

Precision Ball Screws (Shaft Diameter 15, Lead 5, 10, 20)

Accuracy Grade C3, C5, C7

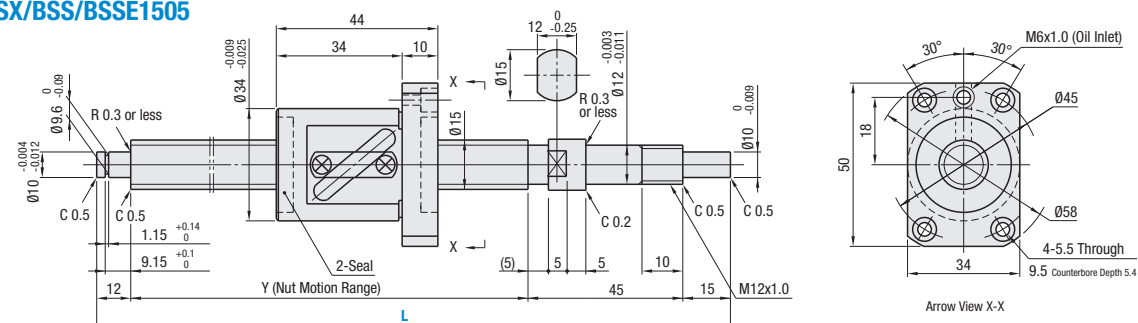
Precision Ball Screws
(Shaft Diameter 15, Lead 5, 10, 20, 40) –
Accuracy Grade C3, C5, C7



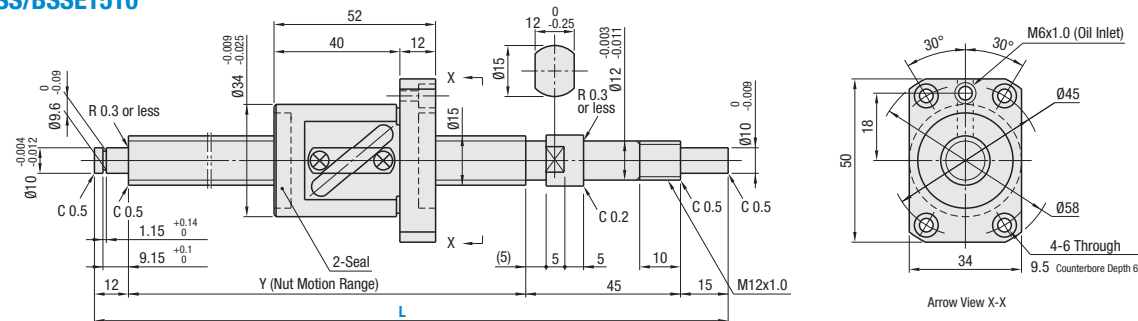
RoHS10

| Nut Type | Type | Accuracy Grade | Shaft Diameter | Lead | Screw Shaft | | Nut | |
|--------------|------|----------------|----------------|-----------|------------------|-----------------------------------|------------|---------------------------|
| | | | | | Material | Hardness | Material | Hardness |
| Standard Nut | BSX | C3 | 15 | 5 | 4150 Alloy Steel | Induction Hardened 58–62 HRC min. | JIS SCM420 | Carburized 58–62 HRC min. |
| | BSS | C5 | | 5, 10, 20 | | | | |
| | BSSE | C7 | | 5, 10, 20 | | | | |

