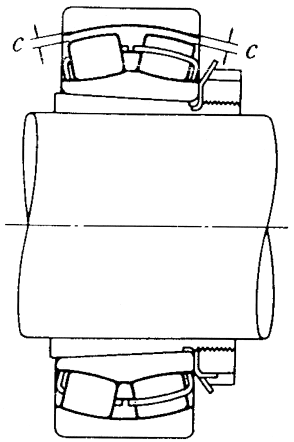


Fig. 1C

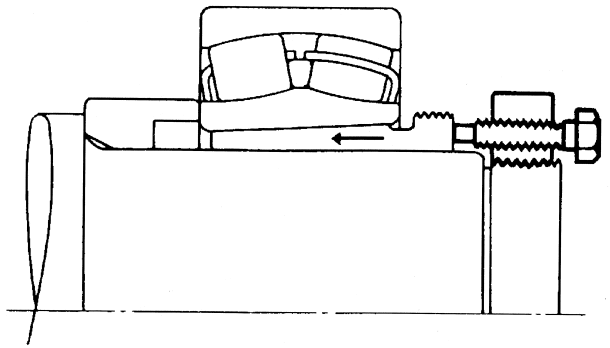


Fig. 1B mounting with a Withdrawal Sleeve Type H

Table 1 - Units mm

Bearing Bore Diameter		Reduction in Radial Internal Clearance		Axial Movement				Min. Permissible Residual Clearance	
				Taper 1:12		Taper 1:30			
Over	Incl	min	max	min	max	min	max	Normal	C3
40	50	0.030	0.035	0.45	.055	-	-	0.015	0.030
50	65	0.030	0.035	0.45	.055	-	-	0.025	0.035
65	80	0.040	0.045	0.6	0.7	-	-	0.030	0.040
80	100	0.045	0.055	0.7	0.85	1.75	2.15	0.035	0.050
100	120	0.050	0.060	0.75	0.90	1.9	2.25	0.045	0.065
120	140	0.060	0.070	0.9	1.1	2.25	2.75	0.055	0.080
140	160	0.065	0.080	1.0	1.3	2.5	3.25	0.060	0.100
160	180	0.070	0.090	1.1	1.4	2.75	3.5	0.070	0.110
180	200	0.080	0.100	1.3	1.6	3.25	4.0	0.070	0.110
200	225	0.090	0.110	1.4	1.7	3.5	4.25	0.080	0.130
225	250	0.100	0.120	1.6	1.9	4.0	4.75	0.090	0.140
250	280	0.110	0.140	1.7	2.2	4.25	5.5	0.100	0.150
280	315	0.120	0.150	1.9	2.4	4.75	6.0	0.110	0.160
315	355	0.140	0.170	2.2	2.7	5.5	6.75	0.120	0.180
355	400	0.150	0.190	2.4	3.0	6.0	7.5	0.130	0.200
400	450	0.170	0.210	2.7	3.3	6.75	8.25	0.140	0.220
450	500	0.190	0.240	3.0	3.7	7.5	9.25	0.160	0.240
500	560	0.210	0.270	3.4	4.3	8.5	11.0	0.170	0.270
560	630	0.230	0.300	3.7	4.8	9.25	12.0	0.200	0.310
630	710	0.260	0.330	4.2	5.3	10.5	13.0	0.220	0.330
710	800	0.280	0.370	4.5	5.9	11.5	15.0	0.240	0.390
800	900	0.310	0.410	5.0	6.6	12.5	16.5	0.280	0.430
900	1000	0.340	0.460	5.5	7.4	14.0	18.5	0.310	0.470

