

Life-Lube® product range

Introduction

The Life-Lube® series combine the corrosion resistant properties of Silver-Lube® housings with the excellent sealing and lubricating properties of Molded-Oil inserts. Life-Lube® units are specifically for use in industries where contact with water and process fluids is unavoidable, excellent chemical resistance is required and a longer lubrication life is necessary.

Life-Lube® units are available in pillow block, two-bolt flange, four-bolt flange and take-up unit configurations and are capable of accommodating initial misalignment from mounting errors. In operation, the units have proven reliability in the most hostile applications.

Life-Lube® housings are made from PBT thermoplastic resins which, in addition to being non-corrodible, are resistant to detergents and a wide range of chemicals. The housings are paint and coating free which prevents chipping or flaking and have smooth surfaces to assist in washdowns.

Life-Lube® bearing inserts are made from stainless steel which provides superior corrosion resistance. The inserts are lubricated with NSK's own oil impregnated polymer, Molded-Oil. Oil slowly seeping from this material provides ample lubrication for the bearing for extended periods. The Molded-Oil solid lubricant resists contamination and water washout and does away with the need for relubrication. Stainless steel flingers and nitrile rubber seals are fitted as standard.

Housing strength

Housing load carrying capacity varies depending on the application loading regime, which may be intermittent, continuous or cyclical. Maximum housing loads are given in tables 1, 2, 3 and 4. These loads must not be exceeded without prior consultation with NSK.

Published housing maximum load capacities do not allow for any reduction in housing strength caused by exposure of the housing to chemicals, water, steam, heat, ultraviolet light or any combination of these factors. If any of these factors are present in the application the designer or end-user must establish the effect of these exposures and reduce the published maximum housing load accordingly.

To maximise load carrying capacity it is recommended that washers are used with the fixing bolts. Tables 1, 2 and 3 also detail maximum fixing bolt tightening torques.

Static electricity generation

Static electricity may be generated by Life-Lube® bearing units under certain application conditions.

Life-Lube® bearings are therefore not recommended for use in explosive or flammable environments. If Life-Lube® bearing units are used in flammable or explosive applications the bearing insert must be earthed.

Housing strength

Table 1 PNP Life-Lube® pillow block - housing load capacity

RHP designation	P1			Maximum housing load (N) at 20°C						P4			Max. fixing bolt torque (Nm)
	Inter-mittent loading	Contin-uous loading	Cyclical loading	Inter-mittent loading	Contin-uous loading	Cyclical loading	Inter-mittent loading	Contin-uous loading	Cyclical loading	Inter-mittent loading	Contin-uous loading	Cyclical loading	
PNP20/LP99	3500	1700	800	2800	1400	800	2600	1300	700	1300	700	400	18
PNP25/LP99	4000	2000	1000	3100	1500	800	2600	1300	700	1700	900	500	25
PNP30/LP99	5000	2500	1200	3500	1800	1000	4000	2000	1100	2600	1300	700	30
PNP35/LP99	6000	3000	1500	4300	2100	1200	4100	2100	1100	3200	1600	900	35
PNP40/LP99	10700	5300	2900	8000	4000	2200	6800	3400	1900	5200	2600	1400	40

Table 2 PSF Life-Lube® four-bolt flange - housing load capacity

RHP designation	Maximum housing load (N) at 20°C						Max. fixing bolt torque (Nm)
	F1			F2			
	Inter-mittent loading	Contin-uous loading	Cyclical loading	Inter-mittent loading	Contin-uous loading	Cyclical loading	
PSF20/LP99	3100	1600	900	1300	700	400	18
PSF25/LP99	3500	1700	1000	1300	700	400	25
PSF30/LP99	4600	2300	1300	2200	1100	600	30
PSF35/LP99	6200	3100	1700	2600	1300	700	35
PSF40/LP99	6200	3100	1700	4000	2000	1100	40

Table 3 PSFT Life-Lube® two-bolt flange - housing load capacity

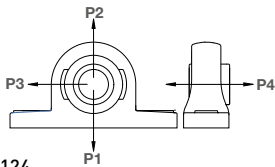
RHP designation	T1			Maximum housing load (N) at 20°C						Max. fixing bolt torque (Nm)
	Inter-mittent loading	Continuous loading	Cyclical loading	Inter-mittent loading	Continuous loading	Cyclical loading	Inter-mittent loading	T3 Continuous loading	Cyclical loading	
PSFT20/LP99	4400	2200	1200	1900	900	500	1300	700	400	18
PSFT25/LP99	4400	2200	1200	3000	1500	800	1400	700	400	25
PSFT30/LP99	5900	2900	1600	3300	1600	900	2000	1000	500	30
PSFT35/LP99	6400	3200	1700	3900	2000	1100	2800	1400	800	35
PSFT40/LP99	9000	4500	2500	3900	2000	1100	3300	1600	900	40

Table 4 PST Life-Lube® take-up - housing load capacity

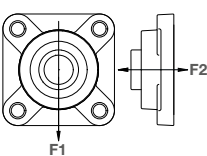
RHP designation	Maximum housing load (N) at 20°C		
	U		
	Intermittent loading	Continuous loading	Cyclical loading
PST20/LP99	5700	2800	1600
PST25/LP99	5400	2700	1500
PST30/LP99	8100	4000	2300
PST35/LP99	7800	3900	2200
PST40/LP99	8100	4000	2300

Note that there is no maximum fixing bolt torque applicable for take-up units.

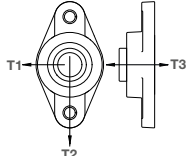
PNP Series



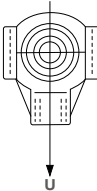
PSF Series



PSFT Series

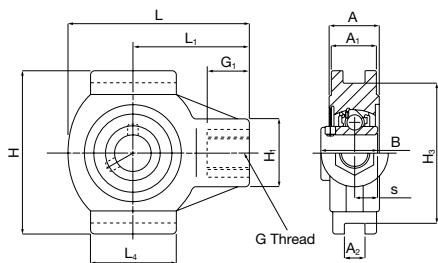


PST Series



Unit dimensions

Table 4: PST/LP99 Life-Lube® take up - unit dimensions



PST/LP99 Series

Shaft diameter mm	RHP designation	Basic insert	Housing group	Dimensions (mm)				
				L	L ₁	L ₄	H	H ₁
20	PST20/LP99	F-UC204/LP99	2	99.0	64.0	47.0	88.0	35.0
25	PST25/LP99	F-UC205/LP99	3	99.0	64.0	47.0	88.0	35.0
30	PST30/LP99	F-UC206/LP99	4	125.0	76.0	63.0	102.0	40.0
35	PST35/LP99	F-UC207/LP99	5	125.0	76.0	63.0	102.0	40.0
40	PST40/LP99	F-UC208/LP99	6	140.0	85.0	80.0	114.0	40.0