

# Keyless Timing Pulleys

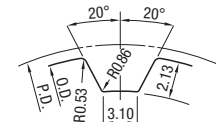
## L Type – Keyless Bushing with Centering Function

**Feature:** MechaLock Standard Type (P.1456) Incorporated Timing Pulleys. It tolerates an average of 1.2 times and 2.5 times greater torque compared to the conventional ST bushing and SH bushing respectively.

Keyless Timing Pulleys – L Type – Keyless Bushing with Centering Function



Tooth Profile (ISO Standard Rack Dimensions)

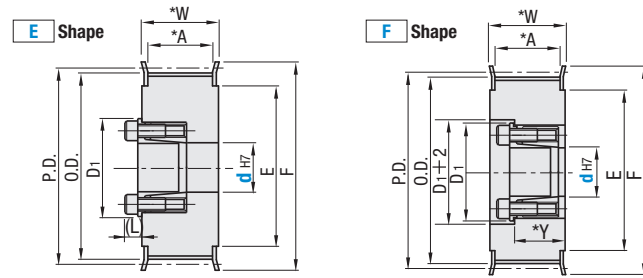


Tooth groove dimensions slightly change according to No. of teeth. (Pitch: 9.525 mm)

- The shaft bore may not have surface treatment.
- Cut Flange for 60 and 72 toothed pulleys.

Catalog No.				Material			Surface Treatment		
Belt Width 12.7 mm (1/2")	Belt Width 19.1 mm (3/4")	Belt Width 25.4 mm (1")	Belt Width 38.1 mm (1.5")	Pulley	Flange	Bushing	Pulley	Flange	Bushing
A: 14 W: 19 Y: 13	A: 21 W: 26 Y: 14 (18)	A: 27 W: 32 Y: 14 (22, 23, 5)	A: 40 W: 45 Y: 19 (28, 32)	Ultra Duralumin-Based Aluminum Alloy	Aluminum Alloy	1045 Carbon Steel or Equivalent	Clear Anodize	—	—
HPLA_L050	HPLA_L075	HPLA_L100	HPLA_L150	1045 Carbon Steel or Equivalent	Low Carbon Steel	1045 Carbon Steel or Equivalent	Hard Clear Anodize*	—	—
HPLK_L050	HPLK_L075	HPLK_L100	HPLK_L150				Electroless Nickel Plating	—	—
HPLN_L050	HPLN_L075	HPLN_L100	HPLN_L150	—					
HPLT_L050	HPLT_L075	HPLT_L100	HPLT_L150	—					
HPLM_L050	HPLM_L075	HPLM_L100	HPLM_L150	—					
HPLP_L050	HPLP_L075	HPLP_L100	HPLP_L150	—					

Pulley Shape



- Flange attached
- For installation, refer to P.1452, for details of keyless bushing, refer to P.1456.
- Y dimensions in ( ) require the shaft bore diameter of 12 and above.