MOUNTING OF SPHERICAL ROLLER BEARINGS WITH TAPERED BORES

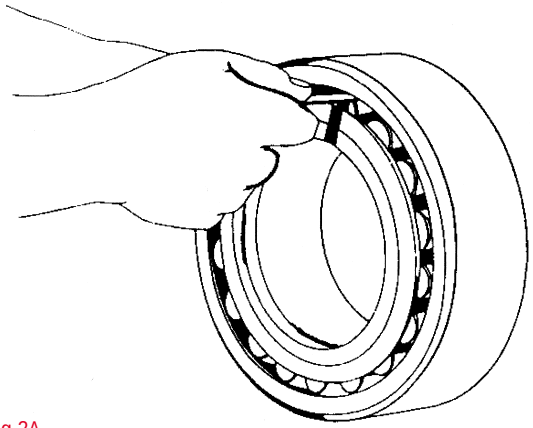


Fig 2A

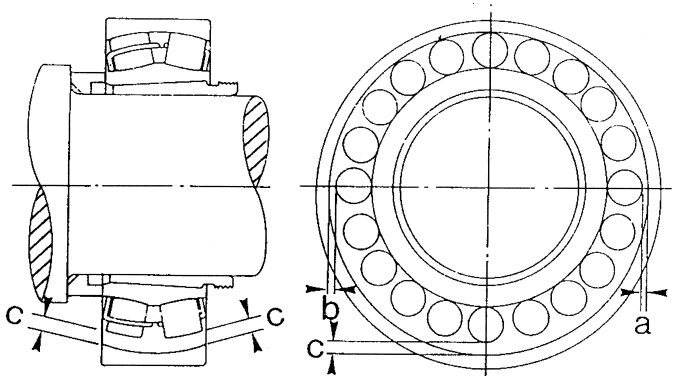


Fig 2C Measuring Clearance of Large Size Spherical Roller Bearings

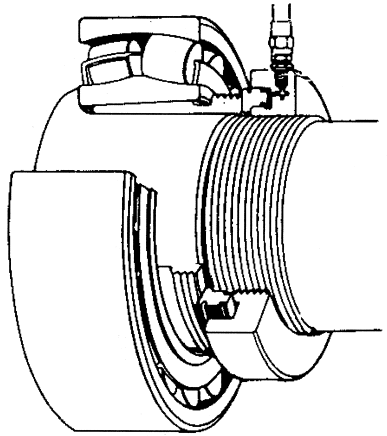


Fig 3B

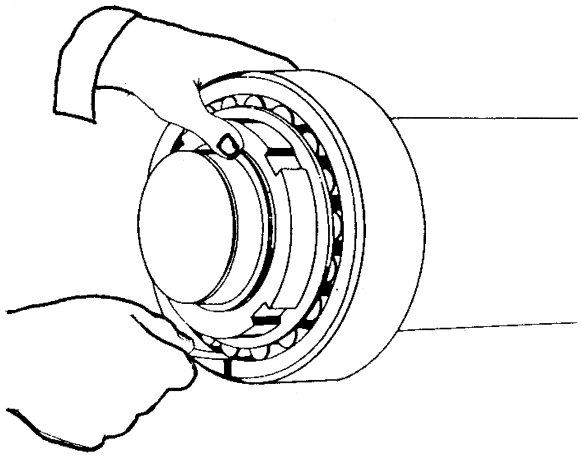


Fig 2B

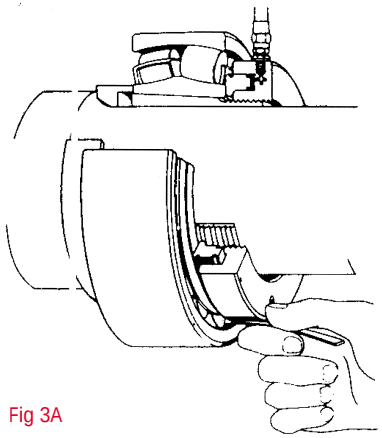


Fig 3A

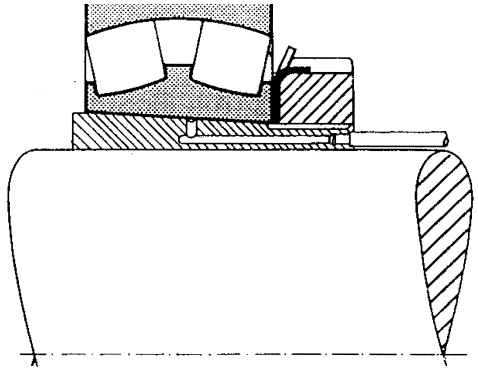


Fig 4 Arrangement incorporating a Hydraulic Sleeve Type OH

When a large bearing is mounted on a shaft, the Outer Ring may be deformed into an oval shape by its own weight. If the clearance is measured at the lowest part of the deformed bearing, the measured value may be larger than the true value. If an incorrect radial internal clearance is obtained in this manner and the values in Table 1 are used, then the interference fit may become too tight and the true residual clearance may become too small. In this case, as shown in (Fig. 2C) one half of the total clearance at points a, b and c (which are on a horizontal line passing through the bearing centre and at the lowest position of bearing) may be used as the residual clearance.

Mounting large Spherical Roller Bearings is more readily carried out by using Hydraulic Injection. Fig. 3A shows a Bearing Mounting utilising an Adaptor Sleeve, and a Hydraulic Nut. Fig. 3B shows a Bearing Mounting utilising a Withdrawal Sleeve, and a Hydraulic Nut.

To further assist mounting and dismounting, Hydraulic Sleeves are used (Fig. 4). The oil is pumped between the bearing and the sleeve to form a film between the mating parts which reduces friction and therefore little force is required to mount the bearing.

