


Rolled Ball Screws - Shaft Ends Configurable

Accuracy Grade C10

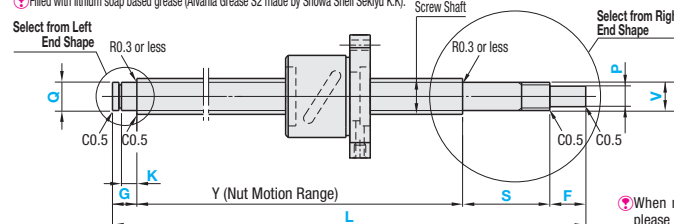


Nut Type	Type	Screw Shaft			Nut			V	Tolerance
		Material	Hardness	Surface Treatment	Material	Hardness	Surface Treatment		
Standard Nut	FBSSR	EN 1.1203 Equiv.	Induction Hardened 56 ~ 62HRC	Phosphate Conversion Coating	EN 1.7264 Equiv.	Carburized 58~62HRC	Low Temperature Black Chrome	6	-0.002 -0.007
	FBSSZ						(Screw Shafts 8 and 10 are applied with Phosphate Conversion Coating)	8	-0.002 -0.008
								10	-0.002 -0.015
								12, 15	-0.003 -0.018
								20, 25	-0.004 -0.021

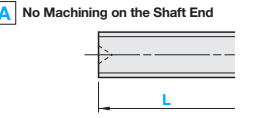
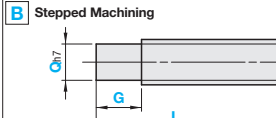
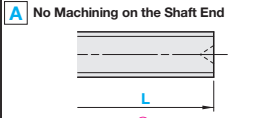
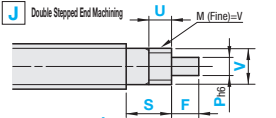
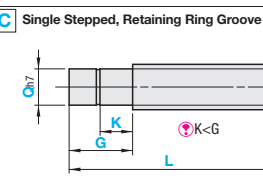
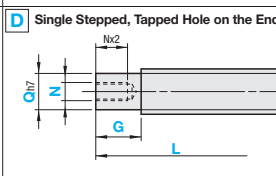
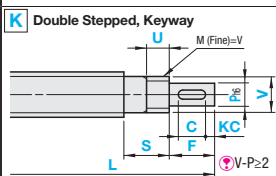
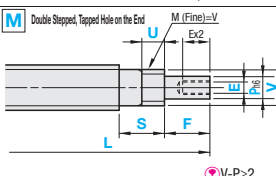
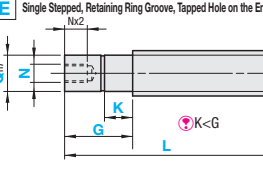
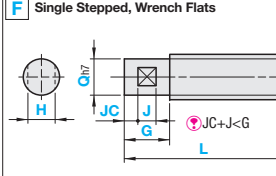
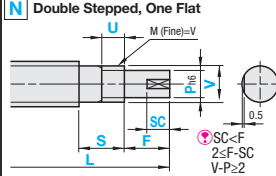
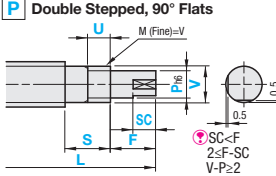
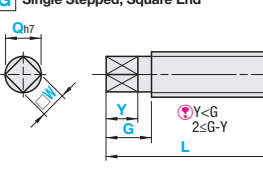
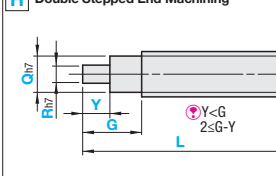
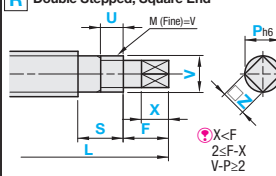
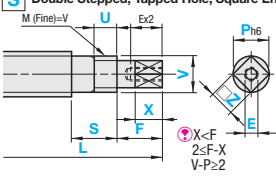
Ⓢ Filled with lithium soap based grease (Alvania Grease S2 made by Showa Shell Sekiyu K.K.).

Select from Left End Shape

Select from Right End Shape



When mating with support units, please insert a collar.

