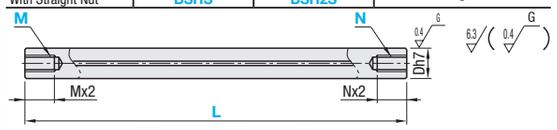
Ball Splines
Both Ends Tapped

■Both Ends Tapped

RoHS10

Both Ends Tapped	Spline Shafts M SUJ2 Equivalent M SCM415 Equivalent H Hardness: 58HRC~		Spline Shaft, Nut M Material: SUS440C Equivalent H Hardness: 55HRC~
	Nut 1 pc.	Nut 2 pcs.	Nut 1 pc.
With Round Flange Nut	BSHM	BSH2M	BASBFS
With Compact Flange Nut	BSHN	BSH2N	-
With Straight Nut	BSHS	BSH2S	-

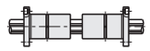


When selecting Overall Length (L Dimension), check the Annealing Range. P.340
Accuracy P.339 For the included nut, please select a shape from below.

Flanged Nut Orientation

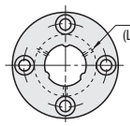
- 1 Nut Type

- 2 Nut Type

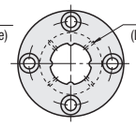


■Round Flange Nuts

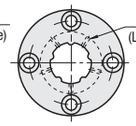
No.6, 8

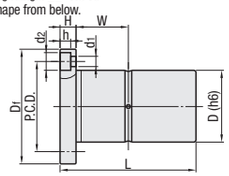


No.10, 13



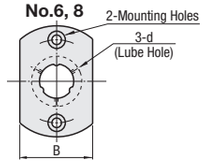
No.16, 20, 25, 30



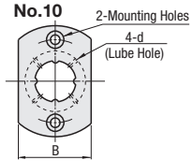


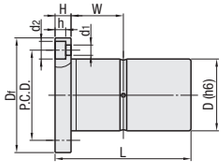
■Compact Flange Nuts

No.6, 8



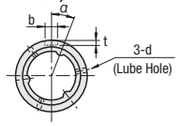
No.10



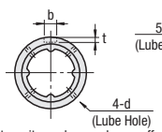


■Straight Nuts

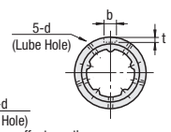
No.6, 8

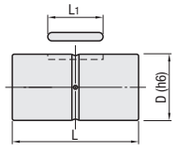


No.10, 13



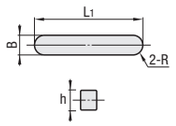
No.16, 20, 25, 30





* The key is press-fit into the nut.

A Dimension of Included Key



* Please refrain from machining the nuts as it may have adverse effects on the accuracy.

■Spline Shafts

Part Number Type	No.	L 1mm Increment 1-Nut Type	2-Nut Type	M (Coarse) / N (Coarse) Selection	D	Mass (kg/m)
BSHM BSHN BSHS BSH2M BSH2N BSH2S BASBFS	*6	60~400(190)	60~400	3	6	0.23
	*8	60~400(190)	60~400	3 4	8	0.39
	*10	60~600(390)	90~600	3 4 5	10.4	0.65
	*13	60~600(390)	100~600	4 5 6	13.4	1.11
	*16	70~600(390)	110~600	4 5 6 8	16.6	1.65
	20	80~700	130~700	5 6 8 10	20.6	2.57
	25	90~900	150~900	5 6 8 10 12	25.8	4.04
	30	100~1150	170~1150	6 8 10 12 16	30.8	5.85

For BASBFS, only * marked sizes are available, and the Max. L dimension is in ( ).
For BSHN and BSH2N, only No. 6, 8 and 10 are available.

■Round Flange Nuts, Compact Flange Nuts

No.	D(h6)	L	Df	H	P.C.D.	d1	d2	h	W	d	B	Basic Rated Torque Dynamic Ct (N·m)	Basic Rated Torque Static C0t (N·m)	Basic Load Rating Dynamic C (kN)	Basic Load Rating Static C0 (kN)	Allowable Static Moment M01 (N·m)	Allowable Static Moment M02 (N·m)	Mass (kg)
6	14	25	30	6	22	3.5	6	3.1	6.5	1.5	18	3.8	7	1.2	2.1	5	36	0.03
8	16		32		24						21	4.8	8.7	1.2	2.1	5	36	0.04
10	21	40(33)	42(41)	6(8)	32(30)	4.5	8	4.4(5.3)	14(8.5)		25	19(11)	34(21)	3.8(2.4)	6.9(4.3)	26(15)	181(102)	0.09
13	24	44(36)	44(45)	7(8)	33(34)				15(10)		-	28(20)	52(37)	4.6(3.3)	8.3(5.9)	36(22)	251(148)	0.11
16	31	50	51	7	40			4.4	18			51	93	6.2	11.1	56	386	0.2
20	35	63	58	9	45	5.5	9.5	5.4	22.5	2		85	154	8.5	15.3	83	611	0.3
25	42	71	65		52				26.5			193	348	15.4	27.7	173	1248	0.4
30	47	80	75	10	60	6.6	11	6.5	30	2.5		272	490	18.5	33.3	212	1581	0.57

Dimensions in ( ) are for SUS440C Equivalent. Allowable static moment M01 is a value measured when a single nut is used, and M02 is a value measured when two nuts are used.