The OH type Hydraulic Sleeve can also be used in conjunction with a Hydraulic Nut, for dismounting the bearing off the taper. Enquire to NSK for further information.

GENERAL GUIDE TO THE ASSEMBLY OF SPLIT BEARING HOUSINGS WITH VARIOUS SEAL OPTIONS

BSC Motion Technology

NSK·RHP

Mounting of SNU/SNK Plummer Blocks Using U-LOK or G Seal Kits

1. Remove the top half of the Bearing Housing to expose the Bearing Seat.

2. Place the Housing Base in position on the joist or channel finger tightening the Fixing Bolts.

3. The U-LOK or G seal Kit supplied two halves (1 Seal) and the halves are fitted into the Seal Grooves machined in the base and top of the housing. The U-Section of the Seal should be filled with grease to aid lubrication of the Rubbing Lips and sealing properties of the seal.

4. The bearing is mounted on the shaft (see page 27) and charged with grease.

5. The seal sections are located in the housing grease grooves.

Mounting of SNU/SNK Plummer Blocks with Open V-Ring Seal Kits

1. Remove the top half of the Bearing Housing to expose the Bearing Seat.

2. Place the Housing Base in position on the joist or channel finger tightening the Fixing Bolts.

3. A V-Ring and metal washer which acts as a counter face are placed on the shaft. The counter face washer should be positioned to align with the seal groove machined in the Housing and the V-Ring which is mounted on and rotates with the shaft located near by.

4. The bearing is mounted on the shaft (see page 27) and charged with grease.

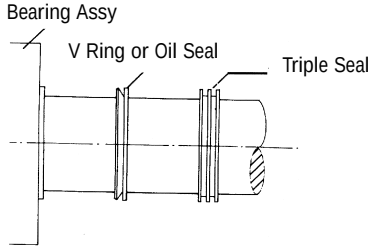
5. The second V-Ring and counter face are placed on the shaft.

Mounting of Split Plummer Block Housings with Labyrinth/Taconite Seals

1. Remove the top half of the Bearing Housing to expose the Bearing Seat.

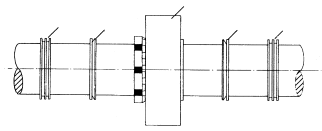
2. Place the Housing Base in position on the joist or channel finger tightening the Fixing Bolts.

3. Place one of the TS Triple Lip Labyrinth Seals on the shaft using the cord of "O" Ring provided. for Taconite Seals also place the Contact Seal (either an Oil Seal or V-Ring) as per diagram.

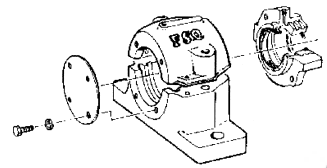


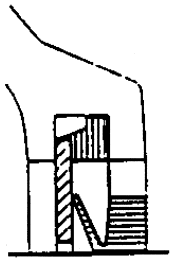
4. The bearing is mounted on the shaft (see page 27) and charged with grease.

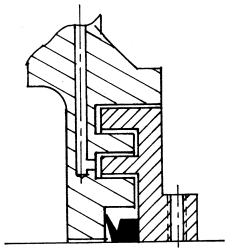
5. Place the second TS Triple Lip Labyrinth Seal and Contact Seal in the case of Taconite version on the opposite side of the bearing. Position the Triple Lip Labyrinth Collar to align with Housing bottom section. In the case of Taconite Seals the Carriers will also be in two halves, the bottom half should already be fitted to the bottom section of the Housing. Rotate shaft to ensure that the Labyrinth Seals are free to turn with the shaft. When Oil Seals are used the Seal should be located to fit into the machined recess provided. Ensure that the Seal is located with the Garter Spring facing outboard.



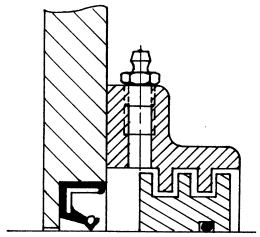
5. Where one side is closed and the End Cover (or Plate in the case of a Taconite body) is attached in place of a seal assembly, ensure that the closed side is adjacent to the re-lubrication facility.



