

# Precision Ball Screws Standard Nut - Shaft Dia. 10, Lead 2, 4, 10

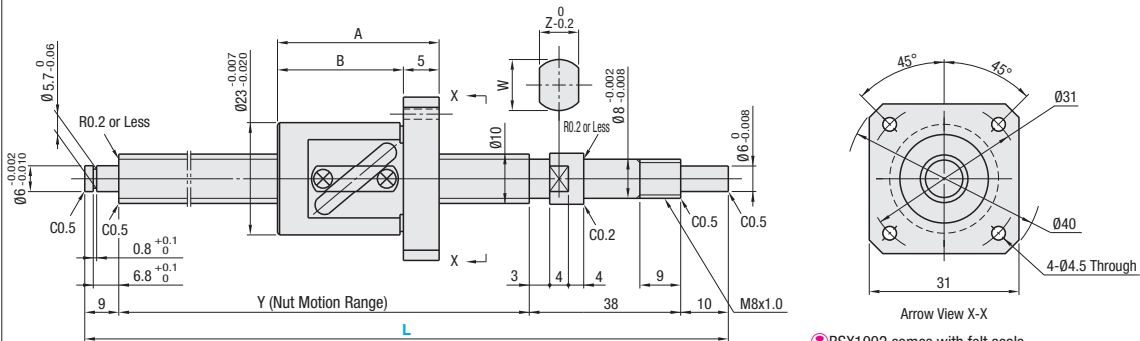
## Accuracy Grade C3, C5, C7

Points of comparison between similar products | Consider using this product if the usage environment is a high-load, and high-frequency drive application.

Nut Type	Type	Accuracy Grade	Shaft Dia.	Lead	Screw Shaft		Nut	
					Material	Hardness	Material	Hardness
Standard Nut	BSX	C3	10	2	*AlSi4150	*Induction Hardened 58-62HRC	SCM420	Carburized 58-62HRC
	BSS	C5		2, 4, 10				
	BSSE	C7		2, 4				

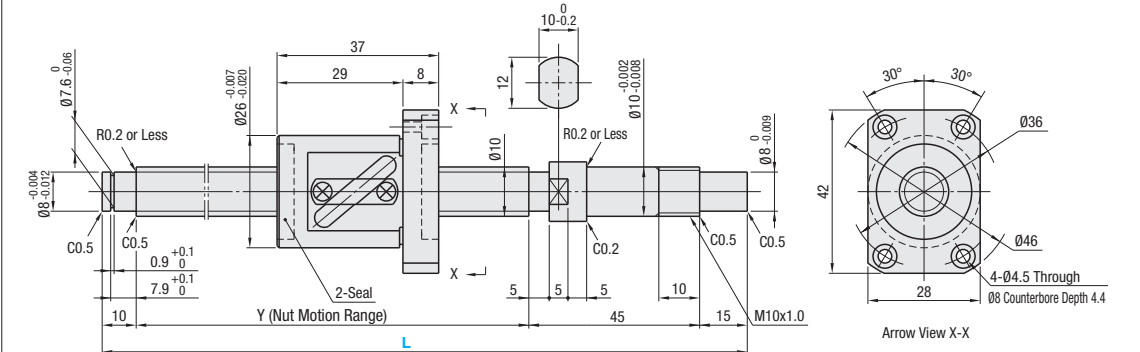
\*For 1002, screw shaft material SCM415 is carburized.

### BSX, BSS, BSSE1002

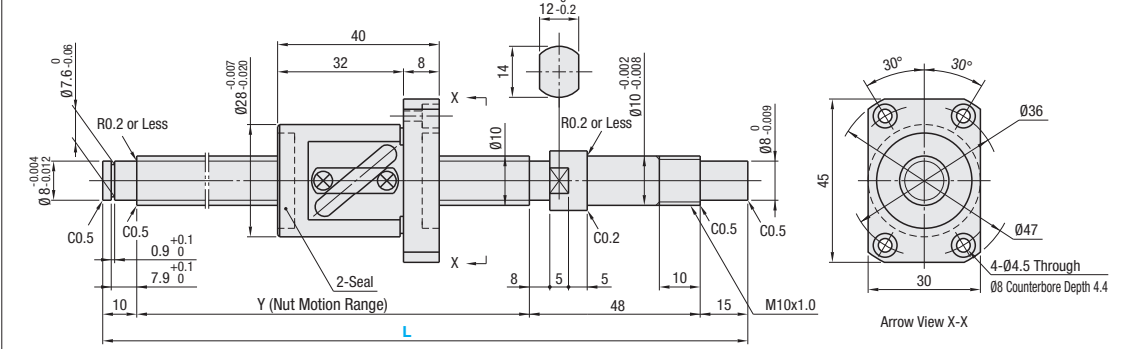


BSX1002 comes with felt seals.

### BSS, BSSE1004



### BSS1010



Nut Type	Accuracy Grade	Part Number		1mm Increment L	Y	A	B	Z	W	Ball Dia.	Ball Center Dia.	Screw Root Dia.	Number of Circuits	Basic Load Rating		Axial Play	Preload Torque N·cm	Twisting Direction	
		Type	Screw Shaft O.D.											Co (Dynamic) kN	Co (Static) kN				
Standard Nut	C3	BSX	10	02	L-57	30	25	10	11.5	1.5875	10.3	(8.6)	2.5 turns, 1 row	1.41	1.65	0 (Preload)	0.3-2.5	Right	
	C5													BSS	2.25	3.3	0.005 or Less		0.5 or Less
	C7													BSSE	0.030 or Less	-			
	C5	BSS	10	04	L-70	-	-	-	2.3812	10.6	(8.1)	1.5 turns, 1 row	3.35	5.9	0.005 or Less	1.0 or Less	Right		
	C7												BSSE	0.030 or Less	-				
	C5												BSS	0.005 or Less	1.0 or Less				

kgf=Nx0.101972

Nut Type	Accuracy Grade	Part Number	Unit Price 1 ~ 4 pc(s).							
			L100-149	L150-200	L201-248	L249-250	L251-310	L311-315	L316-380	L381-450
Standard Nut	C3	BSX1002								
	C5	BSS1002								
	C7	BSSE1002								
	C5	BSS1004								
	C7	BSSE1004								
	C5	BSS1010								