■Straight Nuts

No.	D (h6)	L	b	Tolerance	t +0.05 0	d	α	Basic Rated Torque Dynamic Ct (N·m)	Basic Rated Torque Static C0t (N·m)	Basic Load Rating Dynamic C (kN)	Basic Load Rating Static C0 (kN)	Allowable Static Moment M01 (N·m)	Allowable Static Moment M02 (N·m)	Mass (kg)	B	Tolerance	h	Tolerance	L1	R
6	14	25	2.5	+0.014 0	1.2	1.5	15°	3.8	7	1.2	2.1	5	36	0.012	2.5	+0.016 +0.006	2.5	0 -0.025	10.5	1.25
8	16						25°	4.8	8.7	1.2	2.1	5	36	0.013					10.5	
10	21	40(33)	3		1.5		-	19(11)	34(21)	3.8(2.4)	6.9(4.3)	26(15)	181(102)	0.06	3		3		17(14)	1.5
13	24	44(36)						28(20)	52(37)	4.6(3.3)	8.3(5.9)	36(22)	251(148)	0.07					17(14)	
16	31	50	3.5		2			51	93	6.2	11.1	56	386	0.15	3.5		3.5		18	1.75
20	35	63	4	+0.018 0	2.5	2		85	154	8.5	15.3	83	611	0.2	4	+0.024 +0.012	4	0 -0.030	29	2
25	42	71						193	348	15.4	27.7	173	1248	0.29					33	
30	47	80				2.5		272	490	18.5	33.3	212	1581	0.37					42	

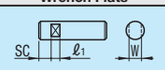
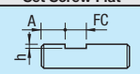
Dimensions in ( ) are for SUS440C Equivalent. Allowable static moment M01 is a value measured when a single nut is used, and M02 is a value measured when two nuts are used.

Part Number Type	No.	Unit Price Min. L ~150	L151 ~200	L201 ~300	L301 ~400	L401 ~500	L501 ~600	L601 ~700	L701 ~800	L801 ~900	L901 ~1000	L1001 ~1150
BSHM BSH2M Price of BSH2M = BSHM +Additional price shown below	6					-	-	-	-	-	-	-
	8					-	-	-	-	-	-	-
	10							-	-	-	-	-
	13							-	-	-	-	-
	16							-	-	-	-	-
	20								-	-	-	-
	25										-	-
	30											
BSHN BSH2N Price of BSH2N = BSHN + Additional price shown below	6					-	-	-	-	-	-	-
	8					-	-	-	-	-	-	-
	10							-	-	-	-	-
BSHS BSH2S Price of BSH2S = BSHS + Additional price shown below	6					-	-	-	-	-	-	-
	8					-	-	-	-	-	-	-
	10							-	-	-	-	-
	13							-	-	-	-	-
	16							-	-	-	-	-
	20								-	-	-	-
	25										-	-
	30											

Part Number Type	No.	Unit Price Min. L ~150	L151 ~200	L201 ~250	L251 ~300	L301 ~350	L351 ~390
BASBFS	6			-	-	-	-
	8			-	-	-	-
	10						
	13						
	16						

No.	Additional Price for 2-Nut Type Round Flange Nuts	Compact Flange Nuts	Straight Nuts
6			
8			
10			
13		-	
16		-	
20		-	
25		-	
30		-	

Alterations Part Number - L - M - N - (SC, FC)
BSHN10 - 270 - M5 - N5 - SC15

Alterations	Wrench Flats	Set Screw Flat
		
Code	SC	FC
Spec.	Adds a wrench flat. SC=1mm Increment SC+ℓ1≤L	Adds a set screw flat. Ordering Code FC10-A8 FC, A=1mm Increment FC≤3xD 1.5xD<FC >> FC≤L/2 A=0 or A≥2

No.	W	ℓ1
6	5	8
8	7	
10	8	
13	11	10
16	14	
20	17	
25	22	15
30	27	

No.	h
6	1
8	
10	
13	
16	
20	2
25	
30	

When selecting multiple alteration additions, more than 2 mm is needed between each feature to be added.

Ordering Example

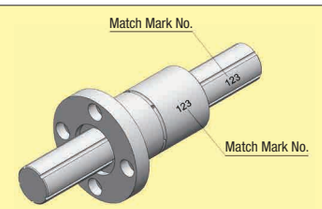
Part Number	-	L	-	M	-	N
BSHS8	-	270	-	M4	-	N4
BSHS8G	-	270	-	M4	-	N4
BSHS8L	-	270	-	M4	-	N4

Alternative grease types available.
For Days to Ship, Price and Performance, see P.340

Cautions for Ball Spline Assembly

■Check Assembly Position

Match Mark No.'s are entered on nuts and spline shafts (see diagram on right).
When re-assembling, match the character orientations of Match Mark No.'s, and positional relationship.

■Tolerance for Mating Bores

An H7 tolerance is recommended for mating bores for the spline nuts.