6. The shaft and bearing assembly is placed in the lower half of the Split Housing.	6. The shaft and bearing assembly with the sealing components can then be lowered into the base of the Housing, taking care to locate the Rubber Lip of the counter face washer in the Split Housing Seal Groove. 	6. The shaft complete with Bearing Assembly and Triple Lip Labyrinth Seals can now be lowered into the base of the Housing. Ensuring that the Bearing is properly seated and the Contact Seal is correctly located, rotate the shaft to ensure that the Labyrinth Seals are free to turn with the shaft. When Oil Seals are used, the Seal should be located to fit in the machined recess provided. Ensure that the Seal is located with the Garter Spring facing outboard. When V-Rings are used the V-Ring should be fitted to ensure the correct lip pressure is applied to the wiping face.
7. For the Housing Set which is to locate the system fit Locating Rings either side of the Bearing or where only one is supplied the Locating Ring must be fitted on the same side as the Locking Nut for the Tapered Sleeve.	7. For the Housing Set which is to locate the system fit Locating Rings either side of the Bearing or where only one is supplied the Locating Ring must be fitted on the same side as the Locking Nut for the Tapered Sleeve.	7. For the Housing Set which is to locate the system fit Locating Rings either side of the Bearing or where only one is supplied the Locating Ring must be fitted on the same side as the Locking Nut for the Tapered Sleeve.
8. The Housings are checked for alignment with one another ensuring that they are within acceptable limits and the Fixing Bolts tightened enough to locate the base.	8. The Housings are checked for alignment with one another ensuring that they are within acceptable limits and the Fixing Bolts tightened enough to locate the base.	8. The Housings are checked for alignment with one another ensuring that they are within acceptable limits and the Fixing Bolts tightened enough to locate the base.
9. The Housing top should be carefully aligned with the Locating Dowel Pins and the Bolts tightened. Ensure that the housing top is paired only with the original base as they are not interchangeable from one Housing to another.	9. The Housing Top should be carefully aligned with the Locating Dowel Pins and the Bolts tightened. Ensure that the housing top is paired only with the original base as they are not interchangeable from one Housing to another.	9. The Housing top should be carefully aligned with the Locating Dowel Pins and the Bolts tightened. Ensure that the housing top is paired only with the original base as they are not interchangeable from one Housing to another. 
10. The Fixing Bolts can then be fully tightened to the joist or channel.	10. The Fixing Bolts can then be fully tightened to the joist or channel.	10. The Fixing Bolts can then be fully tightened to the joist or channel.
	11. The rubbing surfaces of the counter face washer should be smeared with grease to help reduce friction of the rubbing surfaces.	
	12. The V-Rings can then be moved axially along the shaft until their sealing lips are in the correct location relative to the washers to ensure effective sealing. A convenient way of moving the V-Rings along the shaft is to use the shank of a long screwdriver whilst rotating the shaft hand working the V-Ring into position.	



Typical LST Assembly including V-Ring



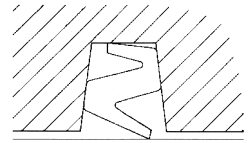
Typical TAC Assembly Oil Seal Type Split Carrier

Mountings of Split Plummer Block Housings with Felt Seals

SN Housings are supplied with Felt Seals as standard. Prior to fitting to the Housing seal groove the felt strip should be soaked in oil until saturated. The felt strip should be fitted to the Base Unit and then worked into the top half of the Housing when closing.

Mounting of Split Plummer Block Housings with ZF Seals

The ZF Seal like the V-Ring must be located on the shaft to align with the seal groove machined in the housing. The lip of the Seal and surface of the shaft should be slightly greased to help reduce friction of the rubbing surfaces. The ZF Seal locates in the Housing seal grooves and is an alternative sealing device for the SN Series Housings, replacing Felt Seals, giving improved sealing and speed properties. Suitable for grease lubrication.



Note: After the mounting has been completed a running test should be conducted to determine if the Bearing has been mounted correctly. Small machines may be manually operated in order to ensure that they rotate smoothly. Items to be checked include sticking due to foreign matter, visible flaws, uneven torque caused by improper mounting or an improper mounting surface, and excessive torque caused by an inadequate clearance, mounting error or seal friction. If there are no abnormalities, powered operation may be started with no load and the power immediately cut off and the machine allowed to coast to a stop. There should be no abnormal vibration, noise, or contact between rotating parts. Normal powered operation may be started after this examination. Powered operation should be started slowly without load and the operation should be observed carefully until it is determined that no abnormalities exist. Items to be checked during the test operation include the existence of abnormal noise, excessive rise of bearing temperature, leakage and discolouration of lubricants, etc.

