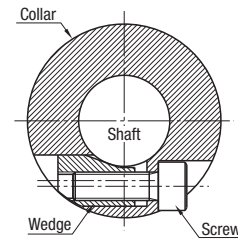
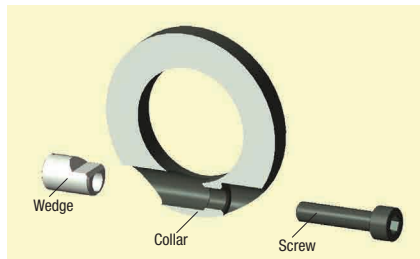


Shaft Collars Guide

Wedge Mechanism / Clamping Force Data

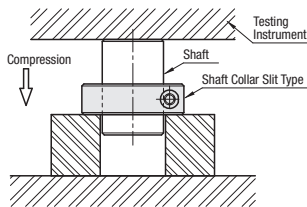
Wedge Mechanism Features

- The screws pull a wedge and the shaft is clamped; this structure requires less force for tightening.
- Good work efficiency; suitable for use in frequent positioning adjustments like width guide applications. The wedge for "With Clamp Lever Type" (P.355) is made of brass and does not damage shafts.



Tightening Torque of Slit Type, Wedge Type & Keyless Bushing Type Shaft Collars

Testing Method



Testing Conditions

1. Shaft: MISUMI Hardened Shaft (SFJ) Page P.202
2. Testing Instrument: Universal Tester
3. Tightening Torque: Select Tightening Torque from the tables on the right depending on the conditions of use.
4. Condition of Antirust Oil: Wipe down with cloth upon opening.

Definition of Max. Thrust Load

The shaft collar is tightened to torque value(s) shown in the chart below, then compressive load is applied with the tester. The compressive load where the shaft begins to move is defined as the Max. Thrust Load.

Clamp Type / Wedge

Nominal	Tightening Torque (Nm)	
	1045 Carbon Steel or Equivalent/ 304 Stainless Steel or Equivalent	2000 Series Aluminum Alloy
M2.6	0.94	—
M3	1.61	1.61
M4	3.71	3.71
M5	7.54	7.54
M6	12.87	7.54
M8	31.2	12.87
M10	61.75	12.87
M16	267	—

Keyless Bushing Type (Standard Type)

Nominal	Tightening Torque (Nm)	
	1045 Carbon Steel or Equivalent	304 Stainless Steel or Equivalent
M6	15.7	9.6

About Screw Tightening

Aluminum or plastic threads may be damaged by repetitive tightening and loosening of the screw.

Formula for Weight:
Weight (g) = Volume (cm³) x Specific Gravity P.3936
Specific Gravity 2017 Aluminum Alloy: 2.8, 1045 Carbon Steel or Equivalent: 7.9, 304 Stainless Steel: 8.0

Keyless Bushing Type (Nut Type)

D (Inner Dia.)	Tightening Torque (Nm)
	1045 Carbon Steel or Equivalent
12	29.4
16	49
20	105
25	171
30	218
35	288

Slit Type

Dimension			Max. Thrust Load (kN)				Weight (g)
D (Inner Dia.)	B (Width)	M	SCS / SCSJ (1045 Carbon Steel or Equivalent-Black Oxide)	SSCS (304 Stainless Steel or Equivalent)	SCSA (2000 Series Aluminum Alloy)	SCS / SCSJ (1045 Carbon Steel or Equivalent)	
3	*8	3	0.5	0.5	0.4	11	
4	8	3	0.5	0.5	0.3	14	
5	*6	2.6	0.7	0.4	—	8	
	8	3	1.1	0.7	0.6	17	
	10	4	1.3	1.0	—	26	
6	*6	2.6	0.7	0.4	—	10	
	8	3	1.1	0.5	0.4	17	
	10	4	1.8	1.0	—	21	
8	*6	2.6	0.9	0.3	—	14	
	8	3	0.6	0.6	0.1	26	
	10	4	2.2	1.1	0.3	32	
	12	5	3.3	1.5	—	58	
	15	6	5.1	1.2	—	71	
10	*6	2.6	0.7	0.3	—	17	
	8	3	1.2	0.4	—	36	
	10	4	2.0	1.0	0.3	45	
	12	5	5.1	0.9	—	55	
	15	6	3.9	2.1	—	95	
12	*6	2.6	0.7	0.3	—	16	
	8	3	1.1	0.8	—	34	
	10	4	2.8	0.8	0.5	43	
	12	5	4.0	1.2	—	52	
	15	6	10.0	3.6	—	92	
13	*8	3	1.1	0.8	—	28	
	10	4	2.0	0.7	0.7	43	
	12	5	5.9	1.3	—	67	
	15	6	4.6	1.6	—	90	
15	*8	3	1.5	0.6	—	31	
	10	4	1.5	1.1	1.4	54	
	12	5	5.1	1.8	—	69	
	15	6	5.6	1.4	—	119	

