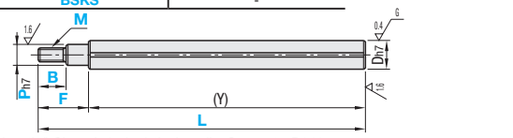
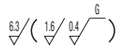
Ball Splines
One End Stepped and Threaded

■One End Stepped and Threaded

RoHS10

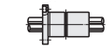
One End Stepped and Threaded	Spline Shafts M EN 1.3505 Equiv. Nut M EN 1.7242 Equiv. H Hardness: 58HRC ~	Spline Shaft, Nut M Material: EN 1.4125 Equiv. H Hardness: 55HRC ~
	Nut 1 pc.	Nut 1 pc.
With Round Flange Nut	BSKM	BSKMS
With Compact Flange Nut	BSKN	-
With Straight Nut	BSKS	-



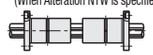


Flanged Nut Orientation

• 1 Nut Type



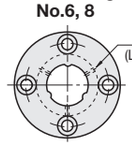
• 2 Nut Type (When Alteration NTW is specified)



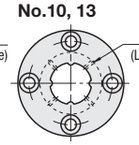
When selecting Overall Length (L Dimension), check the Annealing Range. P.340
Accuracy P.339 For the included nut, please select a shape from below.

■Round Flange Nuts

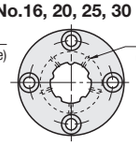
No.6, 8

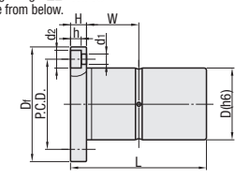


No.10, 13



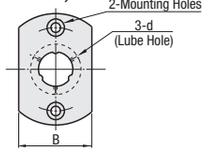
No.16, 20, 25, 30



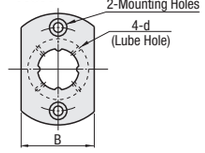


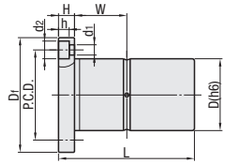
■Compact Flange Nuts

No.6, 8



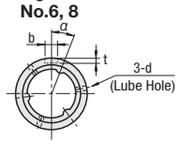
No.10



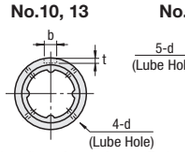


■Straight Nuts

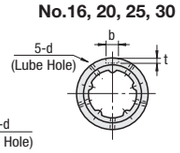
No.6, 8



No.10, 13

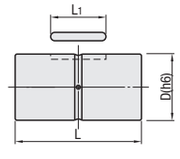


No.16, 20, 25, 30

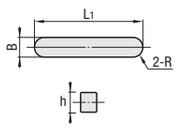


* Please refrain from machining the nuts as it may have adverse effects on the accuracy.

* The key is press-fit into the nut.



A Dimension of Included Key



■Spline Shafts

Part Number Type	No.	1mm Increment L 1-Nut Type	F	B	P Selection	M (Coarse) Selection (M≤P)	D	(Y) 1-Nut Type min~max	Mass (kg/m)
BSKM BSKN BSKS BSKMS	*6	60~400(190)	When P=3 4≤F≤9 When P=4 4≤F≤16 When P≥5 4≤F≤Px5 F≥B+2	When M=3 2≤B≤9 When M=4 2≤B≤16 When M≥5 2≤B≤Mx5 B≥Pitchx3+ℓ For Stainless Steel materials,M≤B≤Mx3	3 4 5	3 4 5	6	56~396(186)	0.23
	*8	60~400(190)			4 5 6	4 5 6	8	56~396(186)	0.39
	*10	60~600(390)			4 5 6 8	4 5 6 8	10.4	56~596(386)	0.65
	*13	60~600(390)			5 6 8 10	5 6 8 10	13.4	56~596(386)	1.11
	*16	70~600(390)			5 6 8 10 12 13	6 8 10 12	16.6	66~596(386)	1.65
	20	80~700			8 10 12 13 15 16 20	6 8 10 12 16	20.6	76~696	2.57
	25	90~900			8 10 12 13 15 16 20	6 8 10 12 16 20	25.8	86~896	4.04
	30	100~1150			10 12 13 15 16 20 25	8 10 12 16 20 24	30.8	96~1146	5.85

For BSKMS, only * marked sizes are available, and the Max. L and Y dimensions are in ( ).
For BSKN, 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 Cot (N·m)	Basic Load Rating Dynamic C (kN)	Basic Load Rating Static Co (kN)	Allowable Static Moment Mo1 (N·m)	Allowable Static Moment Mo2 (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 EN 1.4125 Equiv. Allowable static moment Mo1 is a value measured when a single nut is used, and Mo2 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 Cot (N·m)	Basic Load Rating Dynamic C (kN)	Basic Load Rating Static Co (kN)	Allowable Static Moment Mo1 (N·m)	Allowable Static Moment Mo2 (N·m)	Mass (kg)	Dimensions of Key (Included) 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		+0.024 +0.012		0 -0.030	29	2
25	42	71						193	348	15.4	27.7	173	1248	0.29	4		4		33	
30	47	80				2.5		272	490	18.5	33.3	212	1581	0.37					42	

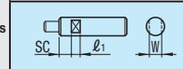
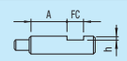
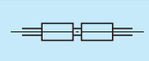
Dimensions in ( ) are for EN 1.4125 Equiv. Allowable static moment Mo1 is a value measured when a single nut is used, and Mo2 is a value measured when two nuts are used.

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
BSKM	6					-	-	-	-	-	-	-
	8					-	-	-	-	-	-	-
	10							-	-	-	-	-
	13							-	-	-	-	-
	16							-	-	-	-	-
	20								-	-	-	-
	25										-	-
	30											
BSKN	6					-	-	-	-	-	-	-
	8					-	-	-	-	-	-	-
	10							-	-	-	-	-
BSKS	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
BSKMS	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 - F - B - P - M - (SC, FC, NTW)
Example: BSKS8 - 250 - F20 - B15 - P6 - M6 - SC15

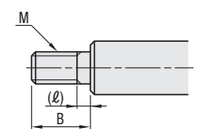
Alterations	Wrench Flats	Set Screw Flat	Additional Spline Nuts
			
Code	SC	FC	NTW
Spec.	Adds a wrench flat. SC=1mm Increment SC+ℓ1≤L	Adds a set screw flat. Ordering Code FC10-A8 FC, A=1mm Increment FC≤3xD When 1.5xD<FC, FC≤Y/2 A=0 or A≥2	Adds a nut. (from one nut to two nuts) Applicable to BSKS, BSKM and BSKN only.

No.	W	ℓ1
6	5	8
8	7	
10	8	10
13	11	
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 2mm is needed between each feature to be added.

Incomplete Thread Dimensions



M	(ℓ)
6 or Less	2
8, 10	3
12 or More	5

Ordering Example

Part Number	L	F	B	P	M
BSKS8	250	F20	B15	P6	M6
BSKS8G	250	F20	B15	P6	M6
BSKS8L	250	F20	B15	P6	M6

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.