NSK GENERAL GUIDE TO THE ASSEMBLY OF SOLID BEARING HOUSINGS WITH VARIOUS SEAL OPTIONS

BSC Motion Technology

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The Mounting of Solid Housings with Felt Seals	The Mounting of Solid Housings with Labyrinth or Taconite Seals
1. Remove the End Cap of the Plummer Block or Flanged Housing to expose the Housing Bore, i.e. the Bearing Seat.	1. Remove the End Cap of the Plummer Block or Flanged Housing to expose the Housing Bore, i.e. the Bearing Seat (Fig. B).
2. Take the Felt Strips provided and soak in oil. When saturated, work the Felt Strip into the V-Sectioned Groove both on the back of the Housing and in the detachable End Cover. (Fig. A).	2. It will be necessary to slide the Labyrinth Collar and, where fitted, the Contact Seal (Oil Seal or V-Ring), onto the Shaft before passing the Shaft through fixed side plate of the Housing. For the detachable End Cover the Labyrinth Collar follows the End Cover (Fig. B). The Labyrinth Collar is located on the Shaft by a grub screw. The Collar rotates with the Shaft.
3. Without the convenience of a split housing it may be easier to put the bearing and sleeve into the housing and fit the entire assembly to the shaft. In this case the bearing should be charged with grease prior to installation into the housing.	3. Without the convenience of a split housing it may be easier to put the bearing and sleeve into the housing and fit the entire assembly to the shaft. In this case the bearing should be charged with grease prior to installation into the housing.
4. Work the Shaft through the Felt Sealed aperture rotating the Shaft as you go.	4. Work the Shaft through the housing assembly.
5. The housing should be located on its base or plate (for flange units) and the mounting bolts should be fitted finger tight.	5. The Housing should be located on its base or plate (for flange units) and the mounting bolts should be fitted finger tight.
6. The bearing should be mounted as per the instructions on pages 27 & 28, however because access for feeler gauges can be difficult in a solid housing it may be more convenient to use the axial movement figure in Table 1. By determining the pitch of the thread on the adapter sleeve, the axial movement figure can be easily equated into degrees of rotation of the nut. Leave sufficient room to locate the Spigot of the detachable End Plate and bolt the End Plate into place. (Fig. C & D).	6. The bearing should be mounted as per the instructions on pages 27 & 28, however because access for feeler gauges can be difficult in a solid housing it may be more convenient to use the axial movement figure in Table 1 (page 27). By determining the pitch of the thread on the adapter sleeve, the axial movement figure can be easily equated into degrees of rotation of the nut. Leave sufficient room to locate the Spigot of the detachable End Plate and bolt the End Plate into place. (Fig. C & D).
7. Secure housing mounting bolts and end cover, ensuring that all components are in position, i.e. fixing rings, seals etc.	7. Secure Housing mounting bolts and end cover, ensuring that all components are in position, i.e. fixing rings, seals etc.

Fig. A Felt Seal

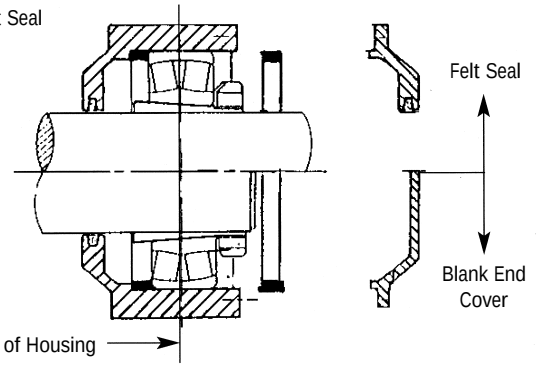


Fig. B Felt LS Seal

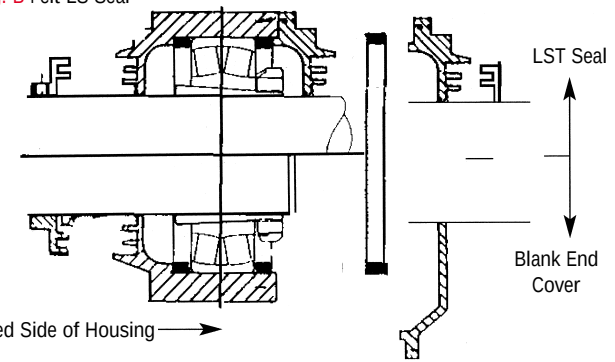


Fig. C

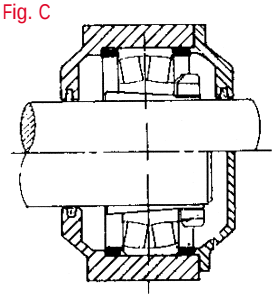
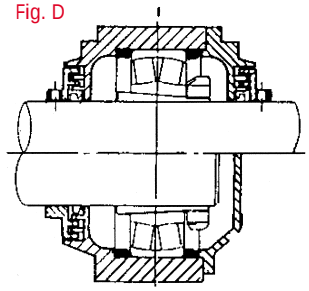
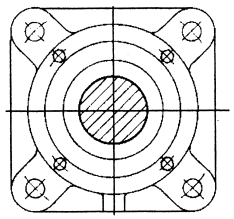
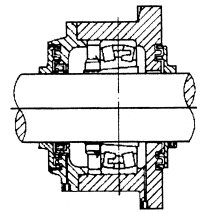


