

Ball Splines

Both Ends Stepped and Tapped

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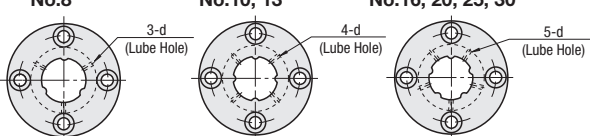


RoHS10

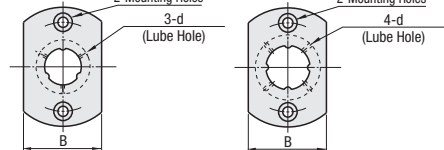
Both Ends Stepped and Tapped	Spline Shaft <input type="checkbox"/> SUS42 Equivalent Nut <input type="checkbox"/> SCM415 Equivalent <input type="checkbox"/> Hardness: 58HRC	Spline Shaft, Nut <input type="checkbox"/> Material: SUS440C Equivalent <input type="checkbox"/> Hardness: 55HRC
	Nut 1 pc.	
With Round Flange Nut	BSLM	BSLMS
With Compact Flange Nut	BSLN	-
With Straight Nut	BSLS	-

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.

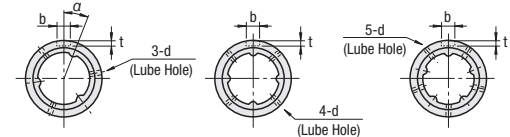
Round Flange Nuts



Compact Flange Nuts



Straight Nuts



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

Spline Shafts

Part Number	1mm Increment		P, Q Selection	M (Coarse) / N (Coarse) Selection (M+3<P, N+3<Q)	D	(Y) 1-Nut Type min-max	Mass (kg/m)	
	Type	No.						L
BSLM BSLN BSLS BSLMS	*8	60-400(190)	2<F<P<=5 2<E<Q<=5	6	3	8	56-396(186)	0.39
	*10	60-600(390)		6 8	3 4	10.4	56-596(386)	0.65
	*13	60-600(390)		6 8 10	3 4 5 6	13.4	56-596(386)	1.11
	*16	70-600(390)		6 8 10 12 13	3 4 5 6 8 10	16.6	66-596(386)	1.65
	20	80-700		8 10 12 13 15 16	4 5 6 8 10 12	20.6	76-696	2.57
	25	90-900		8 10 12 13 15 16 20	4 5 6 8 10 12 16	25.8	86-896	4.04
	30	100-1150		10 12 13 15 16 20 25	4 5 6 8 10 12 16 20	30.8	96-1146	5.85

For BSLMS, only * marked sizes are available, and the Max. L and Y dimensions are in ().
For BSLN, only No. 8 and 10 are available.

Round Flange Nuts, Compact Flange Nuts

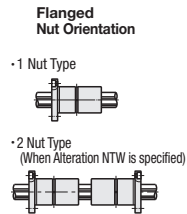
No.	D (h6)	L	Df	H	P.C.D.	d1	d2	h	W	d	B	Basic Rated Torque		Basic Load Rating		Allowable Static Moment		Mass (kg)
												Dynamic C _d	Static C _s	Dynamic C _d	Static C _s	M ₀₁ (N·m)	M ₀₂ (N·m)	
8	16	25	32	6	24	3.5	6	3.1	6.5	21	4.8	8.7	1.2	2.1	5	36	0.04	
10	21	40(33)	42(41)	6(8)	32(30)	4.4(5.3)	8	14(8.5)	15(10)	1.5	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)							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	8	18	22.5	2	-	51	93	6.2	11.1	56	386	0.2
20	35	63	58	9	45							85	154	8.5	15.3	83	611	0.3
25	42	71	65	9	52	6.6	11	5.4	26.5	2	-	193	348	15.4	27.7	173	1248	0.4
30	47	80	75	10	60							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	d	α	Basic Rated Torque		Basic Load Rating		Allowable Static Moment		Mass (kg)	Dimensions of Key (Included)				
								Dynamic C _d	Static C _s	Dynamic C _d	Static C _s	M ₀₁ (N·m)	M ₀₂ (N·m)		B	Tolerance	h	Tolerance	L1
8	16	25	2.5	+0.014	1.2	25°	4.8	8.7	1.2	2.1	5	36	0.013	2.5	+0.016	2.5	0	10.5	1.25
10	21	40(33)	3	0	1.5	1.5	19(11)	34(21)	3.8(2.4)	6.9(4.3)	26(15)	181(102)	0.07	3	+0.006	3	-0.025	17(14)	1.5
13	24	44(36)																	
16	31	50	3.5	+0.018	2	-	51	93	6.2	11.1	56	386	0.15	3.5	+0.024	4	0	18	1.75
20	35	63	85				154	8.5	15.3	83	611	0.2							
25	42	71	4	0	2.5	2.5	193	348	15.4	27.7	173	1248	0.29	4	+0.012	4	-0.030	33	2
30	47	80	272				490	18.5	33.3	212	1581	0.37							

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								
BSLM		8																			
		10																			
		13																			
		16																			
		20																			
		25																			
BSLN		8																			
		10																			
		13																			
		16																			
		20																			
		25																			
BSLS		8																			
		10																			
		13																			
		16																			
		20																			
		25																			

Part Number	Type	No.	Unit Price						Additional Price for 2-Nut Type												
			Min. L ~150	L151 ~200	L201 ~250	L251 ~300	L301 ~350	L351 ~390	Round Flange Nuts	Compact Flange Nuts	Straight Nuts										
BSLMS		8																			
		10																			
		13																			
		16																			
		20																			
		25																			

Alterations Part Number - L - F - E - P - Q - M - N - (SC, FC, NTW)
BSLM13 - 250 - F25 - E10 - P10 - Q8 - M5 - N5 - SC15

Alterations	Wrench Flats	Set Screw Flat	Additional Spline Nuts
	Code	SC	FC
Spec.	Adds a wrench flat. SC=1mm Increment SC+ℓ1<Y	Adds a set screw flat. Ordering Code FC10-A8 FC, A=1mm Increment FC<3xD When 1.5xD<FC, FC<Y/2 A=0 or A<2	Adds a nut. (from one nut to two nuts) Only available for BSLS, BSLM and BSLN.

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

Ordering Example Part Number - L - F - E - P - Q - M - N
BSLM13 - 250 - F25 - E10 - P10 - Q8 - M5 - N5
BSLM13G - 250 - F25 - E10 - P10 - Q8 - M5 - N5
BSLM13L - 250 - F25 - E10 - P10 - Q8 - M5 - N5

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.

