Timing Pulleys - T10

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

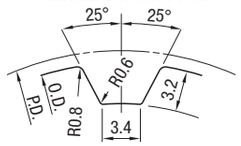
For Timing Belts, see P.1504. For Long Timing Belts, see P.1507. For Keyless High Torque Timing Pulleys, see P.1475, 1476. For Idlers with Teeth, see P.1489.

RoHS

Type	Belt Width 15mm T10150	20mm T10200	25mm T10250	30mm T10300	40mm T10400	50mm T10500	M Material*1 Pulley	Flange	S Surface Treatment	A Accessory*1 Set Screws
TTPA	●	●	●	●	●	●	Aluminum Alloy	Aluminum Alloy	Clear Anodize	SUS304
TTPB	●	●	●	●	●	●			Black Anodize	
TTPK	●	●	●	●	●	●			Hard Clear Anodize*2	
TTPN	●	●	●	●	●	●			Electroless Nickel Plating	
TTPT	●	●	●	●	●	●	S45C Equivalent	SPCC	-	SCM435 (Black Oxide)
TTPM	●	●	●	●	●	●			Black Oxide	
TTPP	●	●	●	●	●	●			Electroless Nickel Plating	

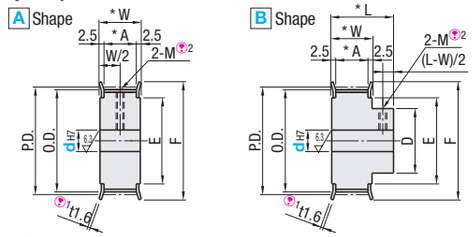
Flange is already swaged, and set screws are included with for Shaft Bores P, N and C. *1. The above material and accessory might be changed to the ones equivalent to the originals.
*2. Hard Clear Anodize: Film Hardness 300HV ~

Standard Tooth Profile



Tooth groove dimensions slightly vary according to the number of teeth.
(Pitch: 10.0mm)

• Pulley Shape



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

dH7 Shaft Bore I.D.	M (Coarse)	Accessory: Set Screw
8~12	M4	M4x3
13~17	M5	M5x4
18~30	M6	M6x5
31~45	M8	M8x6
46~70	M10	M10x8

1. t=2.0 for 34, 50 and 60 toothed pulleys. (Machined Flange)
2. 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
P.D.	38.20	44.56	47.75	50.93	57.30	63.66	70.03	76.39	79.58	82.76	89.13	95.49	101.86	108.23	114.59	127.32	140.06	152.79	159.15	190.99
O.D.	36.35	42.70	45.90	49.05	55.45	61.80	68.15	74.55	77.70	80.90	87.25	93.65	100.00	106.40	112.75	125.45	138.20	150.95	157.30	189.10
D	-	32	33	37	40	47	50	60	63	63	70	75	85	90	95	100	100	100	100	100
F	40	48	52	58	61	67	80	87	87	87	95	104	111	115	123	135	152	160	170	200
E	27	35	36	40	45	50	60	67	67	67	75	84	90	95	102	115	130	140	150	175

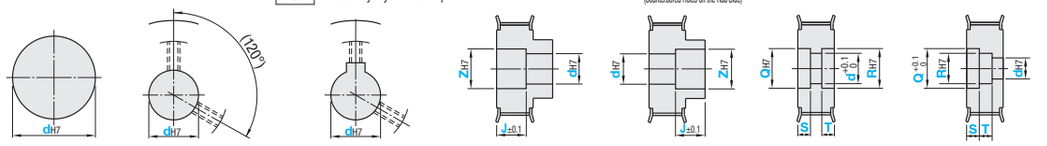
Belt Nominal Width / Dimension

mm	Nominal T10150	T10200	T10250	T10300	T10400	T10500
A	17	22	27	32	43	53
W	22	27	32	37	48	58
L Number of Teeth 12-40	37	42	47	52	61	70
L Number of Teeth 44-80	37	42	52	57	63	70

• 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 Keyawed Bore + Tap | C Old JIS Keyawed 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.

