High Torque Timing Pulleys - P5M

Compatible with P5M Type from Tsubakimoto Chain Co.

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

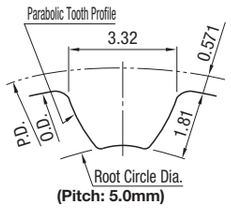
For High Torque Timing Belts, see P.1501. For Keyless High Torque Timing Pulleys, see P.1471. For Idlers with Teeth, see P.1487.

Type	Belt Width 10mm P5M100	Belt Width 15mm P5M150	M Material*1 Pulley	M Material*1 Flange	S Surface Treatment	A Accessory*1 Set Screws
PTPA	●	●	Aluminum Alloy	Aluminum Alloy	Clear Anodize	SUS304
PTPB	●	●			Black Anodize	
PTPK	●	●			Hard Clear Anodize*2	
PTPN	●	●			Electroless Nickel Plating	
PTPM	●	●	S45C Equivalent	SPCC	Black Oxide	SCM435 (Black Oxide)
PTPP	●	●			Electroless Nickel Plating	

Flange is already swaged, and set screws are included with for Shaft Bores P, N and C.

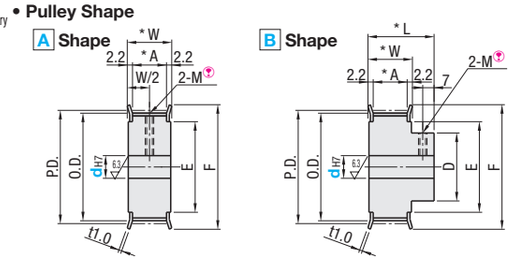
*1. The above material and accessory might be changed to the ones equivalent to the originals.
*2. Hard Clear Anodize: Film Hardness 300HV ~

Standard Tooth Profile Tooth groove dimensions slightly vary according to the number of teeth.



(Pitch: 5.0mm)

• **Pulley Shape**



Tapped Hole Dimensions (Shaft Bore Specs.: P, N, C)

dH7 Shaft Bore I.D.	M (Coarse)	Accessory: Set Screw
5~12	M4	M4x3
13~17	M5	M5x4
18~30	M6	M6x5
31~45	M8	M8x6
46~70	M10	M10x8

Shaft Bore Specs. H (Round hole), V or F (Stepped Hole), Y (Both Sides Stepped Hole) and WB (Two-stepped Hole) do not have tapped holes.

Number of Teeth / Dimension

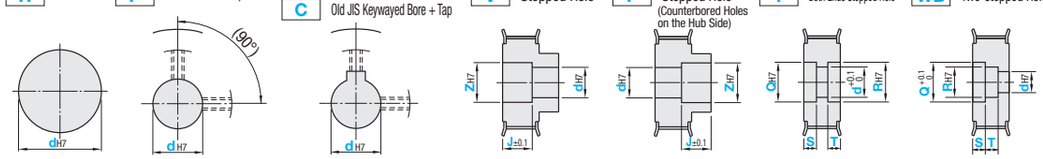
mm		Number of Teeth 12	14	15	16	18	20	22	24	25	26	28	30	32	34	36	40	44	48	50	60	72
P.D.		19.10	22.28	23.87	25.46	28.65	31.83	35.01	38.20	39.79	41.38	44.56	47.75	50.93	54.11	57.30	63.66	70.03	76.39	79.58	95.49	114.59
O.D.		17.96	21.14	22.73	24.32	27.51	30.69	33.87	37.06	38.65	40.24	43.42	46.60	49.79	52.97	56.15	62.52	68.89	75.25	78.44	94.35	113.45
D		11	13	15	17	19	19	25	25	30	30	32	35	38	42	44	48	56	58	64	80	90
F	Aluminum	22	25	28	30	32	35	40	44	44	48	50	55	55	61	67	67	74	83	87	104	119
	Steel	22	25	-	30	32	35	40	44	44	48	50	55	55	-	67	67	74	83	87	104	-
E	Aluminum	14	16	18	20	23	25	28	32	32	36	38	40	40	46	50	50	58	63	67	84	100
	Steel	14	16	-	20	23	25	28	32	32	36	38	40	40	-	50	50	58	63	67	84	-

Belt Nominal Width / Dimension

mm	Nominal P5M100	Nominal P5M150
A	11.6	16.6
W	16.0	21.0
L	28.0	33.0

• **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 | P Round Hole + Tap | N New JIS Keywayed Bore + Tap | C Old JIS Keywayed Bore + Tap | V Stepped Hole | F Stepped Hole (Counterbored Holes on the Hub Side) | Y Both Ends Stepped Hole | WB Two-stepped Hole



