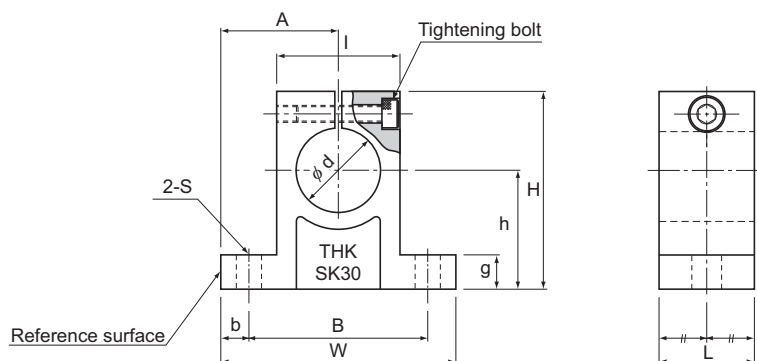


Model SK



Unit: mm

Model No.	Main dimensions														Mass g
	H	W	L	B	S	Mounting bolt model No.	h ±0.02	A ±0.05	b	g	l	Shaft diameter d	Tightening bolt model No.		
SK 10	32.8	42	14	32	5.5	M5	20	21	5	6	18	10	M4	24	
SK 12	37.5	42	14	32	5.5	M5	23	21	5	6	20	12	M4	30	
SK 13	37.5	42	14	32	5.5	M5	23	21	5	6	20	13	M4	30	
SK 16	44	48	16	38	5.5	M5	27	24	5	8	25	16	M4	40	
SK 20	51	60	20	45	6.6	M6	31	30	7.5	10	30	20	M5	70	
SK 25	60	70	24	56	6.6	M6	35	35	7	12	38	25	M6	130	
SK 30	70	84	28	64	9	M8	42	42	10	12	44	30	M6	180	
SK 35	83	98	32	74	11	M10	50	49	12	15	50	35	M8	270	
SK 40	96	114	36	90	11	M10	60	57	12	15	60	40	M8	420	

Note: The seating surfaces for the mounting bolts of the Model SK are machined to be spotfaces.

Standard LM Shafts

THK manufactures high quality, dedicated LM shafts for linear bushings.

(1) [Major materials]

SUJ2 (high-carbon chromium bearing steel)

THK5SP (THK standard material)

SUS440C equivalent

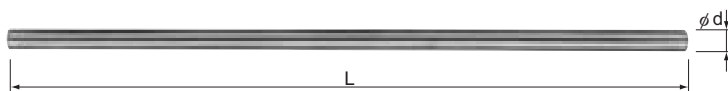
[Hardness] 58 to 64 HRC (SUJ2, THK5SP), 56 HRC or above (SUS440C or equivalent)

[Hardened layer depth] 0.8 to 2.5 mm (varies with shaft diameter)

[Surface roughness] Ra 0.4 or less

[Straightness of the LM shaft] 50 μm /300 mm or less

(2) Precision-grade LM shafts with shaft diameter tolerance of g5 or h5 are also manufactured as standard.



Unit: mm

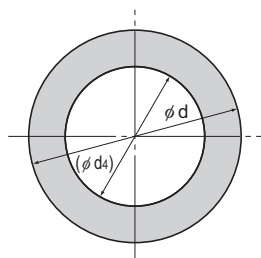
Model No.	Shaft diameter		Manufactured length L	
	d	Tolerance g6 μm	Min length	Max length
SF 3	3	-2 -8	20	400
SF 4	4	-4 -12	20	400
SF 5	5		20	500
SF 6	6	-5 -14	20	1500
SF 8	8		20	1500
SF 10	10	-6 -17	30	1500
SF 12	12		30	1500
SF 13	13		30	1500
SF 16	16	-7 -20	40	3000
SF 20	20		40	3000
SF 25	25		50	3000
SF 30	30		60	3000
SF 35	35	-9 -25	70	3000
SF 38 ¹	38		100	3000
SF 40	40		100	3000
SF 50	50		100	3000
SF 60 ¹	60	-10 -29	200	3000
SF 80 ¹	80		200	3000
SF 100 ¹	100	-12 -34	200	3000

¹ Made to order

[Dimensions of Hollow LM Shafts]

If a hollow LM shaft is required for purposes such as weight reduction, use the desired material from Table1 for the dimensions of hollow LM shafts that THK keeps in stock.

