Support Unit Overview

■Critical Bearing Performances

Bearing Type	Existing Product			C-VALUE Products		
Type	Japanese made JIS 5 Class Angular Contact Bearing			Japanese made JIS 5 Class Angular Contact Bearing		
	BSW/BRW/BSA/ BSV/BSWG/BSWD/BJS			C-BSW/C-BRW/C-BSFW		
d	Allowable Axial Load (N)	Basic Dynamic Load Rating (N)	Bearing Type	Allowable Axial Load (N)	Basic Dynamic Load Rating (N)	Bearing Type
6	1040	2670	70M6DF/P5	720	1880	70M6DF/P5
8	1450	4400	70M8DF/P5	1010	3090	70M8DF/P5
10	2730	6100	7000DF/P5	1910	4260	7000DF/P5
12	3040	6650	7001DF/P5	2120	4660	7001DF/P5
15	3370	7600	7002DF/P5	2350	5320	7002DF/P5
20	8260	17900	7204DF/P5	5780	12490	7204DF/P5
25	9960	20200	7205DF/P5	-	-	-

Bearing Type	JIS 0 Class Angular Contact Bearing			Radial Bearing		
Type	BSWE/BSQ/BRWE			BSWZ/BRWZ		
d	Allowable Axial Load (N)	Basic Dynamic Load Rating (N)	Bearing Type	Allowable Axial Load (N)	Basic Dynamic Load Rating (N)	Bearing Type
6	-	-	-	780	2190	606ZZ
8	-	-	-	1300	3350	608ZZ
10	2730	6100	7000DF/Standard Grade	2300	4550	6000ZZ
12	3040	6650	7001DF/Standard Grade	2600	5100	6001ZZ
15	3370	7600	7002DF/Standard Grade	2900	5600	6002ZZ
20	8260	17900	7204DF/Standard Grade	8100	12800	6204ZZ
25	9960	20200	7205DF/Standard Grade	-	-	-

■Bearing's Accuracies

■Outer Ring

Unit: μm

Nominal Bearing O.D.		Flat Surface Average O.D. Dim. Difference				Radial Run-out		Axial Play	
D		△Dmp				Kea		Sea	
mm		Class 5		Class 0		Class 5	Class 0	Class 5	Class 0
over	or Less	more than	or Less	more than	or Less	Max.		Max.	
6	18	0	-5	0	-8	5	15	8	-
18	30	0	-6	0	-9	6	15	8	-
30	50	0	-7	0	-11	7	20	8	-
50	80	0	-9	0	-13	8	25	10	-

■Inner Ring

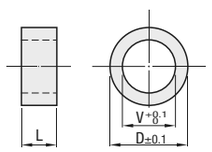
Unit: μm

Nominal Bearing I.D.		Flat Surface Average I.D. Dim. Difference				Radial Run-out		Axial Play	
d		△dmp				Kia		Sia	
mm		Class 5		Class 0		Class 5	Class 0	Class 5	Class 0
over	or Less	more than	or Less	more than	or Less	Max.		Max.	
2.5	10	0	-5	0	-8	4	10	7	-
10	18	0	-5	0	-8	4	10	7	-
18	30	0	-6	0	-10	4	13	8	-

(Extract from JIS B1514)

Both radial run-out and axial play stand for measurement method of bearing rotational accuracy.
Since Inner Ring Radial Run-out (Kia), Outer Ring Radial run-out (Kea), Inner Ring Axial Play (Sia), and Outer Ring Axial Play (Sea) are all different, contact us for more detail.

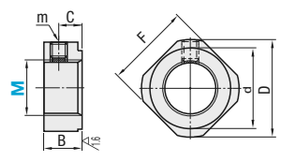
■Included Collar Size



*For 8S and 10S, the I.D. of oil seal is smaller than the previous 8S and 10S versions. Use it in accordance with ball screw fixed side dimensions.

	No	D	V	L
Existing Product	6	9.5	6	5
	8S	10	8	5.5
	8	11.5	8	5.5
	10S	12	10	5.5
	10□□	14	10	5.5
	12□□	15	12	5.5
	15□□	20	15	10
	20	25	20	11
	25	31	25	14
C-VALUE C-BSW C-BRW	6	9.5	6	5
	8S	10	8	5.5
	8	11.5	8	5.5
	10S	12	10	5.5
	10	14.5	10	5.5
	12	15.5	12	5.5
	15S	19.5	15	10
	15	20	15	10
	20	25	50	11
C-VALUE C-BSFW	10S	12	10	5
	10	14.5	10	5
	12	15.5	12	5
	15	19.5	15	6
	20	27.5	20	8

■Included Bearing Nut Size

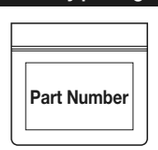


Tighten the set screw after inserting the Thread Protector.
For Thread Protector specification details, see ☞P.2-212
EN 1.1191 Equiv. Thermal Refined excels in durability.