For A-Shape pulley, the screw holes are set at around 120° to keep away from peaks.

For Keyway Dimension Details, see P.1413. Specify NK10 when selecting "New JIS Keyawed Bore" + "Shaft Bore Dia. 10" + "Keyway Width 4.0mm (Height 1.8mm)".

No tapped holes or set screws.

Applicable to Shape B only. No tapped holes or set screws.

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	Pulley Shape: A — Shaft Bore Specs. "~": 1mm Increments ",": Selectable — H(d) Round Hole	P(d) Round Hole + Tap	N(d), C(d) Keyway + Tap	V Stepped Hole V(d)	V Stepped Hole Z d≥2	V Stepped Hole J (0.1mm Increment)	Y Both Ends Stepped Hole Y(d), WB(d)	WB Two-stepped Hole Q, R (Q)-d≥2	WB Two-stepped Hole S, T (0.1mm Increment)
	12		A	8~23	8~18	8~18	8~21	10~23		8~21	10~23	
	14		B	10~31	10~26	10~26	10~29	12~31		10~29	12~31	
	15			10~32	10~26	10~26	10~30	12~32		10~30	12~32	
	16			12~36	12~30	12~30	12~34	14~36		12~34	14~36	
	18			12~41	12~30	12~30	12~39	14~41		12~39	14~41	
Aluminum	20	T10150		12~46	12~40	12~40	12~44	14~46		12~44	14~46	
TTPA	22			12~56	12~48	12~48	12~54	14~56		12~54	14~56	
TTPB	24	T10200		12~63	12~50	12~50	12~61	14~63		12~61	14~63	
TTPK	25			12~63	12~50	12~50	12~61	14~63		12~61	14~63	
TTPN	26	T10250		12~63	12~50	12~50	12~61	14~63	3.0≤J≤W-3.0	12~61	14~63	3~17 S+T≤W-3
	28	T10300		12~68	12~57	12~50	12~66	14~68		12~66	14~68	
Steel	30			12~76	12~65	12~55	12~74	14~76		12~74	14~76	
TTPT	32	T10400		20~80	20~70	20~55	20~80	22~82		20~80	22~82	
TTPM	34			20~80	20~70	20~55	20~80	22~92		20~80	22~92	
TTPP	36	T10500		20~85	20~70	20~55	20~83	22~94		20~83	22~94	
	40			20~85	20~70	20~55	20~83	22~95		20~83	22~95	
	44			20~85	20~70	20~55	20~83	22~95		20~83	22~95	
	48			20~85	20~70	20~55	20~83	22~95		20~83	22~95	
	50			20~85	20~70	20~55	20~83	22~95		20~83	22~95	
	60			20~85	20~70	20~55	20~83	22~95		20~83	22~95	

Part Number Type	Number of Teeth	Type Nominal Width	Pulley Shape	Pulley Shape: B — Shaft Bore Specs. "~": 1mm Increments ",": Selectable — H(d) Round Hole	P(d) Round Hole + Tap	N(d), C(d) Keyway + Tap	V, F Stepped Hole V(d), F(d)	V, F Stepped Hole Z d≥2	V, F Stepped Hole J (0.1mm Increment)
	12		A	-	-	-	-	-	-
	14		B	10~28	10~22	10~20	10~26	12~28	
	15			10~29	10~23	10~20	10~27	12~29	
	16			12~33	12~27	12~22	12~31	14~33	
	18			12~36	12~30	12~25	12~34	14~36	
Aluminum	20	T10150		12~43	12~35	12~29	12~41	14~43	
TTPA	22			12~46	12~38	12~32	12~44	14~46	
TTPB	24	T10200		12~56	12~46	12~40	12~54	14~56	
TTPK	25			12~59	12~49	12~43	12~57	14~59	
TTPN	26	T10250		12~59	12~49	12~43	12~57	14~59	
	28	T10300		12~66	12~56	12~48	12~64	14~66	3.0≤J≤L-3.0
Steel	30			12~71	12~61	12~50	12~69	14~71	
TTPT	32	T10400		20~80	20~65	20~55	20~79	22~81	
TTPM	34			20~84	20~70	20~55	20~82	22~86	
TTPP	36	T10500		20~85	20~70	20~55	20~83	22~91	
	40			20~85	20~70	20~55	20~83	22~95	
	44			20~85	20~70	20~55	20~83	22~95	
	48			20~85	20~70	20~55	20~83	22~95	
	50			20~85	20~70	20~55	20~83	22~95	
	60			20~85	20~70	20~55	20~83	22~95	

