One-way clutches

TECHNICAL SUPPLEMENT T060

PRODUCT INFORMATION P061 - 062

1. Bearing materials

SLB Series HF one-way clutches have an outer ring formed by precision drawing of thin steel plate, and are capable of a clutching function only. In order to carry a radial load and rotate smoothly, a one-way clutch must have bearings on both sides.

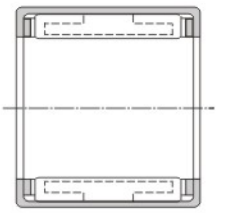


Fig. 1 Series HF

SLB Engineering.
All of **SLB**'s series HF one-way clutches use a polyamide resin cage that supports a leaf spring. The leaf spring in turn forces the needle rollers to the wedge section formed between the outer ring cam way and the shaft.

2. Interpreting clutch numbers

Clutch numbers of **SLB** one-way clutches comprise a series number and dimension code.

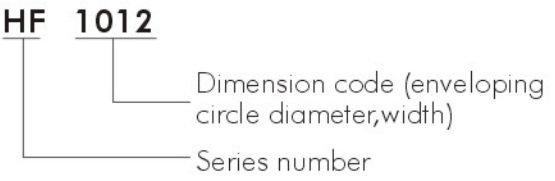


Fig. 2

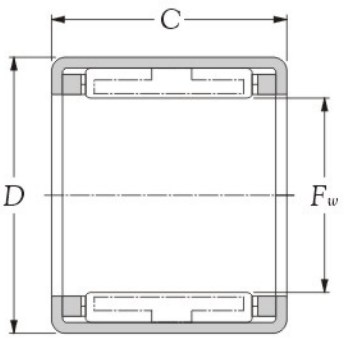
3. Lubrication

Oil is the best lubrication for **SLB** one-way clutches. However, they are supplied prefilled with adequate grease, as they are often grease-lubricated. Under normal operating conditions, this grease does not need replenishment. Note, however, that excessive grease can inhibit reliable clutch operation.

4. Mounting practices

Using a press-fit mandrel is convenient when assembling one-way clutch as illustrated in Fig.7. With series HF besure to press-fit the clutch with its inscription side placed onto the shoulder on the mandrel. With series HFL, it is important to press-fit the clutch by using a special tool that presses the outer ring without pressing the oil retaining bearing. When assembling, be sure not to pry the outer ring or directly hit the outer ring with a hammer. Be sure place the appropriate tool on the face of the outer ring when press-fitting the clutch. When mass-producing clutches with a press, using a mandrel equipped with an O-ring facilitates insertion of the one-way clutch by keeping it from falling out. Turning the shaft in the direction in which the clutch slips facilitates the assembly. If this can't be done, providing a tapered guide (chamfered) on the shaft end will also facilitate assembly.

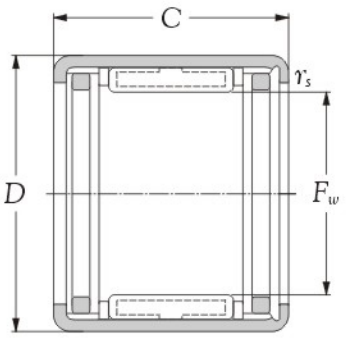
Transmission direction (direction of engagement)
The clutch is engaged when the outer ring (housing) is turned relative to the shaft in the direction indicated by the arrow mark.
With the series HF clutch, the mark is on the rib of the outer ring.



Inner bore F_w mm	Bearing number	Principal dimensions D mm	Principal dimensions C mm	Torque capacity N • m Md	Torque capacity kgf • m Md	Part number by radial load needle roller bearing	Part number by radial load oil retaining bearing	Weight kg.
6	HF 0612	10	12	1.76	0.18	HK 0609 T2	B-S 6-22	0.0030
8	HF 0812	12	12	3.15	0.32	HK 0810	B-S 8-25	0.0035
10	HF 1012	14	12	5.30	0.54	HK 1010	B-S 10-21	0.0040
12	HF 1216	18	16	12.20	1.24	HK 1212	B-S 12-32	0.0116
14	HF 1416	20	16	17.30	1.76	HK 1412	B-S 14-13	0.0130
16	HF 1616	22	16	20.50	2.09	HK 1612	B-S 16-13	0.0140
18	HF 1816	24	16	24.10	2.46	HK 1812	B-S 18-8	0.0155
20	HF 2016	26	16	28.50	2.91	HK 2012	B-S 20-19	0.0170
25	HF 2520	32	20	66.00	6.73	HK 2512	B-S 25-11	0.0309
30	HF 3020	37	20	90.00	9.18	HK 3012	B-S 30-19	0.0360
35	HF 3520	42	20	121.00	12.30	HK 3512	B-S 35-7	0.0400

Technical supplement

Cages		*Precision*	*Grease*
Steel-	X		
Polymid-	TV	Normal (ISO)	Nil
Brass -	X		



Inner bore F_w	Bearing number	Principal dimensions		Basic load ratings		Limiting speed		Rotation torque
				dynamic	static			
		D	C	C	Co	n	nl**	
mm		mm		N		rpm		Nm
4	HFL 0408	8	8	1270	1740	34000	14000	0.34
6	HFL 0615	10	15	1650	2030	23000	13000	1.76
8	HFL 0822	12	22	4050	4150	17000	12000	3.15
10	HFL 1022	14	22	4300	4650	14000	11000	5.30
12	HFL 1226	18	26	6300	6500	11000	8000	12.20
14	HFL 1426	20	26	6300	6500	9500	8000	17.30
16	HFL 1626	22	26	7300	8400	8500	7500	20.50
18	HFL 1826	24	26	8200	10300	7500	7500	24.10
20	HFL 2026	26	26	8300	10400	7000	6500	28.50
25	HFL 2530	32	30	10900	14100	5500	5500	66.00
30	HFL 3030	37	30	12600	17600	4500	4500	90.00
35	HFL 3530	42	30	13000	19300	3900	3900	121.00

Technical supplement

Cages		Precision	Grease
Steel-	X		
Polymid-	TV	Normal (ISO)	Nil
Brass -	X		