Ordering Example  
**Part Number** - **L**  
 BSX1002 - 200 (L Type Greased)  
 BSS1004L - 320 (L Type Greased)  
 BSSE1004G - 150 (G Type Greased)

### Notes

- Filled with lithium soap based grease (Alvania Grease S2 made by Showa Shell Sekiyu K.K).
- Cautions: 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.
- Various grease options are available. For price and specifications, see P.686. BSX is not applicable.
- For accuracy of Ball Screws, see P.2223 and P.2224.
- For details of Support Units, see P.753~P.778. Use one of the support unit accessory collars on the fastening nut side.



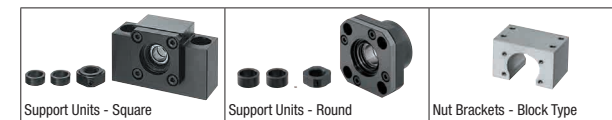
Alterations  
**Part Number** - **L** - (FC, KC... etc.)  
 BSS1004 - 270 - SC10

Alterations	Code	Spec.												
No Machining on Support Side Shaft End	NC	No machining added on the support side shaft end. Ordering Code NC												
Ball Nut Orientation Reversed	RLC	Changes the nut direction. Ordering Code RLC												
No Retaining Ring Groove on Support Side Shaft End	RNC	No Retaining Ring Groove on Support Side Shaft End. Ordering Code RNC Combination with FC is not available.												
Change Support Side Shaft End Machining	GC	Changes the machining on the support side. Q is selectable from 6 or 8. Y dimension is shortened. G=1mm Increment Ordering Code GC-08-G20 5<G<Qx3 Not applicable to 1002.												
Change Support Side Shaft End Length	FC	Changes the length of the support side shaft end. FC=1mm Increment Ordering Code FC20 <table border="1"> <thead> <tr> <th>Size</th> <th>l</th> <th>FC Range</th> </tr> </thead> <tbody> <tr> <td>1002</td> <td>6.8</td> <td>10&lt;FC&lt;=20</td> </tr> <tr> <td>1004</td> <td>7.9</td> <td>11&lt;FC&lt;=20</td> </tr> <tr> <td>1010</td> <td>7.9</td> <td>11&lt;FC&lt;=20</td> </tr> </tbody> </table> Y dimension is shortened.	Size	l	FC Range	1002	6.8	10<FC<=20	1004	7.9	11<FC<=20	1010	7.9	11<FC<=20
Size	l	FC Range												
1002	6.8	10<FC<=20												
1004	7.9	11<FC<=20												
1010	7.9	11<FC<=20												

Alterations	Code	Spec.
Keyway on Fixed Side Shaft End Detailed Keyway Dimensions see P.684	KC	Adds a keyway on the fixed side shaft end. KC=1mm Increment Ordering Code KC10 3<K<=14(9)
Keyway on Fixed Side Shaft End	KLC	Adds a keyway at a customer specified area on the fixed side shaft end. (Keyway dim. is same as KC.) K, S=1mm Increment Ordering Code KLC-K5-S1 4<K+S<=14(9)
Flat Machined on Fixed Side Shaft End	SC	Adds a flat on the fixed side shaft end. SC=1mm Increment Ordering Code SC7 5<SC<=14(9)
2 Flats Machined on Fixed Side Shaft End	SWC, SGC	Adds two flats on the fixed side shaft end. SWC: 90° Position SGC: 120° Position 1mm Increment Ordering Code SWC10 5<SWC, SGC<=14(9)

Dimensions in ( ) are for 1002.

### Peripherals: Combination of the following parts is available.



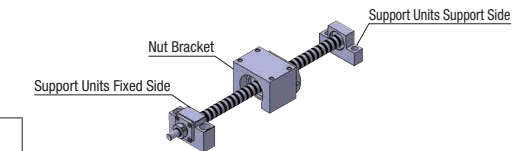
### Combination with Support Units

Type	Screw Shaft O.D.	Lead	Recommended Support Unit			
			Part Number Type	Part Number No.	Shape	Page
BSX	10	02	BRW	8	Round	P.767
			BUR	6	Round	P.768
			BSW	8	Square	P.761
			BUN	8	Square	P.762
BSS BSSE	10	02	BRW	8S	Round	P.767
			BUR	6	Round	P.768
			BSW	8S	Square	P.761
			BUN	8	Square	P.762
BSS BSSE	10	04	BRW	10S	Round	P.767
			BUR	10	Round	P.768
			BSW	10S	Square	P.761
			BUN	10	Square	P.762
BSS	10	10	BRW	10	Round	P.767
			BUR	10	Round	P.768
			BSW	10	Square	P.761
			BUN	10	Square	P.762

### Combination with Nut Brackets

Type	Screw Shaft O.D.	Lead	Recommended Nut Bracket	
			Part Number Type	Part Number No.
BSX	10	02	BNFB	1002X
			BNFM	1002S
BSS BSSE	10	04	BNFR	1004S
			BNFA	1010S

A variety of materials and surface treatments for Nut Brackets are available. (P.780)



Other than the part numbers shown above, Support Units with various configurations and surface treatments are also available. (P.761-P.778)