Keyless Timing Pulleys
Overview

■Features of Keyless Timing Pulleys

· Machining on shafts such as keyway is not required.
· Unnecessity of machining on shafts retains the strength of shaft.
· Easy positioning.

■Installation

①Wipe off the shaft surface and apply oil or grease.
  (Do not use any oil or grease containing molybdenum disulfide agent.)
②Wipe off and apply oil or grease on mating surfaces of pulley and bushing as well. Apply to the threads and seat of the screws also.
③Temporarily assemble the pulley and bushing, then insert the shaft.
  (Do not tighten the bushing before inserting the shaft.)
④After locating, tighten the clamping screws using a torque wrench in the diagonal line order, beginning lightly (at approx. 1/4 of the specified tightening torque).
⑤Tighten the screws further to an increased torque value (approximately 1/2 of specified torque).
⑥Tighten the screws at the specified torque.
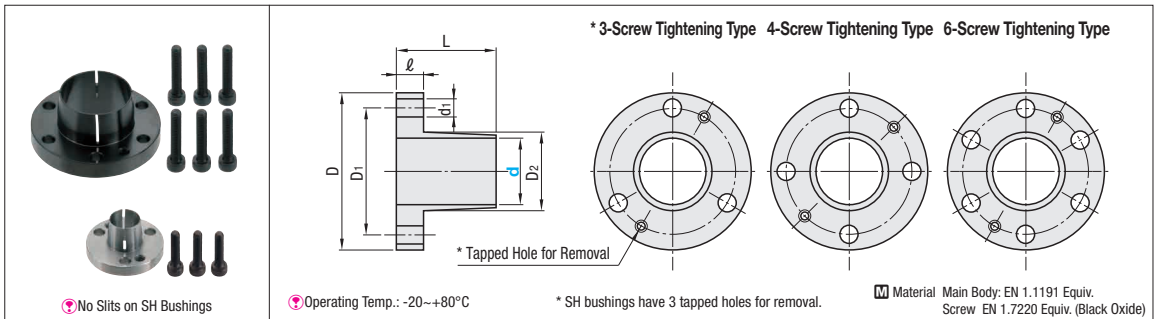⑦Finally, tighten the screws in a circumferential order.

■Cautions on Installation

·Be sure to apply oil or grease to the shaft surfaces, the contact surfaces b/w pulleys, bushings, and the locking screws before installation. If not, the MechaLock may not be tightened firmly; the shaft may slip at rotation.
· Screw tighten the bushing after inserting the shaft.
  (Bushing deforms if the screw is tightened before inserting the shaft.)
· Use a torque wrench to tighten the screws.
· Do not use screws other than the included tightening screws.

■Removal

· Be sure to work after the system is completely shut down.
· Loosen the tightening screws in circumferential order.
· Insert a screw in a hole for removal and tighten evenly.
· Repeat "Installation" process for re-installation.

* 3-Screw Tightening Type   4-Screw Tightening Type   6-Screw Tightening Type

* Tapped Hole for Removal

(!) No Slits on SH Bushings   (!) Operating Temp.: -20~+80°C   * SH bushings have 3 tapped holes for removal.

(M) Material Main Body: EN 1.1191 Equiv.
Screw EN 1.7220 Equiv. (Black Oxide)

■Bushing Dimension Table

· Standard Type Shape E (ST Bushings)

Shaft Bore Dia. d	Screw Qty.	Screw Size	Tapped Hole for Removal	Max. Allowable Torque N·m	Allowable Thrust Load kN	Tightening Torque N·m	D	D1	D2	d1	L	ℓ
8	4	M3x12	M3x2	16	4.0	2.0	25.5	19	10	3.3	15.5	4
10				39			30	22	12			
11	3	M4x16	M4x2	43	5.34	4.0	31	23	13	4.5	16.5	5
12				48			32	24	14			
14		M4x18	M4x2	73			35	27	16.6		22	6
15				78			36	28	17.6			
16				83	5.34	4.0	37	29	18.6	4.5		
17				88			38	30	19.6			
18	4	M5x20	M5x2	154			43	33	20.6		23	7
19				163			45	35	22.4			
20				171			46	36	23.4	5.5		
22				186	8.74	8.3	48	38	24.6			
24				206			50	40	26.6			
25				216			52	42	28.4			
28		M5x25	M5x2	353			54	44	30.6		24	8
30				382			57	47	33.4			
32				412	8.74	8.3	59	49	34.7	5.5	25	
35				451			63	53	38.4		26.5	9
38	6	M6x28	M6x2	686			70	58	42		28	10
40				725	12.3	13.7	71	59	43.5	6.6	30.5	
42				757			74	62	46		31.5	11
45		M8x35	M8x2	1490			84	69	49.5		28	
48				1600	22.7	34.3	87	72	52.5	8.8	38.5	13
50				1660			89	74	54.5			

kgf=Nx0.101972

· Short Type Shape F (SH Bushings)

Shaft Bore Dia. d	Screw Qty.	Screw Size	Tapped Hole for Removal	Max. Allowable Torque N·m	Allowable Thrust Load kN	Tightening Torque N·m	D	D1	D2	d1	L	ℓ
6	3	M3x10	M3x3	5.6	1.87	1.9	22.5	16	8.5	3.3	10.5	3
8				8.5	2.12		24.5	18	10.5			
10		M4x12	M4x3	18	3.59		29	21	12.75			
11				20	3.63	3.9	30	22	13.75	4.4	13	4
12				23	3.76		31	23	14.75			
14	4	M4x18	M4x2	37	5.21		36	26	17.65		17	5
15				39	5.10		37	27	18.65			
16				42	5.17	3.9	38	28	19.65	4.4		
17				45	5.23		39	29	20.65			
18				48	5.28		40	30	21.85			
19				49	5.12		42	32	22.85			
20		M5x18	M5x2	97	9.68		46	36	24.1		19	6
22				110	9.98		47	37	25.75			
24				121	10.00		49	39	27.75			
25	4			124	9.90		51	41	28.75	5.5		
28				141	10.00	7.8	53	43	31.75			
30				149	9.89		56	46	33.75			
32				163	10.12		58	47	35.75			
35				173	9.88		61	50	39.1		20	

kgf=Nx0.101972

· Shaft tolerance g6, shaft surface roughness Ra6.3 are standard.   kgf=Nx0.101972
· When there are keyway and D cut on the installation shaft, transmitting torque is reduced by approximately more than 15%.

■MechaLock Standard Type Incorporated

In addition to the above bushings, MechaLock Standard Type Incorporated Keyless Timing Pulleys (☞ **P.1491**) have been newly added to the lineup.
It provides centering function and tolerates average 1.2 times and 2.5 times greater torque than ST bushing and SH bushings respectively.