

Precision Ball Screws (Shaft Diameter 12, Lead 2, 4, 5, 10)

Accuracy Grade C3, C5, C7

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(Shaft Diameter 12, Lead 2, 4, 5, 10) –
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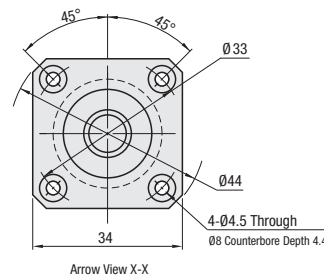
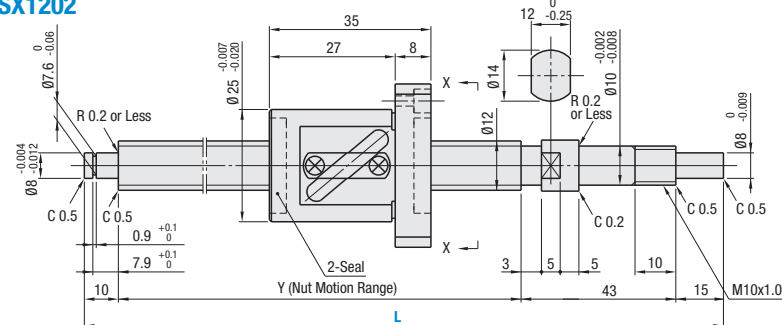


RoHS10

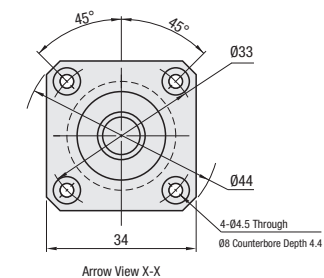
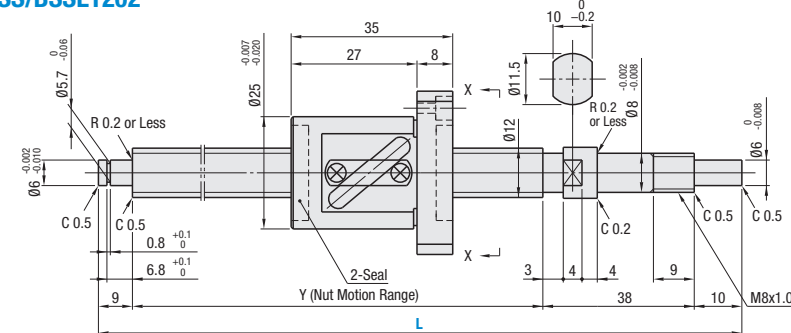
Nut Type	Type	Accuracy Grade	Shaft Diameter	Lead	Screw Shaft		Nut	
					Material	Hardness	Material	Hardness
Standard Nut	BSX	C3	12	2	*4150 Alloy Steel	*Induction Hardened 58-62 HRC min.	JIS SCM420	Carburized 58-62 HRC min.
	BSS	C5		2, 4, 5, 10				
	BSS	C7		2, 5, 10				
	BSSE	C7		2, 5, 10				

*For 1202, screw shaft material JIS-SCM415 Alloy Steel is carburized.

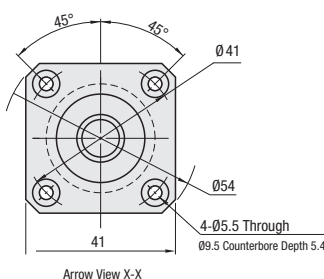
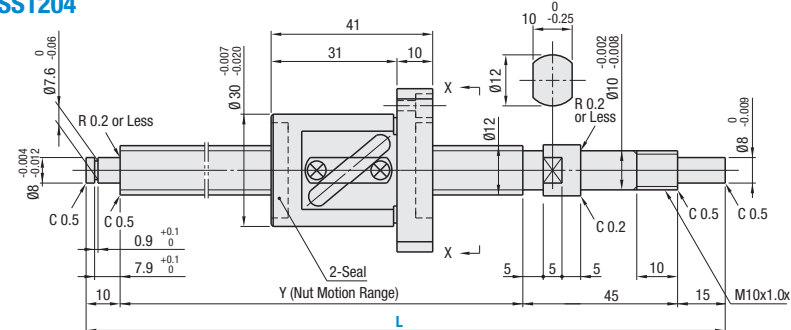
BSX1202



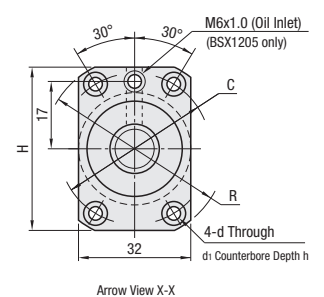
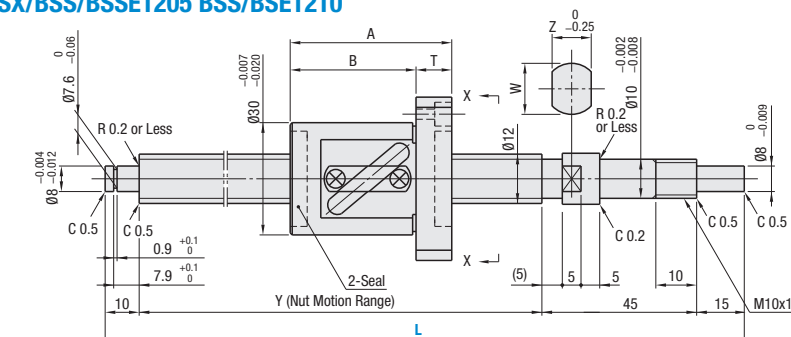
BSS/BSSE1202



