


# High Torque Timing Pulleys - P2M, P3M

For High Torque Timing Belts, see **P.1501**. For Idlers with Teeth, see **P.1503**.

For e-Catalog non-standard products, see **P.131**.



**Standard Tooth Profile**

**P2M**  
(Pitch: 2.0mm)

**P3M**  
(Pitch: 3.0mm)

RoHS 10

Type	Belt Width			Material		Surface Treatment		Accessory
	6mm	10mm	15mm	Pulley	Flange	Surface Treatment	Set Screws	
PTPA	●	●	●	High Strength Aluminum Alloy	Aluminum Alloy	Clear Anodize	SUS304	
PTPM	●	●	●	S45C Equivalent	SPCC	Black Oxide	SCM435	
PTPP	●	●	●			Electroless Nickel Plating	(Black Oxide)	

Flange is already swaged, and set screws are included with for Shaft Bores P, N and C. \*The above material and accessory might be changed to the ones equivalent to the originals.

**Pulley Shape**

**K Shape** **A Shape** **B Shape**

**Tapped Hole Dimensions**

**P2M**

dh7 Shaft Bore I.D. (Coarse)	M	Accessory: Set Screw
3~ 6.35	M3	M3x3
7~22	M4	M4x3

**P3M**

dh7 Shaft Bore I.D. (Coarse)	M	Accessory: Set Screw
4~ 6.35	M3	M3x3
7~12	M4	M4x3
13~22	M5	M5x4

Shaft Bore Specs. H (Round hole), V (Stepped Hole) and WB (Two-stepped Hole) do not have tapped holes. It may have a relief in the tapped hole depending on its size.

**Number of Teeth / Dimension**

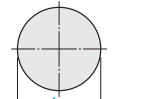
Standard	mm	Number of Teeth																				
		14	15	16	18	20	22	24	25	26	28	30	32	36	40	42	44	48	50	60		
P2M Type	P.D.	8.91	9.55	10.19	11.46	12.73	14.01	15.28	16.56	17.83	19.10	20.37	21.64	22.92	24.19	25.46	26.74	28.01	30.56	31.83	38.20	
	O.D.	8.40	9.04	9.68	10.95	12.22	13.50	14.77	16.04	17.32	18.59	19.86	21.14	22.41	23.68	24.96	26.23	27.50	30.05	31.32	37.69	
	F	12	13	13	15	17	17	17	20	22	22	22	24	26	26	28	32	32	35	35	40	44
	D	12	12	14	14	16	16	16	16	16	16	16	18	18	18	18	18	18	18	18	22	28
	E	6	6	8	8	10	10	10	10	14	14	16	18	18	23	23	25	25	28	28	32	32

Standard	mm	Number of Teeth															
		10	12	14	15	16	18	20	22	24	25	26	28	30	32	36	40
P3M Type	P.D.	9.55	11.46	13.37	14.32	15.28	17.19	19.10	21.01	22.92	23.87	24.83	26.74	28.65	30.56	34.38	38.20
	O.D.	8.79	10.70	12.61	13.56	14.52	16.43	18.34	20.25	22.16	23.11	24.07	25.98	27.89	29.80	33.62	37.44
	F	12	15	17	17	21	25	12	14	14	16	18	18	18	24	28	28
	D	12	14	16	16	16	16	16	16	16	16	16	16	16	16	16	16
	E	6	8	10	10	10	10	14	16	18	18	20	20	23	25	28	32

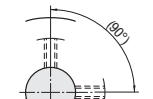
**Shaft Bore Specs** Select shaft bore spec mark and each dim. from the table below. Surface treatment may not be applied to shaft bores.

**H** Round Hole



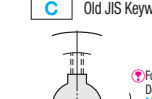
No tapped holes or set screws.

**P** Round Hole + Tap



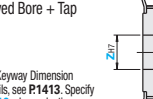
Shaft Bore Dia. 4.5 and 6.35 are selectable when the shaft bore dim. d is within the selection range.

**N** New JIS Keyway Bore + Tap



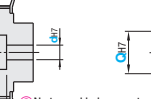
For Keyway Dimension Details, see P.1413. Specify "New JIS Keyway Bore" + "Shaft Bore Dia. 10" + "Keyway Width 4.0mm (Height 1.8mm)".

**V** Stepped Hole



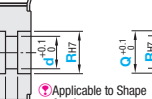
No tapped holes or set screws.

**Y** Both Ends Stepped Hole



Applicable to Shape A only.

**WB** Two-stepped Hole



No tapped holes or set screws.

