

# Precision Ball Screws (Shaft Diameter 20, Lead 5, 10, 20)

Accuracy Grade C5, C7

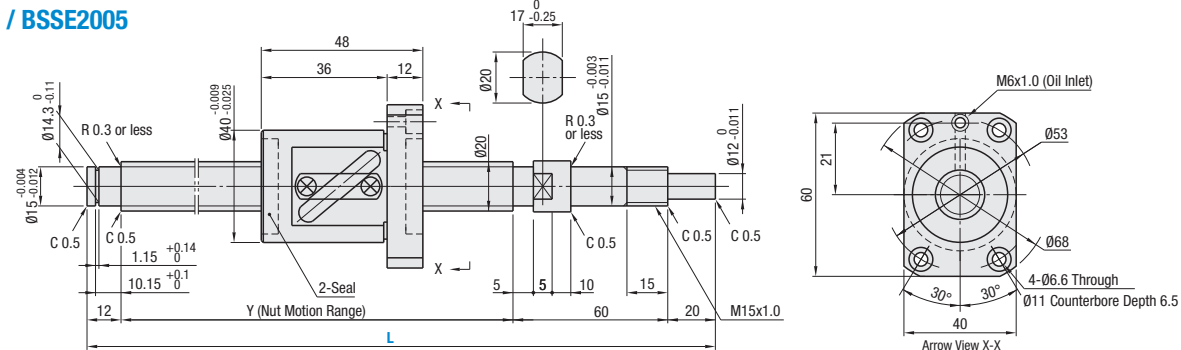
Precision Ball Screws  
(Shaft Diameter 20, Lead 5, 10, 20, 40) –  
Accuracy Grade C5, C7



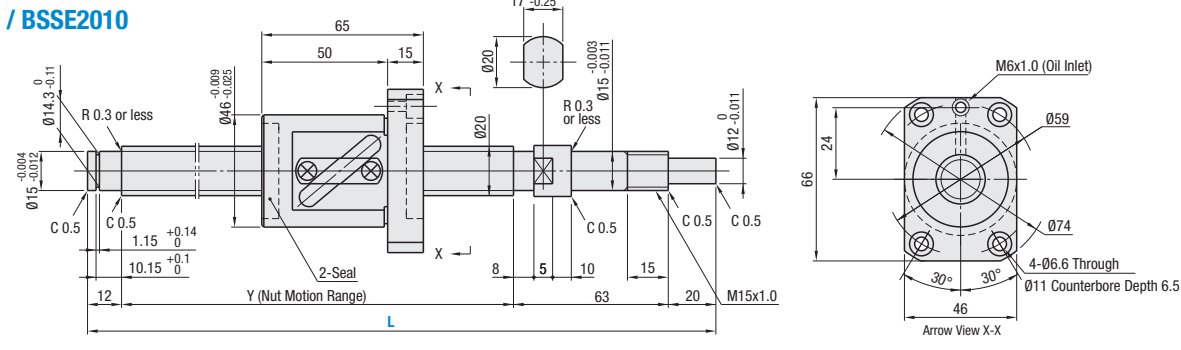
Ball Nut Type	Type	Precision Class	Shaft Diameter	Lead	Screw Shaft		Ball Nut	
					Material	Hardness	Material	Hardness
Standard Nut	BSS	C5	20	5, 10, 20	4150 Alloy Steel	Induction Hardened 58-62 HRC min.	JIS-SCM420	Carburized 58-62 HRC min.
	BSSE	C7						

⊙ Ball bearings will fall out if the ball nut crosses the wrench flats.