BSS1204



BSX/BSS/BSSE1205 BSS/BSE1210



Precision Ball Screws (Shaft Diameter 12, Lead 2, 4, 5, 10)

Accuracy Grade C3, C5, C7, continued

Nut Type	Accuracy Grade	Part Number		1 mm Increment L	Y	A	B	T	Z	W	H	R	C	d	d ₁	h	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 Dia.																		C (Dynamic) kN	Co (Static) kN					
Standard Ball Nut	C3	BSX	12	150-390	L-68												1.5875	12.3	(10.6)	2.5 Turns 1 Row	1.54	2.05	0 (Preloaded) 0.005 or Less	0.4-3.2	Right		
	C5	BSS		150-445	L-57													2.3812	12.6		(10.1)	2.45	4.1	0.030 or Less		1.0 or Less	
	C7	BSSE		150-400	L-70														3.6		6.75	0.005 or Less	1.0 or Less				
	C5	BSS		12	150-440	L-70	44	34	10	12	14								3.175	12.8	(9.5)	1.5 Turns 1 Row	3.74	4.9	0 (Preloaded) 0.005 or Less	1.5-5.0	Right
	C7	BSSE			150-450	L-70	48	54	41	5.5	9.5	5.4								5.95	9.8		0.030 or Less	1.0 or Less			
	C5	BSS			200-600	L-70	49	37	12												3.85		5.9	0.005 or Less 0.030 or Less	2.0 or Less		

*See P.750 for details.

kgf=Nx0.101972

Part Number Alterations
Part Number - L - (FC, KC, etc.)
BSX1202 - 300 - SWC13

Part Number Example
Part Number - L
BSX1202 - 300
BSSE1210L - 420 L Type Greased
BSSE1210G - 420 G Type Greased

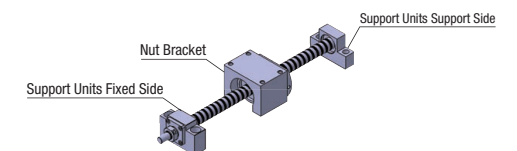
Accuracy Grade	Part Number	Available Types																							
		L150-199	L200	L201-250	L251-290	L291-295	L296-300	L301-390	L391-400	L401-440	L441-445	L446-450	L451-600												
C3	BSX1202	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
C5	BSS1202	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
C7	BSSE1202	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
C3	BSS1204	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
C5	BSX1205	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
C5	BSS1205	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
C7	BSSE1205	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
C5	BSS1210	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
C7	BSSE1210	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

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 in 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, 8 Ⓢ Y dimension is shortened. G = 1 mm Increment Ordering Code: GC-Q8-G20 Ⓢ 5≤G<Qx3 Ⓢ Not applicable to 1202 of C5 and C7.
Change Support Side Shaft End Length	FC	Changes the length of the support side shaft end. FC = 1 mm Increment Ordering Code: FC20

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. (Key groove dim. is the 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 Flat 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)

Ⓢ Dimensions in () are for 1202.

Peripherals: Combination of the following parts are available.



Combination with Nut Brackets

Type	Screw Shaft Outer Diameter	Lead	Recommended Nut Brackets		Page
			Type	No.	
BSX BSS BSSE	12	02	BNFB	1202S	810
		04	BNFM	1204S	810
		05	BNFR	1205S	810
		10	BNFA	1210S	810

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

- Note:**
- Ⓢ Filled with lithium soap based grease (Alvania Grease S2 made by Showa Shell Sekiyu K.K.).
 - Ⓢ 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. Ⓢ BSX is not applicable.
 - Ⓢ For accuracy of Ball Screws, see P.752-754.
 - Ⓢ For details of Support Units, see P.792-802.

Combination with Support Units

Type	Screw Shaft Outer Diameter	Lead	Recommended Support Units				
			Part Number	Shape	Fixed Side	Support Side	
BSX	12	02	BRW 10	Round	○	—	800
			BUR 10	Round	—	○	802
			BSW 10	Square	—	○	794
		05	BRW 10	Round	○	—	800
			BUR 10	Round	—	○	802
			BSW 10	Square	○	—	794
BSS BSSE	12	02	BRW 8	Round	○	—	800
			BUR 8	Round	—	○	802
			BSW 8	Square	○	—	794
		04 05 10	BRW 10S	Round	○	—	800
			BUR 10S	Round	—	○	802
			BSW 10S	Square	—	○	794

Ⓢ 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).