Fig. D



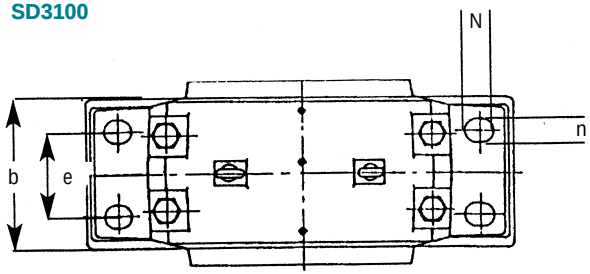


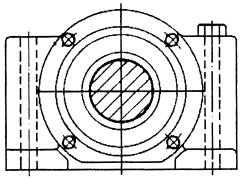


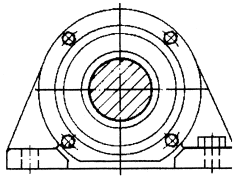
FCM Square Flange Metric Shaft Opening

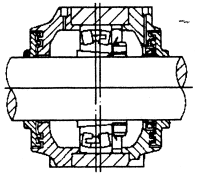
FC Square Flange Inch/Metric Shaft Opening

SD3100





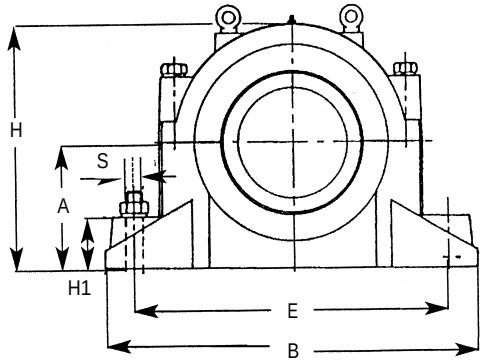


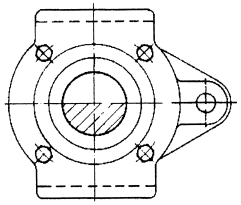


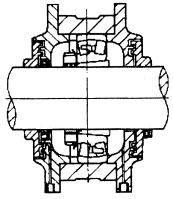
MSB Pedestal Two Bolt Metric Shaft Opening

SB Pedestal Two Bolt Inch Shaft Opening

WSB Pedestal Four Bolt Metric Shaft Opening

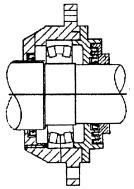


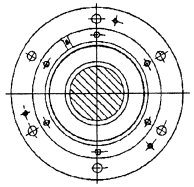


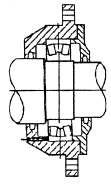


THM Take-up Unit Metric Shaft Opening

TH Take-up Unit Inch or Metric Shaft Opening (Customer to advise)

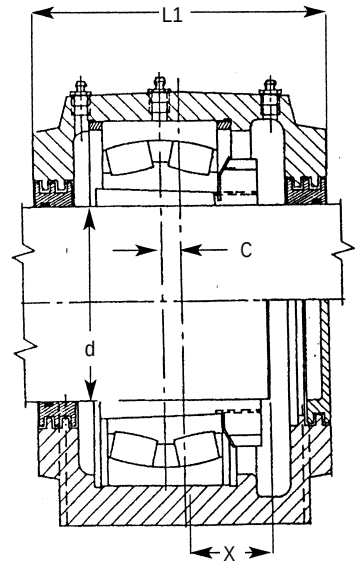


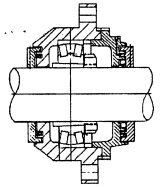


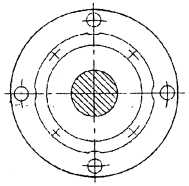


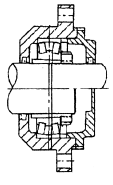
CFCM Round Flange with Spigot Seat Metric Shaft Opening

TS

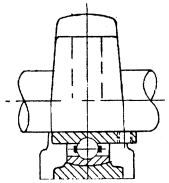


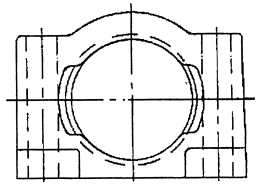


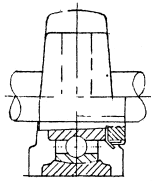




RFS Round Flange with Spigot Seat Inch/Metric Shaft Opening







UCSB200 & UKSB200 Two Bolt Pillow Block External Aligning

Split housing SNU / SNK are designed for grease or oil lubrication. The choice of lubricant will depend on the operating conditions, but care should be taken to ensure adequate lubrication and avoid the potential hazard of over-lubrication.