	No	M	Fine Thread	B	m	d	D
Existing Product	6	6	M6*0.75	5.5	M3	10	14.5
	8□	8	M8*1.0	6.5	M3	13	17
	10□□	10	M10*1.0	8	M4	16	20
	12□□	12	M12*1.0	8	M4	17	22
	15□□	15	M15*1.0	10	M4	21	25
	20	20	M20*1.0	13	M4	26	35
	25	25	M25*1.0	15	M5	33	43
C-VALUE	6	6	M6*0.75	5	M3	10	14.5
	8□	8	M8*1.0	6.5	M3	13	17
	10□□	10	M10*1.0	8	M3	15	20
	12□□	12	M12*1.0	8	M3	17	22
	15□□	15	M15*1.0	8	M3	21	25
	20	20	M20*1.0	11	M4	26	35

■Cautions on Accessories

Accessory packaging



Accessory contents <fixed side>

Collar | Bearing Nut

When used together with a MISUMI ball screw, there is one accessory collar spare.

Accessory contents <support side>

Bearing | Retaining Ring

*** Store Accessories with care since they are required when assembling.**

Precautions on Support Units Installation

Assembly of Support Units

Installing Support Units incorrectly would cause degradation of accuracies and service life expectancy. Considerable care must be taken during installation.

①Pre-Installing Preparation

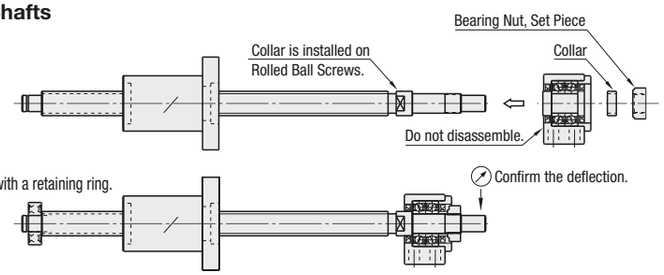
Find a sufficient work area that is as dust-free and moisture-free as possible. Make sure there is little variation in temperature. Choose a clean location and prepare necessary tools on a workbench.

②Inspection of Shafts and Support Units

Confirm that there is no dust, foreign substance or burr on the shaft and on bearing I.D. If burrs are recognized, remove them with a oilstone etc. and brush or wipe off chips thoroughly.

③Installing Support Units to Ball Screw Shafts

- Prepare a Ball Screw and a Support Unit.
- Insert fixed side shaft end into the Support Unit.
  Cautions on Insertion
  Insert the shaft straight not to interfere with the Support Unit.
  Also, watch for curled back oil seal lip.
  Apply some grease for smooth insertion.
- Temporarily tighten the bearing nut.
- Install a radial bearing on ball screw support side. Secure the bearing with a retaining ring.
- Maintain tip run-out to be as small as possible.



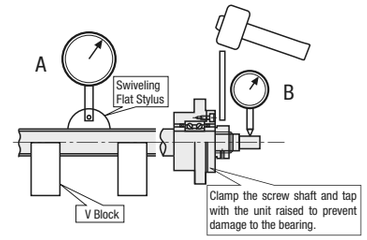
M	Nut Tightening Torque (N·cm)
4	160
5	200
6	245
8	490
10	930

M	Nut Tightening Torque (N·cm)
12	1370
15	2350
20	4700
25	8430

Value is for reference only.

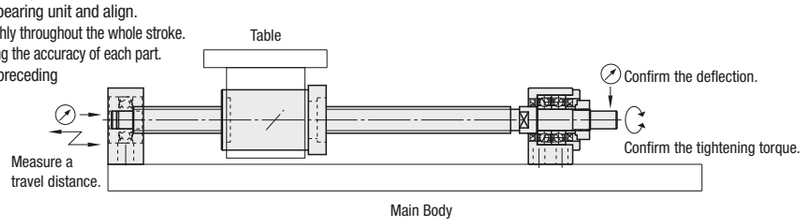
④Precautions on Installation of Bearing Nut

①Lightly tighten the bearing nut.
Tighten to 1/3 of the recommended torque (see table).
②Place the screw shaft on a set of V-blocks, place a dial indicator at A or B as shown, and rotate the shaft while seeking for a position where the largest indicator deflection is observed.
③Using a hammer or other appropriate tools as shown, lightly tap the bearing nut at the aforementioned angular position until the indicator reading becomes minimum.
④Divide the recommended torque on the table into two to three steps while repeating the step ③ up to full recommended tightening torque.



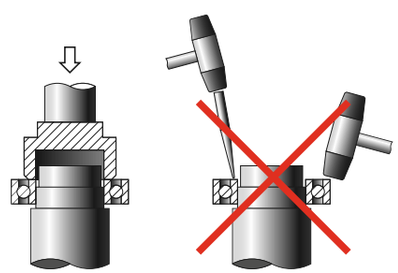
⑤Installation of Support Side Bearing Unit and Accuracy Check

- Move the carriage toward the support side bearing unit and align.
- Reciprocate the carriage so that it travels smoothly throughout the whole stroke.
- Fully tighten the mounting screws while checking the accuracy of each part.
- If the outcome is not satisfactory, repeat the preceding steps until smooth motion is obtained.



Precautions on Support Unit Installation

When inserting ball screws into fixed side support units, some cases will be slip-fit and others may be light press-fit cases.
If the fit appears to be a light-press, do not force the bearing onto the screw shaft in a tilted manner, and do not strike the bearing inner ring as well as support unit housing. In case if there is any interference between the screw shaft and the bearing inner ring, gently press the bearing using a spacer corresponding with the inner ring by either a press or a jack. It is necessary to ease shock to the bearing as much as possible. Furthermore, do not bend the screw shaft. If there is any interference between the screw shaft and the bearing inner ring, do not insert the ball screw forcibly. Remove the screw at once and correct the swell on the shaft, then try reassembling.



Good | Bad