Type	Teeth	Type, Nom. Width	Pulley Shape	d <sub>HT</sub> Range (Select Shaft Bore Dia. from Table 1)								P.D.	O.D.	F	E		
				E Shape				F Shape									
				L050	L075	L100	L150	L050	L075	L100	L150						
HPLA HPLK HPLN HPLT HPLM HPLP	14	L050 *A: 14 *W: 19 *Y: 13	E	8	10	8	10	8	10	8	10	8	10	42.45	41.68	48	35
	15			8	10	8	10	8	10	8	10	45.48	44.72				
	16			10	12	10	12	10	12	10	12	48.51	47.75	55	40		
	17			10	12	10	12	10	12	10	12	51.54	50.78				
	18			10	12	14	16	10	12	14	16	54.57	53.81	61	45		
	19			12	14	19	—	12	14	19	12	57.61	56.84	67	50		
	20			12	14	19	—	12	14	19	12	60.64	59.88	67	50		
	21			12	14	19	—	12	14	19	12	63.67	62.91	70	56		
	22			12	14	19	—	12	14	19	12	66.70	65.94	80	60		
	24			12	14	19	—	12	14	19	12	72.77	72.00	87	67		
	25			12	14	19	—	12	14	19	12	75.80	75.04				
	26			12	14	19	—	12	14	19	12	78.83	78.07	95	75		
	28			12	14	19	—	12	14	19	12	84.89	84.13				
	30			12	14	19	—	12	14	19	12	90.96	90.20	99	80		
32	12	14	19	—	12	14	19	12	97.02	96.26	104	84					
34	12	14	19	—	12	14	19	12	103.08	102.32	111	90					
36	12	14	19	—	12	14	19	12	109.15	108.39	123	102					
38	15	19	—	15	19	15	19	15	115.21	114.45	127	105					
40	15	19	—	15	19	15	19	15	121.28	120.51	131	110					
42	15	19	—	15	19	15	19	15	127.34	126.58	135	115					
44	15	19	—	15	19	15	19	15	133.40	132.64	140	120					
48	15	19	—	15	19	15	19	15	145.53	144.77	152	130					
50	16	19	—	16	19	16	19	16	151.60	150.83	160	140					
60	16	19	—	16	19	16	19	16	181.91	181.15	190	170					
72	16	19	—	16	19	16	19	16	218.30	217.53	225	200					

Part Number Example: HPLA20L075 - F - 15

Table 1: Select Shaft Bore Diameter

d <sub>HT</sub>	Max. Allowable Torque (Nm)		D <sub>1</sub>	(L)
	HPLA / HPLK HPLN / HPLT / HPLM	HPLP		
8	19.6	16.6	23.5	6
10	27.5	19.6	25.5	
12	44.1	36.2	28.5	
14	63.7	50.9	30.5	
15	80.4	54.8	31.5	
16	83.3	58.8	33.0	
17	92.2	76.4	33.5	6.5
18	95.1	80.3	34.5	
19	98.1	85.2	35.5	
20	216.0	183.0	42.0	
22	255.0	201.0	44.0	
24	363.0	252.0	46.0	
25	392.0	264.0	47.0	
28	441.0	295.0	50.0	
30	500.0	396.0	52.0	
32	530.0	423.0	54.0	
35	883.0	548.0	62.0	10
40	1079.0	779.0	67.0	
45	1285.0	882.0	72.0	
50	1706.0	1362.0	77.0	

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## L Type – Keyless Bushing with Centering Function, continued

Teeth	Available Types															
	L050		HPLA (x1.0)		HPLK (x1.1)		HPLN (x1.2)		L150		HPLT (x1.0)		HPLM (x1.05)		HPLP (x1.15)	
	E Shape	F Shape	E Shape	F Shape	E Shape	F Shape	E Shape	F Shape	E Shape	F Shape	E Shape	F Shape	E Shape	F Shape	E Shape	F Shape
14	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
24	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
25	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
26	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
28	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
30	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
32	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
34	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
36	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
38	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
40	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
42	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
44	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
48	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
50	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
60	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
72	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Part Number Alterations: HPLA20L075 - F - 15 - BMC

Alterations	Flange Cut	Flange Not Swaged	Flange Swaged on One Side	Surface Treatment
	FC	NFC	RFC / LFC	BMC / BMR
Code	FC	NFC	RFC / LFC	BMC / BMR
Spec.	<p>Lowers flange by cutting. FC: 0.5 mm Increment</p> <p>No surface treatment applied on flange circumference.</p> <p>FC=(O.D.)+2 FC=F-2 Ordering Code: FC35</p>	<p>Flange is not installed. (Flange included)</p>	<p>Flange installed on the hub side (LFC) or the opposite side (RFC) only prior to shipping.</p>	<p>Applies electroless nickel plating on a bushing. (Anti-rusting treatment applied to screws).</p> <p>Electroless nickel plated bushing decreases allowable torque by 20-30%.</p> <p>BMC: Non-RoHS-compliant (Screw: Dacrotized treatment applied 4137 Alloy Steel)</p> <p>BMR: RoHS-compliant (Screw: GeoMet coating applied 4137 Alloy Steel)</p>