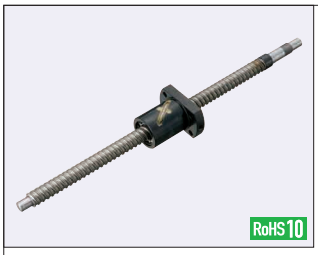
Rolled Ball Screws - Shaft Ends Configurable

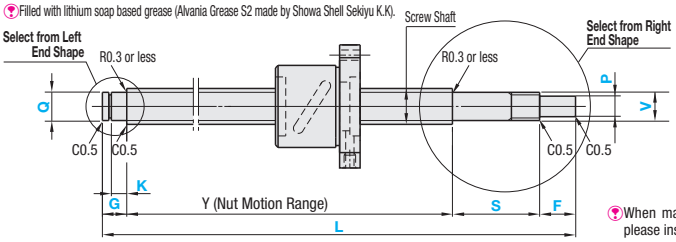
Accuracy Grade C10



Nut Type	Type	Screw Shaft			Nut		
		M Material	H Hardness	S Surface Treatment	M Material	H Hardness	S Surface Treatment
Standard Nut	FBSSR	S55C	Induction Hardened 56 ~ 62HRC	Phosphate Conversion Coating	SCM420	Carburized 58~62HRC	Low Temperature Black Chrome (Screw Shafts 8 and 10 are applied with Phosphate Conversion Coating)
	FBSSZ			-			

V	Tolerance
6	-0.002 -0.007
8	-0.002 -0.008
10	-0.002 -0.015
12, 15	-0.003 -0.018
20, 25	-0.004 -0.021

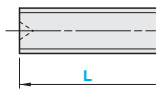
Filled with lithium soap based grease (Alvania Grease S2 made by Showa Shell Sekiyu K.K).



When mating with support units, please insert a collar.