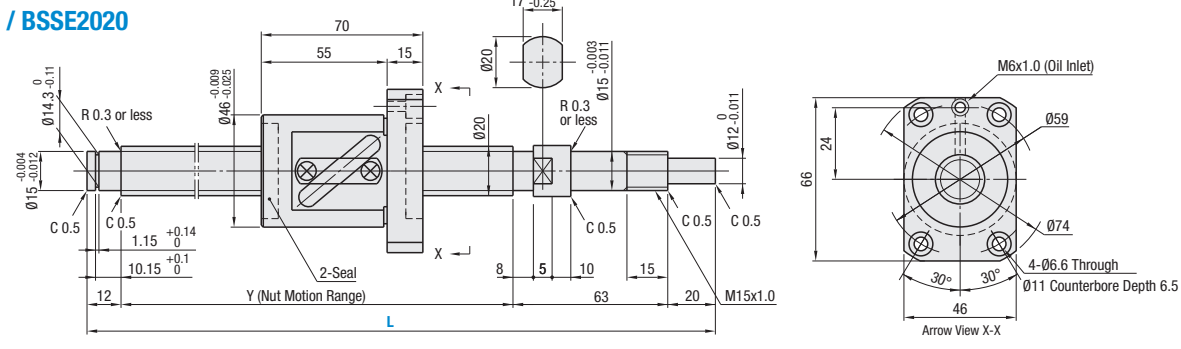
## BSS / BSSE2005



## BSS / BSSE2010



## BSS / BSSE2020



Ball Nut Type	Precision Class	Part Number	1 mm Increment	Y	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
									C (Dynamic) kN	Co (Static) kN			
Standard Ball Nut	C5	BSS	05	200-1000	L-92	3.175	20.8	(17.5)	2.5 Turns, 1 Row	8.35	17.5	0.005 or Less	3.0 or Less
	C7	BSSE											
	C5	BSS	10	250-1500	L-95	4.7625	21	(16)	13.5	25.1	0.005 or Less	4.0 or Less	
	C7	BSSE											
	C5	BSS	20	250-1500	L-95	4.7625	21	(15.9)	1.5 Turns, 1 Row	9.2	16.2	0.005 or Less	4.0 or Less
	C7	BSSE											

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

kgf=Nx0.101972

# Precision Ball Screws (Shaft Diameter 20, Lead 5, 10, 20)

Accuracy Grade C5, C7, continued

Accuracy Grade	Part Number	Available Types											
		L200-249	L250-299	L300-400	L401-600	L601-700	L701-800	L801-995	L996-1000	L1001-1200	L1201-1300	L1301-1495	L1496-1500
C5	BSS2005	•	•	•	•	•	•	•	•	•	•	•	•
C7	BSSE2005	•	•	•	•	•	•	•	•	•	•	•	•
C5	BSS2010	•	•	•	•	•	•	•	•	•	•	•	•
C7	BSSE2010	•	•	•	•	•	•	•	•	•	•	•	•
C5	BSS2020	•	•	•	•	•	•	•	•	•	•	•	•
C7	BSSE2020	•	•	•	•	•	•	•	•	•	•	•	•



**Part Number Example**  
 Part Number - L  
 BSS2005 - 820  
 BSSE2010L - 1000 L Type Greased  
 BSSE2010G - 1000 G Type Greased



**Part Number Alterations**  
 Part Number - L - (FC, KC, etc.)  
 BSS2020 - 350 - KC10

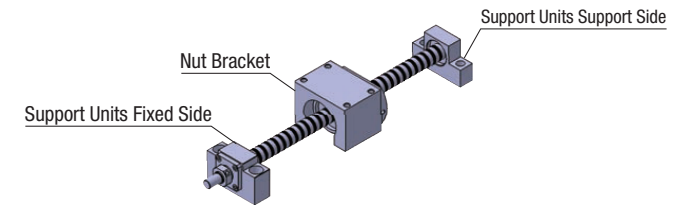
### Note:

- ⊙ 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.

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	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 Length	FC	Changes the length of the support side shaft end. FC = 1 mm Increment Ordering Code: FC20 ⊙ 13≤FC≤30 ⊙ Y dimension is shortened.
Change Support Side Shaft End Machining	GC	Changes the machining on the support side. Q is selectable from 10, 12, 15 G = 1 mm Increment ⊙ Y dimension is shortened. Ordering Code: GC-Q10-G20 ⊙ 5≤G≤Qx3

Alterations	Code	Spec.
Tapped Hole on Support Side Shaft End	MC	Adds a tapped hole on the support side shaft end MC = 1 mm Increment Ordering Code: MC25 M 6 x 1.0 15 ⊙ 21≤MC≤30 ⊙ Y dimension is shortened.
Keyway on Fixed Side Shaft End	KC	Adds a keyway on the fixed side shaft end. KC = 1 mm Increment Ordering Code: KC15 ⊙ 4≤KC≤19
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-K7-S2 ⊙ 5≤K+S≤19
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≤19
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: SWC20 ⊙ 5≤SWC, SGC≤19

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



### Combination with Support Units

Type	Screw Shaft Outer Diameter	Lead	Recommended Support Units				
			Part Number	Shape	Fixed Side	Support Side	
BSS BSSE	20	05 10 20	BRW 15	Round	○	—	800
			BUR 15	Round	—	○	802
			BSW 15	Square	○	—	794
			BUN 15		—	○	798

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

### Combination with Nut Brackets

Type	Screw Shaft Outer Diameter	Lead	Recommended Nut Brackets		
			Part Number	Type	Page
BSS BSSE	20	05 10 20	BNFB	2005S	810
			BNFM		
			BNFR	2010S	810
			BNFA		

⊙ Aside from the part numbers shown above, there are a variety of other Nut Brackets available. (P.810).