Timing Pulleys - T5

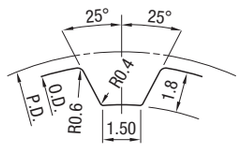
■For Timing Belts, see P.1504. For Long Timing Belts, see P.1507. For Keyless High Torque Timing Pulleys, see P.1473, 1474. For Idlers with Teeth, see P.1489.

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

Type	Belt Width 10mm T5100	15mm T5150	20mm T5200	25mm T5250	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 ~

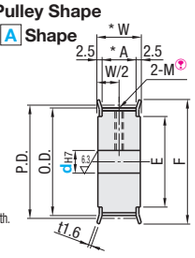
Standard Tooth Profile



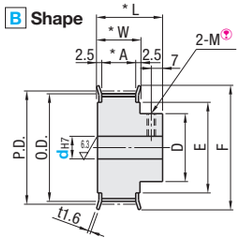
Tooth groove dimensions slightly vary according to the number of teeth.
(Pitch: 5.0mm)

• **Pulley Shape**

A Shape



B Shape



Aluminum flanges will have a thickness of 1.5.
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.

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

dH7 Shaft Bore I.D.	M (Coarse)	Accessory: Set Screw
5	M3	M3x3
6~12	M4	M4x3
13~17	M5	M5x4
18~30	M6	M6x5
31~50	M8	M8x6

■Number of Teeth / Dimension

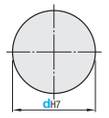
mm	Number of Teeth 12	14	15	16	18	20	22	24	25	26	28	30	32	34	36	40	44	48	50	60
P.D.	19.10	22.28	23.87	25.46	28.65	31.83	35.01	38.20	39.79	41.38	44.56	47.75	50.93	54.11	57.30	63.66	70.03	76.39	79.58	95.49
O.D.	18.25	21.45	23.05	24.60	27.80	31.00	34.25	37.40	39.00	40.60	43.75	46.95	50.10	53.25	56.45	62.85	69.20	75.55	78.75	94.65
D	-	14	15	17	19	19	24	27	27	31	32	33	37	40	40	47	50	60	63	75
F	24	26	28	32	33	36	40	45	45	48	48	52	55	61	61	67	74	83	87	99
E	12	16	18	20	22	24	27	30	30	35	35	36	40	45	45	50	58	63	67	80

■Belt Nominal Width / Dimension

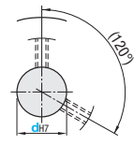
mm	Nominal T5100	T5150	T5200	T5250
A	11	17	22	27
W	16	22	27	32
L	28	34	39	44

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

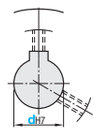
H Round Hole — No tapped holes or set screws. Shaft Bore Dia. 6.35 is selectable when the shaft bore dim. d is within the selection range.



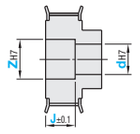
P Round Hole + Tap — For A-Shape pulley, the screw holes are set at around 120° to keep away from peaks. Shaft Bore Dia. 6.35 is selectable when the shaft bore dim. d is within the selection range.



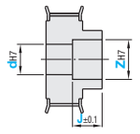
N New JIS Keyway Bore + Tap
C Old JIS Keyway Bore + Tap — For Keyway Dimension Details, see P.1413. Specify NK10 when selecting "New JIS Keyway Bore" + "Shaft Bore Dia. 10" + "Keyway Width 4.0mm (Height 1.8mm)".



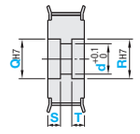
V Stepped Hole — No tapped holes or set screws. Shaft Bore Dia. 6.35 is selectable when the shaft bore dim. d is within the selection range.



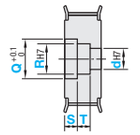
F Stepped Hole (Counterbored Holes on the Hub Side) — Applicable to Shape B only. No tapped holes or set screws. Shaft Bore Dia. 6.35 is selectable when the shaft bore dim. d is within the selection range.



Y Both Ends Stepped Hole — Applicable to Shape A only. Shaft Bore Dia. d is +0.1 / 0. No tapped holes or set screws.