Table1 Dimensions of Hollow LM Shafts Unit: mm



Supported model numbers	LM shaft outer diameter d	Inner diameter (ϕd_1)	Mass (kg/m)	
			Solid shaft	Hollow shaft
LM 8	8	3	0.4	0.34
LM 10	10	4	0.62	0.52
LM 12	12	6	0.89	0.67
LM 13	13	7	1.05	0.75
LM 16	16	9	1.59	1.09
LM 20	20	10	2.47	1.86
LM 20	20	14	2.47	1.26
LM 25	25	15	3.86	2.47
LM 30	30	16	5.56	3.98
LM 35	35	20	7.57	5.1
* LM 38	38	22	8.92	5.93
LM 40	40	22	9.88	6.89
LM 50	50	25	15.5	11.6
LM 60	60	32	22.3	16
* LM 80	80	52.5	39.6	22.5
* LM 100	100	67.5	61.8	33.7

Notes: Models marked with "*" are build-to-order items.
The inner diameter of the hollow LM shaft is left raw and not machined.
There is a possibility of rust occurring, as the surface is not treated.

Model number coding

SF25 g6 -500L K

Model number

LM shaft outer diameter tolerance

Overall LM shaft length (in mm)

Special symbol¹

no symbol: solid shaft K: standard hollow shaft

M: special material F: with surface treatment

¹ If two or more symbols are given, they are shown in an alphabetical order.

Specially Machined Types

THK also supports special machining processes such as tapping, milling, threading, through hole and end journals, as shown in Fig. 1, at your request.

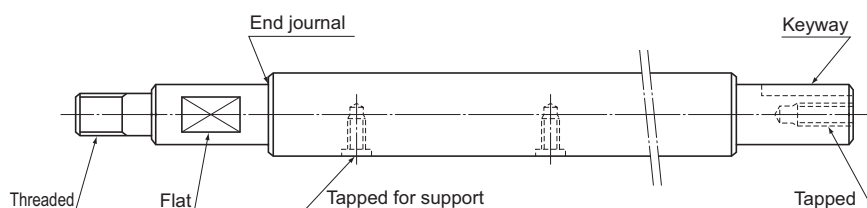


Fig. 1

Dedicated Shafts

As the dedicated shafts for linear bushings come into direct contact with the ball bearings, the manufacturing tolerances for hardness, surface roughness, and the dimensional precision of the shaft are tight.

When manufacturing dedicated shafts, the surface hardness of the shaft will have a large impact on the overall service life. Check the following material and heat treatment specifications.

[Material]

Generally, the following materials are used for surface hardening through induction-hardening.

- SUJ2 (JIS G 4805: high-carbon chromium bearing steel)
- SK3 to 6 (JIS G 4401: carbon tool steel)
- S55C (JIS G 4051: carbon steel for machine structural use)

For special applications, martensite stainless steel SUS440C, which is corrosion resistant, may also be used.

[Hardness]

We recommend surface hardness of 58 HRC (≈ 653 HV) or higher. The depth of the hardened layer is determined by the size of the Linear Bushing; we recommend approximately 2 mm for general use.

[Surface Roughness]

To achieve smooth motion, the surface should preferably be finished to Ra0.40 or less.

Table of Rows of Balls and Masses for Clearance-adjustable Types and Open Types of the Linear Bushing

Shaft diameter	Clearance-adjustable Type			Open Type		
	Model No.	Rows of balls	Mass g	Model No.	Rows of balls	Mass g
6	LM 6-AJ	4	7.8	—	—	—
8	LM 8S-AJ	4	10	—	—	—
	LM 8-AJ	4	14.7	—	—	—
10	LM 10-AJ	4	29	—	—	—
12	LM 12-AJ	4	31	—	—	—
13	LM 13-AJ	4	42	LM 13-OP	3	34
16	LM 16-AJ	5(4)	68	LM 16-OP	4(3)	52
20	LM 20-AJ	5	85	LM 20-OP	4	69
25	LM 25-AJ	6(5)	216	LM 25-OP	5(4)	188
30	LM 30-AJ	6	245	LM 30-OP	5	210
35	LM 35-AJ	6	384	LM 35-OP	5	350
38	LM 38-AJ	6	475	LM 38-OP	5	400
40	LM 40-AJ	6	579	LM 40-OP	5	500
50	LM 50-AJ	6	1560	LM 50-OP	5	1340
60	LM 60-AJ	6	1820	LM 60-OP	5	1650
80	LM 80-AJ	6	4320	LM 80-OP	5	3750
100	LM 100-AJ	6	8540	LM 100-OP	5	7200
120	LM 120-AJ	8	14900	LM 120-OP	6	11600

Note: The numbers of ball rows in the table apply to types using a resin retainer. Those of types using a metal retainer are indicated in parentheses.