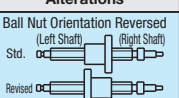
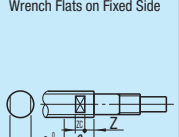
Left (Support Side) Shaft End Shape		Right (Fixed Side) Shaft End Shape	
A No Machining on the Shaft End 	B Stepped Machining 	A No Machining on the Shaft End 	J Double Stepped End Machining 
C Single Stepped, Retaining Ring Groove 	D Single Stepped, Tapped Hole on the End 	K Double Stepped, Keyway 	M Double Stepped, Tapped Hole on the End 
E Single Stepped, Retaining Ring Groove, Tapped Hole on the End 	F Single Stepped, Wrench Flats 	N Double Stepped, One Flat 	P Double Stepped, 90° Flats 
G Single Stepped, Square End 	H Double Stepped End Machining 	R Double Stepped, Square End 	S Double Stepped, Tapped Hole, Square End 

For ball nut dimensions and specifications, refer to each product's page. Shaft Dia. 8 **P689**, 10 **P695**, 12 **P701**, 14 **P701**, 15 **P707**, 20 **P713**, 25 **P719**, 28 **P723**, 32 **P723**

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)**

FBSSZJ2010 - 1200 - F36 - P12 - S60 - V15 - U15 - G20 - Q15 - N10 - RLC

Alterations	Code	Spec.																																																		
Ball Nut Orientation Reversed (Left Shaft (Right Shaft) Std.) 	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. <table border="1"> <thead> <tr> <th>Shaft Dia.</th> <th>Z</th> <th>ZC</th> <th>S</th> <th>ℓ</th> </tr> </thead> <tbody> <tr><td>8</td><td>4</td><td>4</td><td>5</td><td>18</td></tr> <tr><td>10</td><td>5</td><td>5</td><td>8</td><td>20</td></tr> <tr><td>12</td><td>5</td><td>5</td><td>8</td><td>20</td></tr> <tr><td>14</td><td>5</td><td>7</td><td>10</td><td>22</td></tr> <tr><td>15</td><td>5</td><td>7</td><td>10</td><td>22</td></tr> <tr><td>20</td><td>6</td><td>9</td><td>16</td><td>25</td></tr> <tr><td>25</td><td>7</td><td>10</td><td>18</td><td>27</td></tr> <tr><td>28</td><td>8</td><td>11</td><td>21</td><td>29</td></tr> <tr><td>32</td><td>9</td><td>13</td><td>27</td><td>32</td></tr> </tbody> </table> ℓ indicates incomplete hardened area.	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
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																																																

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

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

Q(P)	W(Z)	1mm Increment	M	Pitch
6-10	5-8	8	6	0.75
11-14	8-10	10	8	1.0
15-19	10-14	12	10	1.0
20-25	14-20	15	12	1.0
		20	15	1.0
		25	20	1.0
			25	1.5

Accuracy Grade	Part Number			Screw Shaft O.D.	Lead	1mm Increment													Selection		1mm Increment							Selection			
	Type	Left End Support Side	Right End Fixed Side			L	F	P	S	U	C	KC	SC	X	Z	V	E (Coarse)	G	K	J	C	H	Y	R	W	Q	N (Coarse)				
C10	FBSSR FBSSZ	A B C D E F G H	A J K M N P R S	08	02	100-400																			6	-					
				08	04	100-380																									
				10	02	150-585																									
				10	04	150-600																									
				10	10	150-585																									
				12	04	150-800																									
				12	10	150-800																									
				14	05	150-800																									
				15	05	150-1200																									
				15	10	200-1200																									
				15	20	200-2000																									
				20	05	200-2000																									
				20	10	250-2000																									
				20	20	200-2000																									
				25	05	200-2000																									
25	10	300-2000																													
25	25	200-2000																													
28	06	200-2000																													
32	10	300-2000																													
32	32	300-2000																													

For FBSSZ type, sizes 0804, 1002 and 1010 are not available. Ⓢ E≤P-4 Ⓢ N≤Q-4

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

FBSSRAA1004 - 450
FBSSZJ2010 - 1200 - F36 - P12 - S60 - V15 - U15 - G20 - Q15 - N10

Shaft Dia.	Lead	Material Unit Price 1 ~ 4 pc(s). Left End Shape: A Right End Shape: A															
		FBSSR										FBSSZ					
		Min. L-200	201-400	401-600	601-800	801-1000	1001-1200	1201-1500	1501-2000	Min. L-200	201-400	401-600	601-800	801-1000	1001-1200	1201-1500	1501-2000
08	02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08	04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Shaft Dia.	Lead	Left Side Shaft Machining Unit Price 1 ~ 4 pc(s).										Right Side Shaft Machining Unit Price 1 ~ 4 pc(s).						
		B	C	D	E	F	G	H	J	K	M	N	P	R	S			
08	02	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
08	04	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
10	02	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
10	04	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
10	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
12	04	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
12	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
14	05	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
15	05	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
15	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
15	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
20	05	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
20	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
20	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
25	05	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
25	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
25	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
28	06	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
32	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

Caution: Do not let the nuts overrun or remove the nuts from the screw shafts. It may cause the balls to fall out or damage the ball recirculation parts.

For accuracy of Rolled Ball Screws, see P2223 and P2224.

For Support Units, see P753-P778.

For Nut Brackets, see P780.