GREASE

By far the most common method of lubrication for Split and Solid Housings is grease, due to the convenience and ease of containment, ample re-lubrication and the effects of sealing created as the grease purges itself from the Housing underneath the seal running areas.
The initial grease fill when the Plummer block is commissioned will normally be adequate until the next routine inspection, however, in certain instances where conditions dictate, it may be necessary to re-lubricate more often.
SNU / SNK Housing are supplied as standard with a drilled and tapped hole suitable for a Grease Nipple, blanked off with a plastic plug.
The following precautions with regard to the positioning of the Grease Nipple relative to the End Covers and Locking Nuts for Adaptor Sleeves should be adhered to wherever possible.
When a Bearing Housing is fitted with an End Cover, the Grease Nipple should be fitted on the same side of the Housing as the End Cover to facilitate the passage of grease through the Bearings as the grease is purged through the Seal Opening or Relief Valve.
Try to position on the opposite side to the position of the Locking Nut for an Adaptor Sleeve. The Grease Relief Valve should be located diagonally opposite the Grease Nipple and under the Locking Nut, acting as a flinger, and assist in purging the grease from the Housing to ensure over-lubrication (therefore overheating) is avoided.

GREASE QUANTITY - Initial Fill

For general applications the quantity of grease is determined as follows;
Firstly the Bearing itself should be packed full of grease. Depending on the speed, the available space inside the Housing should be packed with grease as follows:
1/2 to 2/3 of the space - when the speed is less than 50% of the limiting speed.
1/3 to 1/2 of the space - when the speed is more than 50% of the limiting speed.

RE-LUBRICATION OF BEARINGS

If the Housings are not equipped with the Grease Nipple aligned correctly with the grease groove and holes in the centre of the Bearing outer ring, the following should be adopted: Housing should be re-lubricated manually by removing the Housing Cap, removing old spent grease and repacking with a new grease amount as recommended in the section Grease Quantity - Initial Fill, and finally replacing the Housing Cap. If the Housings are equipped with a Grease Nipple aligned correctly with the grease groove and holes in the centre of the Bearing outer ring, the following should be adopted as a guide only: the Grease Nipple should be charged with an amount of grease calculated as follows using the following formula.

	Q	=	B x D x 0.005
Where	Q	=	Quantity of Grease in grams
	B	=	Width of Bearing in millimetres
	D	=	Outside diameter of Bearing in millimetres

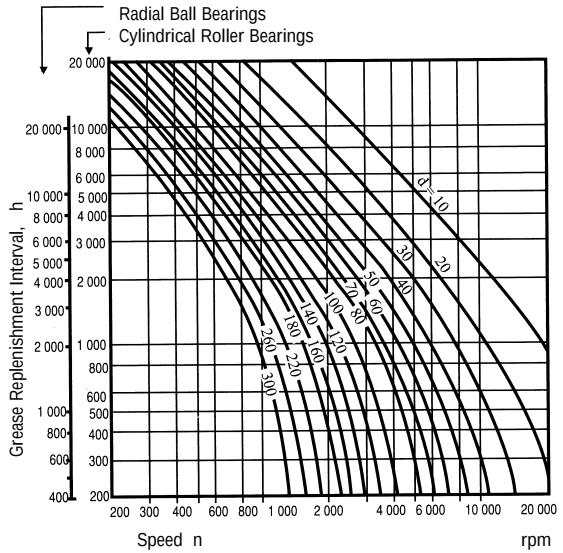
Example Bearing No. 22220: n B = 46mm, D = 180mm Therefore Q = 41 grams

CORRECT POSITIONING OF A SINGLE LOCATING RING, GREASE NIPPLE, GREASE VALVE IN RELATION TO A LOCKING NUT AND/OR CLOSED COVER

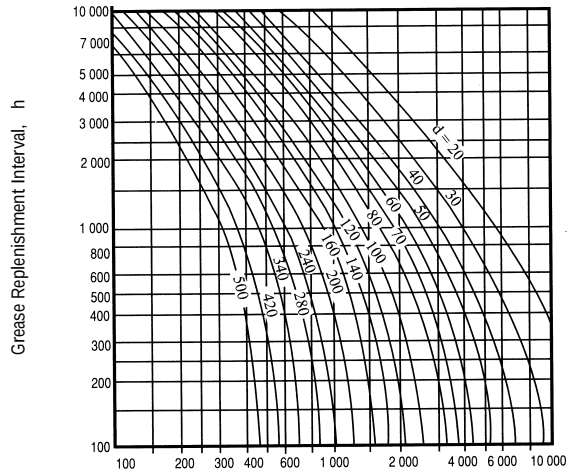
To ensure correct flow of grease lubrication through Bearings housed in Split or Solid Housing the following points should be noted:
1. Grease Nipple should be located on the same side as Closed End Cover to ensure purging of grease takes the new grease through the Bearing and purges through the Seal Aperture.
2. Where Grease Relief Valves are incorporated, the Grease Relief Valve should be on the opposite side to the Grease nipple and the same side as the Locking Nut which will act as a flinger discharging the spent grease through the Grease Valve.