Dimension			Max. Thrust Load (kN)				Weight (g)
D (Inner Dia.)	B (Width)	M	SCS / SCSJ (1045 Carbon Steel or Equivalent-Black Oxide)	SSCS (304 Stainless Steel or Equivalent)	SCSA (2000 Series Aluminum Alloy)	SCS / SCSJ (1045 Carbon Steel or Equivalent)	
16	*8	3	2.1	1.1	—	29	
	10	5	7.1	2.9	1.6	55	
	12	5	5.4	2.3	2.4	67	
	15	6	10.2	1.5	—	116	
18	*10	5	6.5	1.8	—	75	
	12	5	5.1	2.3	—	89	
	15	6	9.4	1.6	—	148	
	*8	3	2.2	0.8	—	38	
20	10	5	5.8	2.7	1.4	69	
	12	5	6.4	1.7	3.4	84	
	15	6	10.4	3.0	3.0	140	
	*10	4	3.6	1.8	—	66	
25	12	5	8.8	2.6	2.1	98	
	15	6	8.8	3.6	2.0	164	
	20	6	10.0	1.2	—	284	
	*12	5	8.4	2.8	—	111	
30	15	6	8.9	2.2	2.4	185	
	20	8	15.0	4.0	—	318	
	*12	5	6.4	2.4	—	124	
35	15	6	9.9	2.7	1.8	207	
	*18	5	7.0	3.1	—	139	
40	18	8	21.3	6.0	6.3	348	
	*18	8	18.0	4.5	—	415	
50	22	10	35.8	11.8	6.7	604	
	22	10	21.0	—	—	698	
60	32	16	90.0	—	—	1954	
80	36	16	120.0	—	—	2639	

- Note 1. * marked are Compact Types only. (SCSJ, SSCSJ)
2. These values are merely test results, and not guaranteed by the manufacturer.
3. Use optimum tightening torques depending on the condition of use by users.

Wedge Type

Dimension			Max. Thrust Load (kN)			Weight (g)
D (Inner Dia.)	B (Width)	M	SCWM (1045 Carbon Steel or Equivalent-Black Oxide)	SSCWM (304 Stainless Steel or Equivalent)	SCWM (1045 Carbon Steel or Equivalent)	
10	10	4	1.6	1.2	29	
12	10	4	2.2	1.4	35	
15	10	4	1.8	1.5	37	
16	12	5	3.0	2.3	57	
20	12	5	3.5	3.0	69	
25	12	5	3.5	3.2	88	
30	12	5	3.2	3.2	94	
35	15	6	—	3.1	154	
40	15	8	—	3.1	243	
50	15	8	—	3.1	299	

Keyless Bushing Type (Standard Type)

Dimension				Max. Thrust Load (kN)		Weight (g)
D (Inner Dia.)	B (Width)	M	Screw Quantity	SCML (1045 Carbon Steel or Equivalent-Black Oxide)	SSCML (304 Stainless Steel or Equivalent)	SCML (1045 Carbon Steel or Equivalent)
12	27	6	3	13.3	4.0	291
16	27	6	3	13.3	4.0	259
20	27	6	4	17.8	5.3	372
25	27	6	4	17.8	5.3	371
30	28.5	6	5	22.2	6.7	523
35	28.5	6	5	22.2	6.7	534