- No tapped holes or set screws.
- Shaft Bore Dia. 6.35 is selectable when the shaft bore dim. d is within the selection range.
- For A-Shape pulley, the screw holes are set at around 90° to keep away from peaks.
- Shaft Bore Dia. 6.35 is selectable when the shaft bore dim. d is within the selection range.
- For Keyway Dimension Details, see P.1413. Specify NK10 when selecting "New JIS Keywayed Bore" + "Shaft Bore Dia. 10" + "Keyway Width 4.0mm (Height 1.8mm)".
- No tapped holes or set screws.
- Shaft Bore Dia. 6.35 is selectable when the shaft bore dim. d is within the selection range.
- Applicable to Shape B only.
- No tapped holes or set screws.
- Shaft Bore Dia. 6.35 is selectable when the shaft bore dim. d is within the selection range.
- Applicable to Shape A only.
- Shaft Bore Dia. d is +0.1 / 0
- No tapped holes or set screws.
- Applicable to Shape A only.
- No tapped holes or set screws.

Part Number: Type	Number of Teeth	Type Nominal Width	Pulley Shape	A: H(d) Round Hole	A: P(d) Round Hole + Tap	A: N(d), C(d) Keyway + Tap	A: V Stepped Hole V(d)	A: V Stepped Hole Z Z-d≥2	A: J (0.1mm Increment)	A: Y (Both Ends Stepped Hole), WB (Two-stepped Hole) Y(d), WB(d)	A: Q, R Q(R)-d≥2	A: S, T (0.1mm Increment)	B: H(d) Round Hole	B: P(d) Round Hole + Tap	B: N(d), C(d) Keyway + Tap	B: V, F Stepped Hole V(d), F(d)	B: V, F Stepped Hole Z Z-d≥2	B: J (0.1mm Increment)
Aluminum PTPA PTPB PTPK PTPN / Steel PTPM PTPP	12	P5M100	A	5~10	5, 6	-	5~8	7~10	3.0≤J≤W-3.0	5~8	7~10	3~14 S+T≤W-3	5~7	-	-	5	7	3.0≤J≤L-3.0
	14			5~11	5~8		5~9	7~11		5~9	7~11		5~9	5		5~7	7~9	
	15			5~14	5~8	8	5~12	7~14		5~12	7~14		5~11	5~7	8	5~9	7~11	
	16			5~15	5~10	8	5~13	7~15		5~13	7~15		5~13	5~7	8	5~11	7~13	
	18			6~17	6~13	8~11	6~15	8~17		6~15	8~17		6~15	6~9	8~11	6~13	8~15	
	20			6~17	6~15	8~11	6~15	8~17		6~15	8~17		6~15	6~9	8~11	6~13	8~15	
	22			8~22	8~17	8~15	8~20	10~22		8~20	10~22		8~21	8~13	8~15	8~19	10~21	
	24			8~22	8~20	8~15	8~20	10~22		8~20	10~22		8~21	8~13	8~15	8~19	10~21	
	25			10~25	10~20	10~18	10~23	12~25		10~23	12~25		10~25	10~18	10~18	10~23	12~25	
	26			10~25	10~20	10~18	10~23	12~25		10~23	12~25		10~25	10~18	10~18	10~23	12~25	
	28			10~27	10~22	10~20	10~25	12~27		10~25	12~27		10~27	10~20	10~20	10~25	12~27	
	30			12~29	12~24	12~22	12~27	14~29		12~27	14~29		12~29	12~23	12~22	12~27	14~29	
	32			12~31	12~26	12~25	12~29	14~31		12~29	14~31		12~31	12~26	12~25	12~29	14~31	
	34			12~35	12~30	12~25	12~33	14~35		12~33	14~35		12~35	12~30	12~25	12~33	14~35	
	36			12~35	12~34	12~30	12~33	14~35		12~33	14~35		12~35	12~32	12~30	12~33	14~35	
	40			12~37	12~34	12~32	12~35	14~37		12~35	14~37		12~37	12~34	12~32	12~35	14~37	
	44			15~43	15~42	15~38	15~41	17~43		15~41	17~45		15~43	15~42	15~38	15~41	17~43	
	48			15~43	15~43	15~38	15~41	17~43		15~41	17~46		15~43	15~43	15~38	15~41	17~43	
	50			15~47	15~45	15~40	15~45	17~47		15~45	17~50		15~47	15~45	15~40	15~45	17~47	
	60			15~57	15~45	15~40	15~55	17~57		15~55	17~60		15~57	15~45	15~40	15~55	17~57	
	72			15~85	15~70	15~50	15~85	17~91		15~80	17~92		15~84	15~70	15~50	15~82	17~86	

Shaft Bore Dia. 9 is not available for Shaft Bore Specs. N.
Shaft Bore Dia. 8, 11, 13, 14, 17, 21~50 are not available for Shaft Bore Spec. C.
Shaft Bore Dia. 6.35 is selectable for Shaft Bore Specs. H, P, V and F.