**P2M**

Part Number	Type	Number of Teeth	Type Nominal Width	Pulley Shape												
				Shaft Bore Specs. "A": 1mm Increments "N, C": Selectable						Shaft Bore Specs. "B, K": 1mm Increments "N, C": Selectable						
		Round Hole		Keyway + Tap		V Stepped Hole		Both Sides Stepped Hole, WB Two-stepped Hole		Round Hole		Keyway + Tap		V Stepped Hole		
Aluminum PTPA	P2M060	14	3	-	-	-	-	-	-	-	3, 4	-	-	-	-	
		15	3	-	-	-	-	-	-	-	3, 4	-	-	-	-	
		16	3-4	-	-	-	-	-	-	-	3-5	-	-	-	-	
		18	3-4	-	-	-	-	-	-	-	3-6	-	-	-	-	
		20	4-6	4	-	4	6	-	-	-	4-6.35	-	-	-	-	
		22	4-6	4	-	4	6	-	-	-	4-6.35	-	-	-	-	
		24	4-6	4	-	4	6	-	-	-	4-6.35	-	-	-	-	
		25	4-10	4-6	-	4-8	6-10	-	-	-	4-6.35	-	-	-	-	
		28	5-10	5-6	-	5-8	7-10	-	-	-	5-8	5-6.35	-	5-6	7-8	-
		30	5-12	5-8	-	5-10	7-12	-	-	-	5-8	5-8	-	5-6	7-8	-
		32	5-14	5-10	8	5-12	7-14	2sJs-W-2	-	-	5-8	5-8	-	5-6	7-8	-
		36	5-14	5-10	8	5-12	7-14	-	-	-	5-10	5-8	-	5-8	7-10	-
40	5-19	5-13	8-10	5-17	7-19	-	-	-	5-12	5-10	8	5-10	7-12	2sJs-L-2		
42	5-19	5-13	8-10	5-17	7-19	-	-	-	5-14	5-12	8, 10, NK10	5-12	7-14	-		
44	5-21	5-15	8-13	5-19	7-21	-	-	-	5-14	5-12	8, 10, NK10	5-12	7-14	-		
48	5-21	5-15	8-13	5-19	7-21	-	-	-	5-14	5-12	8, 10, NK10	5-12	7-14	-		
50	5-24	5-18	8-15	5-22	7-24	-	-	-	5-18	5-15	8-13	5-14	7-16	-		
60	5-28	5-22	8-20	5-26	7-28	-	-	-	5-24	5-19	8-18	5-17	7-19	-		

Shaft Bore Dia. 9 is not available for Shaft Bore Specs. N. Shaft Bore Dia. 8, 11, 13, 14, 17 are not available for Shaft Bore Specs. C. Shaft Bore Dia. 4.5 and 6.35 are selectable for Shaft Bore Specs. H, P, V.

**P3M**

Part Number	Type	Number of Teeth	Type Nominal Width	Pulley Shape												
				Shaft Bore Specs. "A": 1mm Increments "N, C": Selectable						Shaft Bore Specs. "B, K": 1mm Increments "N, C": Selectable						
		Round Hole		Keyway + Tap		V Stepped Hole		Both Sides Stepped Hole, WB Two-stepped Hole		Round Hole		Keyway + Tap		V Stepped Hole		
Steel PTPM PTPP	P3M100	10	3	-	-	-	-	-	-	-	4	-	-	-	-	
		12	4	-	-	-	-	-	-	-	4, 5	-	-	-	-	
		14	4-6	4	-	4	6	-	-	-	4-6.35	-	-	-	-	
		15	4-6	4	-	4	6	-	-	-	4-6.35	-	-	-	-	
		16	4-6	4	-	4	6	-	-	-	4-6.35	-	-	-	-	
		18	4-10	4-8	-	4-8	6-10	-	-	-	4-6.35	-	-	-	-	
		20	4-12	4-10	-	4-10	6-12	-	-	-	4-6.35	-	-	-	-	
		22	5-14	5-10	8	5-12	7-14	-	-	-	5-12	7-14	-	-	-	-
		24	5-14	5-10	8	5-12	7-14	2sJs-W-2	-	-	5-10	5-9	-	6	9	-
		25	5-16	5-10	8	5-14	7-16	-	-	-	5-10	5-9	-	6	9	-
		26	6-16	6-10	8	6-14	8-16	-	-	-	6-12	6-10	8	7	10	-
		28	6-19	6-13	8, 10, NK10	6-17	8-19	-	-	-	6-14	6-12	8, 10, NK10	7, 8, 9	10-12	2sJs-L-2
32	6-21	6-15	8-13	6-19	8-21	-	-	-	6-14	6-12	8, 10, NK10	7, 8, 9	10-12	-		
36	6-21	6-15	8-13	6-19	8-21	-	-	-	6-14	6-12	8, 10, NK10	7, 8, 9	10-12	-		
40	6-24	6-18	8-15	6-22	8-24	-	-	-	6-20	6-16	8-15	7-13	10-16	-		
Aluminum PTPA	P3M150	24	6-28	6-22	8-20	6-26	8-28	-	6-22	6-18	8-16	7-14	10-18	-		