Shaft Bore Dia. 9, 51~54 are not available for Shaft Bore Specs. N. Shaft Bore Dia. 8, 11, 13, 14, 17, 21~55 are not available for Shaft Bore Spec. C.

Ordering Example

	Part Number	-	Pulley Shape	-	Shaft Bore Specs., I.D.	-	Z	-	J	-	Q	-	R	-	S	-	T
(Shaft Bore Specs.: H, P, N, C)	TTPA14T10500	-	A	-	NK10												
(Shaft Bore Specs.: V, F)	TTPA48T10500	-	B	-	V20	-	Z38	-	J23.5								
(Shaft Bore Specs: Y, WB)	TTPA24T10250	-	A	-	Y25					-	Q37	-	R37	-	S7	-	T7

Number of Teeth	Body Price TTPA (x1.0) TTPB, TTPK (x1.1) TTPN (x1.2) T10150 Shape A	Shape B	T10200 Shape A	Shape B	T10250 Shape A	Shape B	T10300 Shape A	Shape B	T10400 Shape A	Shape B	T10500 Shape A	Shape B	TTPT (x1.0) TTPM (x1.05) TTPP (x1.15) T10150 Shape A	Shape B	T10200 Shape A	Shape B	T10250 Shape A	Shape B	T10300 Shape A	Shape B	T10400 Shape A	Shape B	T10500 Shape A	Shape B	Shaft Bore Machining Charge (Body Price +) P Hole	N, C, V, F Hole	Y, WB Hole
12		-		-		-		-		-		-		-		-		-		-		-		-			
14																											
15																											
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Alterations

Part Number	-	Pulley Shape	-	Shaft Bore Specs., I.D.	-	Z	-	J	-	Q	-	R	-	S	-	T	- (KC90… etc.)
TTPA36T10250	-	A	-	H40													- KSC80 - K10

Alterations	Set Screw Angle	No Flange Swaged	Single Flange	Flange Cut
Code	KC90	NFC	RFC, LFC	FC
Spec.	Changes an angle of set screw to 90. For A-Shape pulley, the screw holes are set at around 90° 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. Application Notes: FC≤(O. D.)+1; FC≤F-2; No surface treatment is applied on flange circumference.

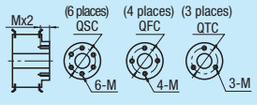
Alterations	Retaining Ring Groove	Adds taper for retaining bearing	Hub Shortening	Tapped Hole Dimensions	Changes the length of the included set screws
Code	SRG	BTC	BC	TPC	SLH
Spec.	Retaining Ring Groove applicable to the shaft dia. of stepped hole is machined. Retaining Ring Groove Dim. P.1413. Specify SRG 2.5~49.5mm 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 BTC12-TL3. 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.

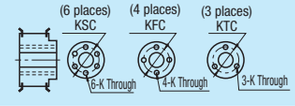
Shaft Bore Specs. P, N, C:	TPC
M3	M5
M4	M5
M5	M4, M6
M6	M5, M8
M8	M6, M10
M10	M8

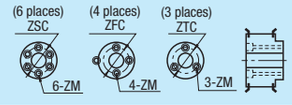
Set Screws	SLH
M4x3	5, 8
M5x4	6, 10
M6x5	10
M8x6	10, 12
M10x8	12, 15

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