Ordering Example

	Part Number	Pulley Shape	Shaft Bore Specs., I.D.	Z	J	Q	R	S	T
(Shaft Bore Specs.: H, P, N, C)	PTPA20P5M150	A	NK10						
(Shaft Bore Specs.: V, F)	PTPA60P5M100	B	V20	Z29	J22				
(Shaft Bore Specs: Y, WB)	PTPA36P5M150	A	Y17			Q30	R30	S7	T7

Number of Teeth	Body Price PTPA (x1.0) PTPB, PTPK (x1.1) PTPN (x1.2) P5M100 Shape A	P5M100 Shape B	P5M150 Shape A	P5M150 Shape B	PTPM, PTPP (+JPY500) P5M100 Shape A	P5M100 Shape B	P5M150 Shape A	P5M150 Shape B	Shaft Bore Machining Charge (Body Price +) PTPA, PTPB, PTPK, PTPN P Hole	N, C, V, F Hole	Y, WB Hole	PTPM, PTPP P Hole	N, C, V, F Hole	Y, WB Hole
12														
14														
15					-	-	-	-				-	-	-
16														
18														
20														
22														
24														
25														
26														
28														
30														
32														
34					-	-	-	-				-	-	-
36														
40														
44														
48														
50														
60														
72					-	-	-	-				-	-	-

Alterations

Part Number - Pulley Shape - Shaft Bore Specs., I.D. - Z - J - Q - R - S - T - (KC120··· etc.)
PTPA60P5M150 - B - H40 - BC8.5

Alterations	Set Screw Angle	Flange Not Swaged	Flange Swaged on One Side	Flange Cut
Code	KC120	NFC	RFC, LFC	FC
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 FC45 Application Notes: FC≥(O.D.)+1; FC≤F-2; No surface treatment is applied on flange circumference.

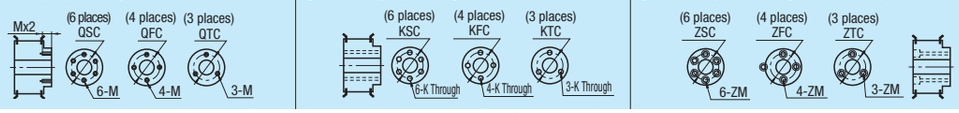
Alterations	Retaining Ring Groove	Adds taper for retaining bearing	Hub Shortening	Tapped Hole Dimensions	Changes the length of the included set screws
Code	SRG	BTC	BC	TPC	SLH
Spec.	Retaining Ring Groove applicable to the shaft dia. of stepped hole is machined. Retaining Ring Groove Dim. P.1413 Specify SRG 2.5~12.5mm 0.5mm Increments. Application Notes: Minimum Thickness: 2mm; Applicable to Shaft Bore Specs. V and F only; Standards of retaining ring groove for Z dim. is applied.; n≤J-SRG-m. Ordering Code SRG7	Add taper for retaining bearing inner ring. Ordering Code BTC5-TL1.5. Application Notes: Applicable to Shape A only; Applicable to Shaft Bore Specs. H and P only; TL<L-W	Cuts the hub length in 0.5mm increment. Ordering Code BC6.5. Application Notes: Shaft Bore Specs.H, V, F: 3≤BC<L-W; Shaft Bore Specs.P, N, C: M+3≤BC<L-W; Not available for Shape A.	Ordering Code TPC5. Application Notes: Applicable to Shaft Bore Specs. P, N, C only.	Ordering Code SLH10. Application Notes: Applicable to Shaft Bore Specs. P, N, C only.

M	TPC
M4	M5
M5	M4, M6
M6	M5, M8
M8	M6
M10	M8

Set Screws	SLH
M4x3	5, 8
M5x4	6, 10
M6x5	10
M8x6	10, 12
M10x8	12, 15

For details, see Shaft Alteration Overview. P.1414

Alterations	Add Side Holes (Conditions may vary depending on the shaft bore specs. P.1414) Side Tapped Hole	Side Through Hole	Side Counterbored
Code	QTC, QFC, QSC	KTC, KFC, KSC	ZTC, ZFC, ZSC
Spec.	Machines tapped hole on the side surface of hub side. Ordering Code QTC28-M4. Q□C Selection: Specify the hole position (P. C. D. dim.). M Selection: M3, M4, M5, M6, M8. Application Notes: 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. K□C Selection: Specify the hole position (P. C. D. dim.). Code K: K4.0 ~ 13.0 (0.5mm Increments). Application Notes: 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. Z□C Selection: Specify the hole position (P. C. D. dim.). Z Selection: ZM3, ZM4, ZM5, ZM6, ZM8. Application Notes: 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