

# Precision Ball Screws (Shaft Diameter 10, Lead 2, 4, 10)

Accuracy Grade C3, C5, C7

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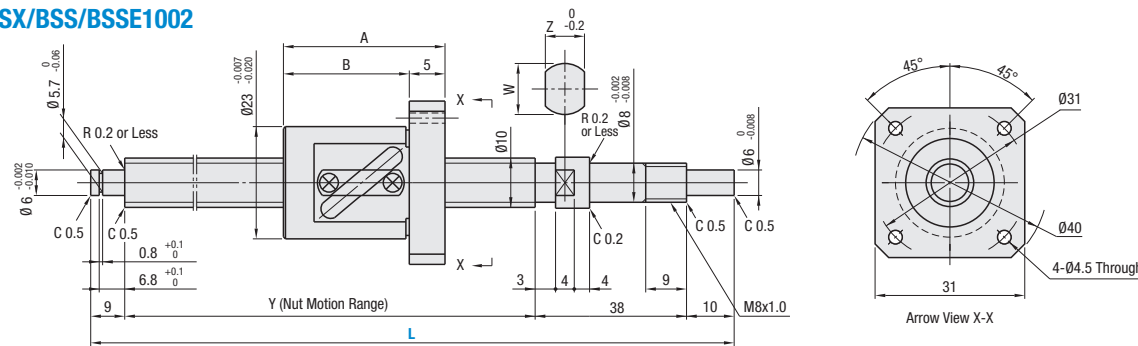


RoHS10

Nut Type	Type	Accuracy Grade	Shaft Diameter	Lead	Screw Shaft		Nut	
					Material	Hardness	Material	Hardness
Standard Nut	BSX	C3	10	2	*4150 Alloy Steel	*Induction Hardened 58–62 HRC min.	JIS SCM420	Carburized 58–62 HRC min.
	BSS	C5		2, 4, 10				
	BSSE	C7		2, 4				

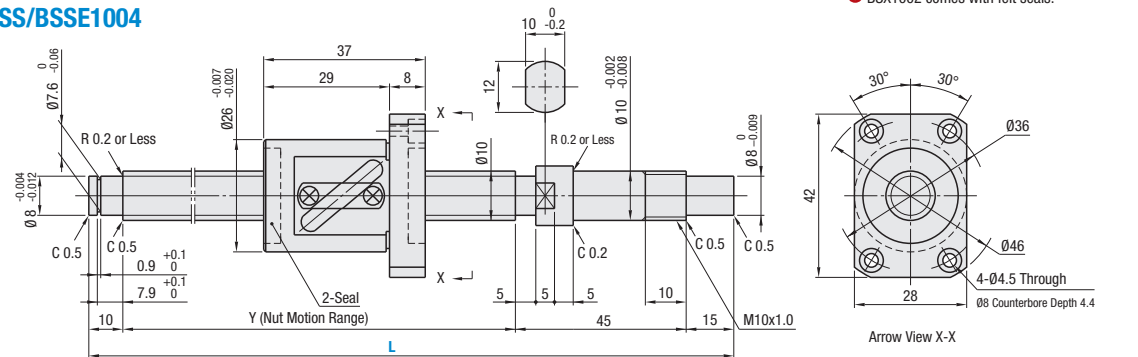
\* For 1002, Screw Shaft Material JIS SCM415 is carburized.

## BSX/BSS/BSSE1002

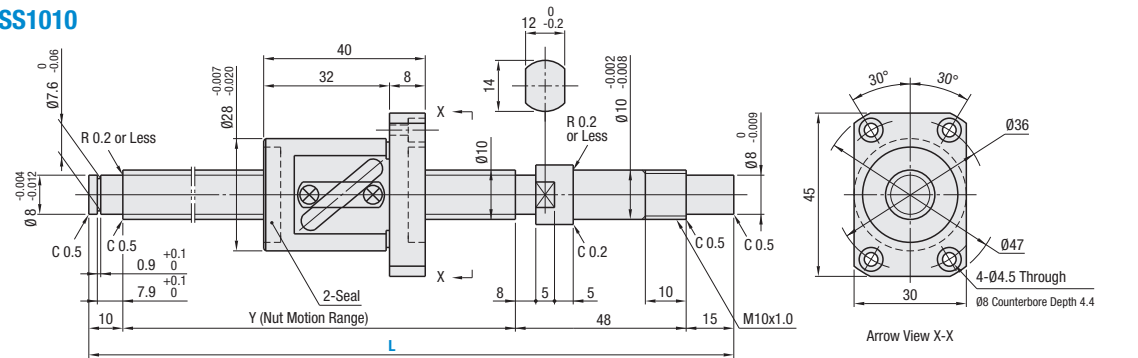


BSX1002 comes with felt seals.