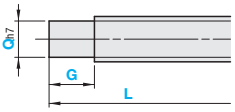
Left (Support Side) Shaft End Shape

A No Machining on the Shaft End

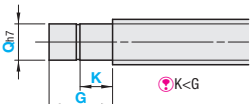


With a Centering Hole

B Stepped Machining

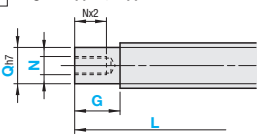


C Single Stepped, Retaining Ring Groove

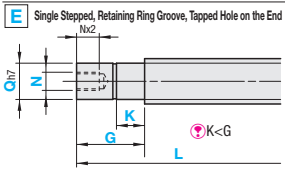


K<G

D Single Stepped, Tapped Hole on the End

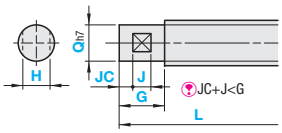


E Single Stepped, Retaining Ring Groove, Tapped Hole on the End



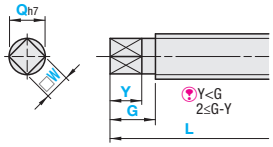
K<G

F Single Stepped, Wrench Flats



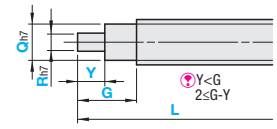
JC+J<G

G Single Stepped, Square End



Y<G
2≤G-Y

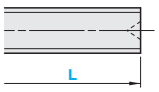
H Double Stepped End Machining



Y<G
2≤G-Y

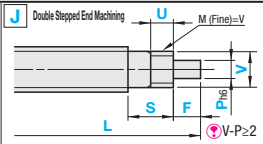
Right (Fixed Side) Shaft End Shape

A No Machining on the Shaft End



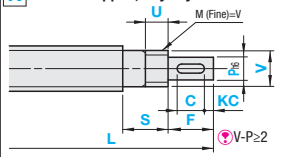
With a Centering Hole

J Double Stepped End Machining



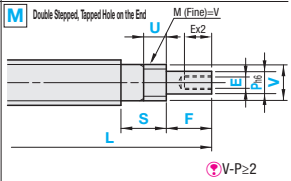
V-P≥2

K Double Stepped, Keyway



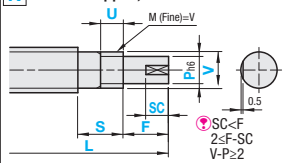
V-P≥2

M Double Stepped, Tapped Hole on the End



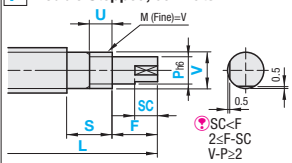
V-P≥2

N Double Stepped, One Flat



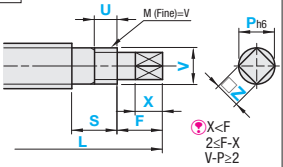
SC<F
2≤F-SC
V-P≥2

P Double Stepped, 90° Flats



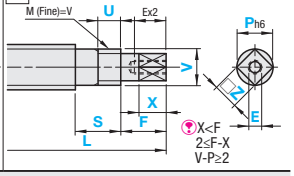
SC<F
2≤F-SC
V-P≥2

R Double Stepped, Square End



X<F
2≤F-X
V-P≥2

S Double Stepped, Tapped Hole, Square End



X<F
2≤F-X
V-P≥2

For ball nut dimensions and specifications, refer to each product's page. Shaft Dia. 8 P.689, 10 P.695, 12 P.701, 14 P.701, 15 P.707, 20 P.713, 25 P.719, 28 P.723, 32 P.723

When combining the left end shape F, G with the right end shape K, N, P, R, S, there is no angular phase relationship.

Part Number - L - F - P - S - V - U - C - KC - E - SC - X - Z - G - Q - K - N - J - JC - H - Y - W - R -(RLC, SZC)

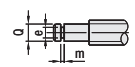
FBSSZDJ2010 - 1200 - F36 - P12 - S60 - V15 - U15 - G20 - Q15 - N10 -RLC

Alterations	Code	Spec.
Ball Nut Orientation Reversed (Left Shaft) (Right Shaft) Std. Revised	RLC	Changes the nut direction. Ordering Code RLC
Wrench Flats on Fixed Side	SZC	Adds wrench flats on the shaft right end. Ordering Code SZC. Ball bearings will fall out if the ball nut crosses the wrench flats.

Shaft Dia.	Z	ZC	S	ℓ
8	4	4	5	18
10	5	5	8	20
12	5	5	8	20
14	5	7	10	22
15	5	7	10	22
20	6	9	16	25
25	7	10	18	27
28	8	11	21	29
32	9	13	27	32

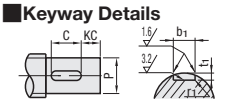
ℓ indicates incomplete hardened area.

Retaining Ring Groove Details



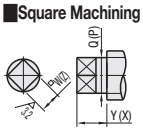
Q	e Tolerance	m +0.14 0
6	5.7	0.8
8	7.6	0 -0.06	0.9
10	9.6	0 -0.09	1.15
12	11.5	0 -0.11	
15	14.3		
20	19	0 -0.21	1.35
25	23.9		

Keyway Details



Applicable Shaft and Hole Dia. P	Key Groove Dimension b1 Reference Dim.	b1 Tolerance (N9)	t1 Reference Dim.	t1 Tolerance	r1
6, 7	2	-0.004 -0.029	1.2	+0.1 0	0.08 ~0.16
8~10	3		1.8		
11, 12	4	0 -0.030	2.5		
13~17	5		3.0		0.16 ~0.25
18~22	6		3.5		
23	8	0 -0.036	4.0	+0.2 0	

Square Machining Details



Q(P)	W(2) 1mm Increment
6~10	5~ 8
11~14	8~10
15~19	10~14
20~25	14~20

(Q(P)/2)√2≥W (2) Chamfering may not be available depending on the relationship between Q(P) and W(2).

V (Fine) Details

M	Pitch
6	0.75
8	1.0
10	1.0
12	1.0
15	1.0
20	1.0
25	1.5