WB Two-stepped Hole — 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 + Tapped	N(d), C(d) Keyway + Tapped	V Stepped Hole V(d)	V Stepped Hole Z Z-d≥2	J (0.1mm Increment)	Y Both Ends Stepped Hole Y(d), WB(d)	WB Two-stepped Hole Q, R Q(R)-d≥2	S, T (0.1mm Increment)	Pulley Shape B: Shaft Bore Specs. "~": 1mm Increments, ": Selectable — H(d) Round Hole	P(d) Round Hole + Tapped	N(d), C(d) Keyway + Tapped	V, F Stepped Hole V(d), F(d)	V, F Stepped Hole Z Z-d≥2	J (0.1mm Increment)
Aluminum TTPA TTPB TTPK TTPN	12	T5100	A	5~8	5~8	8	5~6	7~8	2.0≤J≤W-2.0	5~6	7~8	3~14 S+T≤W-3	-	-	-	-	-	-
	14			5~12	5~10	8, 10, NK10	5~10	7~12		5~10	7~12		5~10	5~8	-	5~8	7~10	2.0≤J≤L-2.0
	15			5~14	5~10	8, 10, NK10	5~12	7~14		5~12	7~14		5~11	5~8		5~9	7~11	
	16			6~16	6~12	8~12	6~14	8~16		6~14	8~16		6~13	6~10	8	6~11	8~13	
	18			6~18	6~12	8~12	6~16	8~18		6~16	8~18		6~15	6~11	8, 10, NK10	6~13	8~15	
	20			6~20	6~16	8~16	6~18	8~20		6~18	8~20		6~15	6~12	8, 10, NK10	6~13	8~15	
	22			7~23	7~18	8~18	7~21	9~23		7~21	9~23		7~20	7~15	8~12	7~18	9~20	
	24			7~26	7~20	8~20	7~24	9~26		7~24	9~26		7~23	7~17	8~13	7~21	9~23	
	25			7~26	7~20	8~20	7~24	9~26		7~24	9~26		7~23	7~18	8~15	7~21	9~23	
	26	T5150		8~31	8~23	8~22	8~29	10~31		8~29	10~31		8~27	8~21	8~17	8~25	10~27	
	28			8~31	8~24	8~24	8~29	10~31		8~29	10~31		8~28	8~22	8~18	8~26	10~28	
Steel TTPT TTPM TTPP	30	T5200	B	10~32	10~26	10~26	10~30	12~32		10~30	12~32		10~29	10~23	10~18	10~27	12~29	
	32	T5250		10~36	10~28	10~28	10~34	12~36		10~34	12~36		10~33	10~27	10~22	10~31	12~33	
	34			10~41	10~30	10~30	10~39	12~41		10~39	12~41		10~36	10~30	10~25	10~34	12~36	
	36			10~41	10~30	10~30	10~39	12~41		10~39	12~41		10~36	10~30	10~25	10~34	12~36	
	40			10~46	10~38	10~38	10~44	12~46		10~44	12~46		10~43	10~37	10~30	10~41	12~43	
	44			12~54	12~42	12~40	12~52	14~54		12~52	14~54		12~46	12~40	12~32	12~44	14~46	
	48			12~59	12~47	12~40	12~57	14~59		12~57	14~59		12~56	12~45	12~40	12~54	14~56	
	50			12~63	12~50	12~45	12~61	14~63		12~61	14~63		12~59	12~47	12~45	12~57	14~59	
	60			12~76	12~50	12~50	12~74	14~76		12~74	14~76		12~71	12~50	12~50	12~69	14~71	

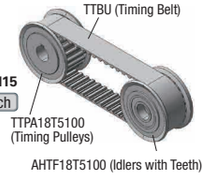
Shaft Bore Dia. 9 is not available for Shaft Bore Specs. N. Shaft Bore Dia. 6.35 is selectable for Shaft Bore Specs. H, P, V and F.
Shaft Bore Dia. 8, 11, 13, 14, 17, 21~50 are not available for Shaft Bore Spec. C.

Ordering Example

	Part Number	Pulley Shape	Shaft Bore Specs., I.D.	Z	J	Q	R	S	T
(Shaft Bore Specs.: H, P, N, C)	TTPA18T5100 -	A -	NK10						
(Shaft Bore Specs.: V, F)	TTPA30T5200 -	A -	V10	- Z23	- J16.0				
(Shaft Bore Specs: Y, WB)	TTPA48T5150 -	A -	Y25			- Q42	- R37	- S9	- T7

Example

Combination of these app. examples can be selected on our website.
Details about Selection Procedure P.115
e-Catalog Search Keyword #MA291 Search
* Enter the search keyword in the search box on e-Catalog. The search result will be shown in "Modular Assembler" area.



Number of Teeth	Body Price TTPA(x1.0) TTPB, TTPK(x1.1) TTPN(x1.2) T5100 Shape A	T5100 Shape B	T5150 Shape A	T5150 Shape B	T5200 Shape A	T5200 Shape B	T5250 Shape A	T5250 Shape B	TTPT(x1.0) TTPM(x1.05) TTPP(x1.15) T5100 Shape A	T5100 Shape B	T5150 Shape A	T5150 Shape B	T5200 Shape A	T5200 Shape B	T5250 Shape A	T5250 Shape B	Shaft Bore Machining Charge (Body Price +) P Hole	N, C, V, F Hole	Y, WB Hole
12		-		-		-		-		-		-		-		-			-
14																			
15																			
16																			
18																			
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48																			
50																			
60																			

Alterations — Part Number - Pulley Shape - Shaft Bore Specs., I.D. - Z - J - Q - R - S - T - (KC90 ··· etc.)
TTPA25T5100 - A - H10 - QSC18 - M4

Alterations	Set Screw Angle	Flange Not Swaged	Flange Swaged on One Side	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. (90°)	(Flange 2 pcs. Included) Ordering Code NFC	(Flange 1 pc. Included) Ordering Code RFC Application Notes RFC LFC	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. FC F

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 2.5~24.5mm 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 BTC6-TL2.5 Application Notes Applicable to Shape A only. Available for Shaft Bore Specs. H, 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
M3	M4
M4	M3, M5
M5	M4, M6
M6	M5, M8
M8	M6

Set Screws	SLH
M3x3	6
M4x3	5, 8
M5x4	6, 10
M6x5	10
M8x6	10, 12

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 Mx2 (6 places) QSC 6-M (4 places) QFC 4-M (3 places) QTC 3-M	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 (6 places) KSC 6-K Through (4 places) KFC 4-K Through (3 places) KTC 3-K Throu	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 (6 places) ZSC 6-ZM (4 places) ZFC 4-ZM (3 places) ZTC 3-ZM

For details, see Shaft Alteration Overview. P.1414