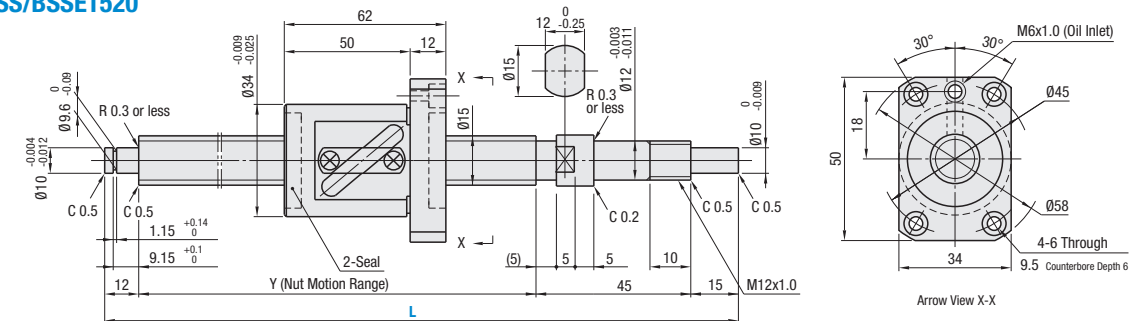
BSX/BSS/BSSE1505



BSS/BSSE1510



BSS/BSSE1520



| Ball Nut Type | Precision Class | Part Number | | | 1 mm Increment | Y | Ball Dia. | Ball Center Dia. | Screw Root Dia. | Number of Circuits ¹ | Basic Load Rating | | Axial Play | Preload Torque N·cm | Twisting Direction |
|-------------------|-----------------|-------------|----------------------|------|----------------|------|-----------|------------------|-----------------|---------------------------------|-------------------|----------------|---------------|---------------------|--------------------|
| | | Type | Screw Shaft Diameter | Lead | | | | | | | L | C (Dynamic) kN | | | |
| Standard Ball Nut | C3 | BSX | 15 | 05 | 150–590 | L-72 | 3.175 | 15.8 | (12.5) | 2.5 Turns, 1 Row | 4.34 | 6.25 | 0 (Preloaded) | 1.5–6.0 | Right |
| | C5 | BSS | | | 150–1095 | | | | | | 6.9 | 12.5 | 0.005 or Less | 2.0 or Less | |
| | C7 | BSSE | | | 200–1095 | | | | | | 0.030 or Less | — | | | |
| | C5 | BSS | | | 200–1095 | | | | | | 4.4 | 7.9 | 0.005 or Less | 3.0 or Less | |
| | C7 | BSS | | | 200–1095 | | | | | | 0.005 or Less | 3.0 or Less | | | |
| | C7 | BSSE | | | 230–1095 | | | | | | 0.030 or Less | — | | | |

¹See P.750 for details.

kgf=Nx0.101972

Precision Ball Screws (Shaft Diameter 15, Lead 5, 10, 20)

Accuracy Grade C3, C5, C7, continued

| Accuracy Grade | Part Number | Available Types | | | | | | | | | | | | | |
|----------------|-------------|-----------------|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|------------|
| | | L150–199 | L200 | L201–229 | L230–299 | L300–390 | L391–400 | L401–590 | L591–595 | L596–600 | L601–800 | L801–895 | L896–900 | L901–1000 | L1001–1095 |
| C3 | BSX1505 | • | • | — | — | — | — | — | — | — | — | — | — | — | — |
| C5 | BSS1505 | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| C7 | BSSE1505 | • | • | • | • | • | • | • | • | • | • | • | • | • | • |
| C5 | BSS1510 | — | • | • | • | • | • | • | • | • | • | • | • | • | • |
| C7 | BSSE1510 | — | • | • | • | • | • | • | • | • | • | • | • | • | • |
| C5 | BSS1520 | — | — | — | • | • | • | • | • | • | • | • | • | • | • |
| C7 | BSSE1520 | — | — | — | • | • | • | • | • | • | • | • | • | • | • |



Part Number Example

Part Number - L

BSX1505 - 300

BSSE1510L - 420 L Type Greased

BSSE1510G - 420 G Type Greased



Part Number Alterations

Part Number - L - (FC, KC, etc.)

BSS1505 - 350 - KC10

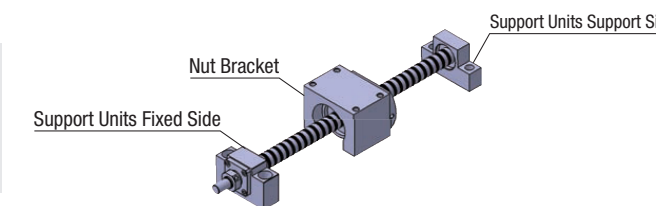
Note:

- 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 (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 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: Selectable from 8, 10, 12 G = 1 mm Increment Ordering Code: GC-Q8-G20 5 ≤ G ≤ Qx3 Y dimension is shortened. |

| 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: MC20 M l Y dimension is shortened. M5 x 0.8 12 18 ≤ MC ≤ 30 |
| 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 |
| 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-S3 4 ≤ K + S ≤ 14 |
| 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 |
| 2 Flats 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 |

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 Type | No. | Shape | Fixed Side | Support Side | Page |
| BSX BSS BSSE BSL | 15 | 05 | BRW | 12 | Round | ○ | — | 800 |
| | | 10 | | | | — | ○ | 802 |
| | | 20 | BSW | 12 | Square | ○ | — | 794 |
| | | 40 | | | | — | ○ | 798 |

Aside from the part numbers shown above, there are a variety of other Support Units available. (P.792–802).

Combination with Nut Brackets

| Ball Screw Part Number | | | Recommended Nut Brackets | | |
|------------------------|----------------------------|------|--------------------------|-------|------|
| Type | Screw Shaft Outer Diameter | Lead | Part Number Type | No. | Page |
| BSX BSS BSSE | 15 | 05 | BNFB | 1505S | 810 |
| | | 10 | BNFM | 1510S | 810 |
| | | 20 | BNFA | 1520S | 810 |

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