RE-LUBRICATION INTERVALS

The time interval between re-lubrication depends on three variables namely:
1) Bearing Size, 2) Operating speed and 3) Operating temperature. The graphs (Fig. 1 and Fig. 2) can be used to estimate only, the interval when the bearing size and speed are known. The interval found from the graphs only holds true when the bearing operating temperature is less than 70 ºC. If the temperature is above this level, then the interval found from the graphs must be halved for every 15º C temperature rise. For example if the interval from Graph 2 is 5000 hrs and temperature is between 70 ºC and 85 ºC, then the interval applied is 2500 hrs. If the temperature is between 85 ºC and 100 ºC the interval would be 1250 hrs.



(1) Radial Ball Bearings, Cylindrical Roller Bearings



(2) Tapered Roller Bearings, Spherical Roller Bearings

BSC Motion Technology

DOW CORNING

MOLYKOTE® BEARING GREASES

BR 2 PLUS

Universal heavy duty mineral oil grease containing molybdenum disulphide.
- High load carrying capacity.
- Low oxidation, hence very suitable for long term lubrication.
- Good resistance against fretting corrosion.
- -30ºC to +130ºC, short term to 150 °C.
- Available 100 g, 400 g, 5 kg, 25 kg.

BG 20

High peformance synthetic grease.

- High speed, high load, high temperature combinations.
- Low coefficient of friction.
- High DN value 750 000.
- -45ºC to +180ºC, short term up to 200 °C,
- Available 1 kg, 5 kg, 50 kg.

FS 3451

Chemical Resistant Flurosilicone Bearing Grease
- High drop point, hence no risk of melting and running-out.
- USDA[10]/AQIS Approved Type C/Food area.
- Resistant against acids, chlorides and many other chemicals.
- Compatible wih many plastics and elastomers.
- -40ºC to +230ºC, short term up to 260ºC
- Available 100g, 1 kg.

Specialty . . . Pastes, Dispersions, Compounds, Bonded Lubricants.

LONGTERM W2

White heavy duty mineral oil grease containing solid lubricants for applications where cleanliness is of paramount importance.
- AQIS Approved Type C/ Food area.
- Good carrying capacity.
- Low oxidation, hence very suitable for longterm lubrication.
- Emergency lubrication and wear protection through solid lubricants.
- Good resistance against water wash-out.
- Particularly adhesive.
- Good corrosion protection and FDA Approval No. 21CFR175.300.
- Prevents fretting corrosion.
- -30ºC to +110ºC, short term to 130 °C.
- Available 1 kg, 5 kg, 25 kg, 50 kg.

LONGTERM 2 PLUS

Extreme pressure mineral oil grease containing molybdenum disulphide.

- Particularly high load carrying capacity.
- Low oxidation, hence very suitable for longterm lubrication.
- Emergency lubrication and wear protection through solid lubricants.
- Protection against scoring.
- Good resistance against water wash-out.
- Particularly adhesive.
- Good corrosion protection.
- -25ºC to +110ºC, short term to +130 °C.
- Available, 5 kg, 25 kg, 50 kg.

44 HIGH TEMPERATURE BEARING GREASE

Silicone grease for ball bearings at high temperatures uner light to moderate loads.
- Good for low & high temperatures
- Low oxidation
- Good resistance against water wash-out
- Compatible with many plastics
- -40ºC to +200ºC
- Available 100g tube, 1kg, 5 kg.

JUDGE US BY THE COMPANY WE KEEP

NSK · RHP — Ball & Roller Bearings

DAYCO — V Belts & Timing Belts

IPL — V & Timing Pulleys

LOCTITE — Sealants & Adhesives

TIMKEN — TAPERED ROLLER BEARINGS — Tapered Roller Bearings

DIAMOND CHAIN COMPANY — Chain, BS & ANSI

Martin SPROCKET & GEAR, INC — Sprockets & Gears (BS & ANSI)

SILASTIC — Silicone Sealants

INA — Needle & Roller Bearings

IWIS ITALY — Conveyor Chain

BROOK HANSEN — Geared Motors

MOLYKOTE — Specialty Lubricants

cooper BEARINGS — Split Roller Bearings

Lovejoy — Couplings & Power Transmission

WE motor — Electric Motors

DEVCON — Epoxy & Polyurethanes

Glacier — Industrial Bearings

FRASER — Bronze Rod Bar & Bushs

ORKOT — Engineering Plastic

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