Shaft Bore Dia. 9 is not available for Shaft Bore Specs. N. Shaft Bore Dia. 8, 11, 13, 14, 17 are not available for Shaft Bore Specs. C. Shaft Bore Dia. 4.5 and 6.35 are selectable for Shaft Bore Specs. H, P, V.

**Ordering Example** (Shaft Bore Specs.: H, P, N, C) (Shaft Bore Specs.: V) (Shaft Bore Specs.: Y, WB)

Part Number - Pulley Shape - Shaft Bore Specs., LD. - Z - J - Q - R - S - T

PTPA48P2M060 - B - NK10  
 PTPM32P3M100 - B - V7 - Z10 - J6  
 PTPA40P3M150 - A - Y10 - Q19 - R15 - S5 - T4

**P2M**

Number of Teeth	Body Price		Shaft Bore Machining Charge (Body Price +)	
	PTPA P2M060	M	Accessory: Set Screw	
14			M3	M3x3
15			M3	M3x3
16			M4	M4x3
18			M4	M4x3
20			M4	M4x3
22			M4	M4x3
24			M4	M4x3
25			M4	M4x3
26			M4	M4x3
28			M4	M4x3
30			M4	M4x3
32			M4	M4x3
36			M5	M5x4
40			M5	M5x4

**P3M**

Number of Teeth	Body Price				Shaft Bore Machining Charge (Body Price +)			
	PTPA P3M100	P3M150	PTPM P3M100	P3M150	PTPP P3M100	P3M150	Accessory: Set Screw	
10							M3	M3x3
12							M3	M3x3
14							M3	M3x3
15							M3	M3x3
16							M4	M4x3
18							M4	M4x3
20							M4	M4x3
22							M4	M4x3
24							M4	M4x3
25							M4	M4x3
26							M4	M4x3
28							M4	M4x3
30							M4	M4x3
32							M4	M4x3
36							M5	M5x4
40							M5	M5x4

**Alterations** Part Number - Pulley Shape - Shaft Bore Specs., Hole Dia. - Z - J - (KC120... etc.)

PTPA48P2M060 - B - N10 - NFC

Alterations	Set Screw Angle	Flange Not Swaged	Flange Swaged on One Side	Flange Cut	Hub Shortening
Code	KC120	NFC	RFC, LFC	FC	BC
Spec.	Changes angle layout of set screws to 120°. For A-Shape pulley, the screw holes are set at around 120° to keep away from peaks.	(Flange 2 pcs. Included) Ordering Code: NFC	(Flange 1 pc. Included) Ordering Code: RFC	Cut the flange O.D. in 0.5mm increment. Ordering Code: FC17	Cuts the hub length in 0.5mm increment. Ordering Code: BC6.5

**Alterations** Add Side Holes Conditions may vary depending on the shaft bore specs. P.1414

Alterations	Side Tapped Hole	Side Through Hole	Side Counterbored
Code	QTC, QFC	KTC, KFC	ZTC, ZFC
Spec.	Machines tapped hole on the side surface of hub side. Ordering Code: QTC28-M4. Specify the hole position (P. C. D. dim.). M Selection: M3, M4, M5. Minimum Thickness: 2mm Formula P.1414. Conditions may vary depending on the shaft bore specs. P.1414.	Machines through hole on the side surface. Ordering Code: KTC28-K4.5. Specify the hole position (P. C. D. dim.). K4.0 ~ 11.0 (0.5mm Increments). Minimum Thickness: 2mm Formula P.1414. Conditions may vary depending on the shaft bore specs. P.1414.	Machines counterbored hole on the side surface. Ordering Code: ZTC28-Z4. Specify the hole position (P. C. D. dim.). Z Selection: ZM3, ZM4, ZM5. Minimum Thickness: 2mm Formula P.1414. Conditions may vary depending on the shaft bore specs. P.1414.

For details, see Shaft Alteration Overview. P.1414