## BSS/BSSE1004



## BSS1010



Ball Nut Type	Precision Class	Part Number		1 mm Increment	Y	A	B	Z	W	Ball Dia.	Ball Center Dia.	Screw Root Dia.	Number of Circuits <sup>1</sup>	Basic Load Rating		Axial Play	Preload Torque N-cm	Twisting Direction
		Type	Screw Shaft O.D.											C (Dynamic) kN	Co (Static) kN			
Standard Nut	C3	BSX	10	100–310	L-57	30	25	10	11.5	1.5875	10.3	(8.6)	2.5 turns, 1 row	1.41	1.65	0 (Preloaded)	0.3–2.5	Right
	C5	BSS		100–315										2.25	3.3	0.005 or Less	0.5 or Less	
	C7	BSSE		100–315										0.030 or Less	—			
	C5	BSS		10	150–380	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												3.35	5.9	0.030 or Less	—	
	C5	BSS												150–450	2.2	3.5	0.005 or Less	

<sup>1</sup>See P.750 for details.

kgf=Nx0.101972

# Precision Ball Screws (Shaft Diameter 10, Lead 2, 4, 10)

Accuracy Grade C3, C5, C7, continued

Nut Type	Accuracy Grade	Part Number	Available Types						
			L100–149	L150–200	L201–248	L249–250	L251–310	L311–315	L316–380
Standard Nut	C3	BSX1002	•	•	•	•	•	•	•
	C5	BSS1002	•	•	•	•	•	•	•
	C7	BSSE1002	•	•	•	•	•	•	•
	C5	BSS1004	•	•	•	•	•	•	•
	C7	BSSE1004	•	•	•	•	•	•	•

**Part Number Example**

Part Number	-	L
BSX1002	-	200
BSS1004L	-	320 L Type Greased
BSSE1004G	-	150 G Type Greased

**Part Number Alterations**

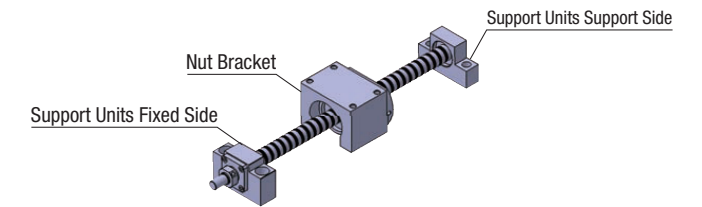
Part Number	-	L	-	(FC, KC, etc.)
BSS1004	-	270	-	SC10

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 (Support Side/Fixed Side)	RLC	Changes the nut direction. Ordering Code: RLC
No Retaining Ring Groove on Support Side Shaft End	RNC	Retaining ring groove is not machined on the 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 = 1 mm increment Ordering Code: GC-Q8-G20 ⊕ 5 ≤ G ≤ Q × 3 ⊕ Not applicable to 1002.
Change Support Side Shaft End Length	FC	Changes the length of the support side shaft end. FC = 1 mm increment Ordering Code: FC20

- Note:**
- ⊕ Filled with lithium soap based grease (Alvania Grease S2 made by Showa Shell Sekiyu K.K. (BSX is filled with Multemp Grease PS2 made by Kyodo Yushi Co., Ltd.))
  - ⊕ Caution: Do not remove nuts from screw shafts or allow nuts to overrun the stroke. It may cause balls to fall out or damage ball recirculation parts.
  - ⊕ Various grease options are available. For specifications P.752. ⊕ Not applicable to BSX.
  - ⊕ For accuracy of Ball Screws, see P.752–754.
  - ⊕ For details of Support Units, see P.792–802.

Alterations	Code	Spec.
Keyway on Fixed Side Shaft End Detailed Keyway Dimensions P.752.	KC	Adds a keyway on the fixed side shaft end. KC = 1 mm increment Ordering Code: KC10 ⊕ 3 ≤ KC ≤ 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 = 1 mm 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 = 1 mm 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 1 mm increment Ordering Code: SWC10 ⊕ 5 ≤ SWC, SGC ≤ 14 (9)

**Peripherals:** Combination of the following parts are available.



## Combination with Support Units

Ball Screw Part Number	Recommended Support Units							
	Type	Screw Shaft Outer Dia.	Lead	Part Number	Shape	Fixed Side	Support Side	Page
BSX	10	02	8	BRW	Round	○	—	800
				BUR	Round	○	○	802
				BSW	Square	○	—	794
				BUN	Square	—	○	798
BSS/BSSE	10	02	8S	BRW	Round	○	—	800
				BUR	Round	○	○	802
				BSW	Square	○	—	794
				BUN	Square	—	○	798
BSS/BSSE	10	04	10S	BRW	Round	○	—	800
				BUR	Round	○	○	802
				BSW	Square	○	—	794
				BUN	Square	—	○	798
BSS	10	10	10	BRW	Round	○	—	800
				BUR	Round	○	○	802
				BSW	Square	○	—	794
				BUN	Square	—	○	798

⊕ Aside from the part numbers shown above, there are a variety of other Support Units available with various shapes and surface treatments. (P.792–802).

## Combination with Nut Brackets

Ball Screw Part Number	Recommended Nut Brackets				
	Type	Screw Shaft Outer Diameter	Lead	Part Number	Page
BSX	10	02	1002X	—	—
				1002S	810
BSS/BSSE	10	04	1004S	810	
			1010S	810	

⊕ Variety of materials and surface treatments for Nut Brackets are available. (P.810).