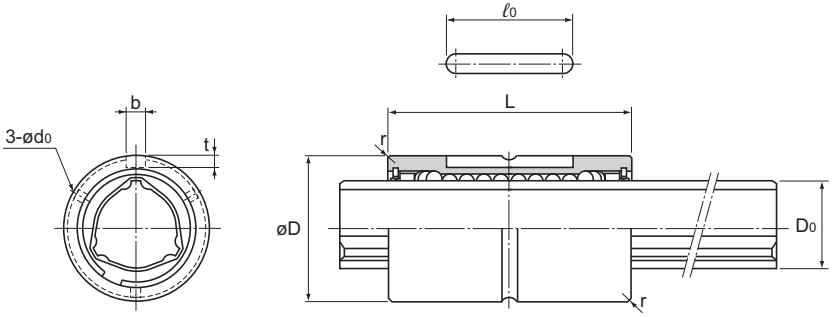
Model LBS (Medium-Load Type)



Model No.	Spline nut dimensions												
	Outer diameter		Length					Keyway dimensions					
	D	Tolerance	L	Tolerance	L_2	L_3	D_2	b H8	t +0.1 0	ℓ_0	r	C
LBS 15	23	0 −0.013	40	0 −0.2	—	—	—	3.5	2	20	0.5	—
○● LBS 20	30	0 −0.016	50		—	—	—	4	2.5	26	0.5	—
○● LBS 25	37		60	0 −0.3	—	—	—	5	3	33	0.5	—
○● LBS 30	45		70		—	—	—	7	4	41	1	—
○● LBS 40	60	0 −0.019	90		—	—	—	10	4.5	55	1	—
○● LBS 50	75		100		—	—	—	15	5	60	1.5	—
○● LBS 70	100	0 −0.022	110		—	—	—	18	6	68	2	—
○● LBS 85	120		140	0 −0.4	—	—	—	20	7	80	2.5	—
○● LBS 100	140	0 −0.025	160		—	—	—	28	9	93	3	—

○: Indicates model numbers able to handle high temperatures (with metal retainers, the operating temperature is up to 100°C).
Compatible model numbers: LBS20 to 100

(Example) LBS20 A CL+500L H
High temperature symbol

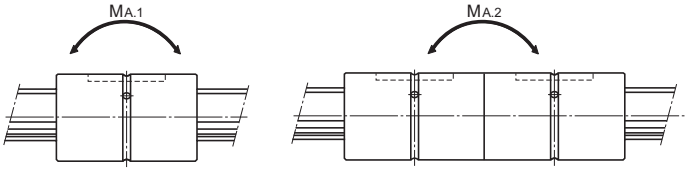
●: Indicates model numbers compatible with felt seals. Compatible model numbers: LBS20 to 100
Felt seals cannot be attached to ball spline models using metal retainers.
When equipping felt seals, the length dimensions of the nuts will change.

Model number coding

2 LBS40 UU CL +1000L P K

- 2: Number of spline nuts on one shaft (no symbol for one nut)
- LBS40: Model No.
- UU: Contamination protection accessory symbol [1]
- CL: Symbol for clearance in the rotational direction [2]
- +1000L: Overall spline shaft length[5] (in mm)
- P: Accuracy symbol [3]
- K: Symbol for spline shaft[4]

[1] See A3-128. [2] See A3-32. [3] See A3-37. [4] See A3-71. [5] See A3-123.



Unit: mm

	Lubrication hole	Spline shaft outer diameter		Basic torque rating		Basic load rating (radial)		Static permissible moment		Mass	
	d_0	D_0	d_5	C_T N·m	C_{0T} N·m	C kN	C_0 kN	$M_{A.1}$[1] N·m	$M_{A.2}$[2] N·m	Spline nut kg	Spline shaft kg/m
	2	14.5	—	30.4	74.5	4.4	8.4	25.4	185	0.06	1
	2	19.7	—	74.5	160	7.8	14.9	60.2	408	0.14	1.8
	2	24.5	—	154	307	13	23.5	118	760	0.25	2.7
	3	29.6	—	273	538	19.3	33.8	203	1,270	0.44	3.8
	3	39.8	—	599	1,140	31.9	53.4	387	2,640	1	6.8
	4	49.5	—	1,100	1,940	46.6	73	594	4,050	1.7	10.6
	4	70	—	2,190	3,800	66.4	102	895	6,530	3.1	21.3
	5	84	—	3,620	6,360	90.5	141	2,000	12,600	5.5	32
	5	99	—	5,190	12,600	126	237	3,460	20,600	9.5	45

[1] $M_{A.1}$ indicates the permissible moment value in the axial direction when a single spline nut is used.
[2] $M_{A.2}$ indicates the allowable moment load value in the axial direction when using two spline nuts in contact with each other.
Note: For details on the maximum lengths of ball spline shafts by accuracy, please see A3-123.

Options⇒A3-128

Accessories

Ball spline models LBS and LBST are provided with a standard key as indicated in Table 6.

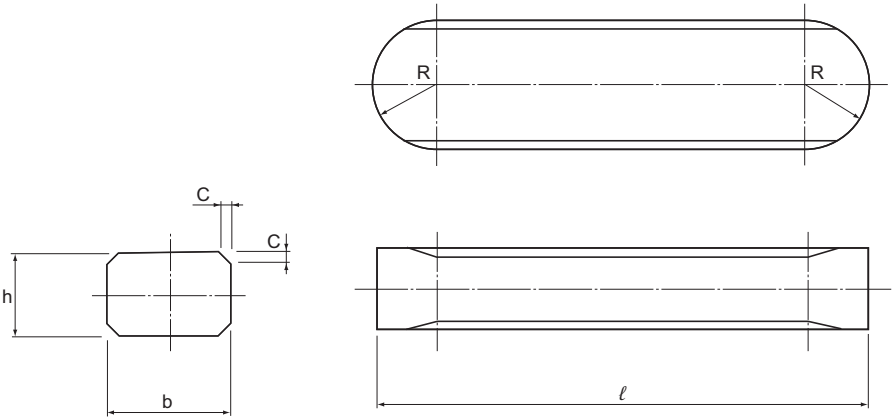


Table 6: Standard Keys for Models LBS and LBST

Unit: mm

Nominal shaft diameter	Width		Height		Length		R	C
	b	Tolerance (p7)	h	Tolerance (h9)	ℓ	Tolerance (h12)		
LBS 15	3.5	+0.024 +0.012	3.5	0 –0.030	20	0 –0.210	1.75	0.5
LBS 20 LBST 20	4		4		26		2	
LBS 25 LBST 25	5		5		33	0 –0.250	2.5	
LBS 30 LBST 30	7	+0.030 +0.015	7	0 –0.036	41		3.5	
LBS 40 LBST 40	10		8		55	0 –0.300	5	0.8
LBS 50 LBST 50	15	+0.036 +0.018	10		60		7.5	
LBST 60 LBS 70 LBST 70	18		12	0 –0.043	68		9	1.2
LBS 85 LBST 85	20	+0.043 +0.022	13		80	0 –0.350	14	
LBS 100 LBST 100	28		18		93	0 –0.400	14	
LBST 120	28		18		123		14	
LBST 150	32	+0.051 +0.026	20	0 –0.052	157		16	2