Timing Pulleys

T5 Type

For Timing Belts, refer to **P.1441**, Long Timing Belts, refer to **P.1444**, Keyless Timing Pulleys, refer to **1408** Idlers with Teeth, refer to **P.1426**.

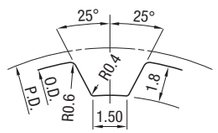
Timing Pulleys – T5 Type

RoHS10

Belt Width 10 mm	Belt Width 15 mm	Belt Width 20 mm	Belt Width 25 mm	Material		Surface Treatment
A: 11 W: 16 L: 28	A: 17 W: 22 L: 34	A: 22 W: 27 L: 39	A: 27 W: 32 L: 44	Pulley	Flange	
TTPA__T5100	TTPA__T5150	TTPA__T5200	TTPA__T5250	2000 Series Aluminum Alloy	Aluminum Alloy	Clear Anodize
TTPB__T5100	TTPB__T5150	TTPB__T5200	TTPB__T5250			Black Anodize
TTPK__T5100	TTPK__T5150	TTPK__T5200	TTPK__T5250			Hard Clear Anodize*
TTPN__T5100	TTPN__T5150	TTPN__T5200	TTPN__T5250			Electroless Nickel Plating
TTPT__T5100	TTPT__T5150	TTPT__T5200	TTPT__T5250	1045 Carbon Steel or Equivalent	Low Carbon Steel	—
TTPM__T5100	TTPM__T5150	TTPM__T5200	TTPM__T5250			Black Oxide
TTPP__T5100	TTPP__T5150	TTPP__T5200	TTPP__T5250			Electroless Nickel Plating

Flanges are installed. Set screws are included with P, N & C bore hole specification. *Hard Anodize Treatment: Film Hardness 300 HV min.

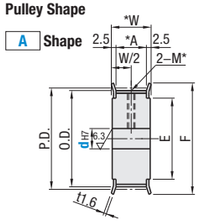
Standard Tooth Profile



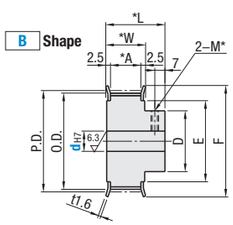
Tooth groove dimensions slightly change according to No. of teeth.
(Pitch: 5.0 mm)

Pulley Shape

A Shape



B Shape



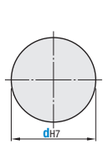
Tapped Hole Dimensions (Shaft Bore: P / N / C)

d_{H7} Shaft Bore Inner Dia.	M (Coarse)	Accessory Set Screw
5	M3	M3 x 3
6–12	M4	M4 x 3
13–17	M5	M5 x 4
18–30	M6	M6 x 5
31–45	M8	M8 x 6

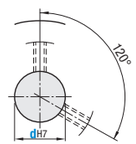
*For Shaft Bore Specifications H (Round Hole), V and F (Stepped Hole) and Y (Both Sides Stepped Hole), no tapped hole is machined.

Shaft Bore Specs. The shaft bore may not have surface treatment.

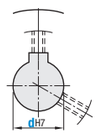
- **H** Round Hole
- **HU** Inch Round Hole
- **P** Round Hole + Tap
- **PU** Inch Round Hole + Tap
- **N** New JIS Keywayed Bore + Tap
- **NU** Inch New JIS Key Groove Hole + Tap
- **C** Old JIS Keywayed Bore + Tap
- **V** Stepped Hole
- **F** Stepped Hole (counterbored holes on the hub side)
- **Y** Both Ends Stepped Hole
- **WB** Two-Stepped Hole



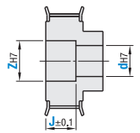
* No tapped holes and set screws



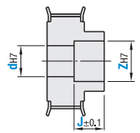
* For A Shape pulley, the set screw hole is set at around 120° to keep away from peaks.



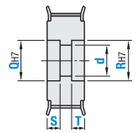
* For Keyway Dimension Details, refer to **P.1338**.



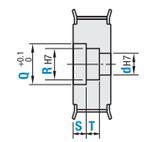
* No tapped holes and set screws



* Applicable to B Shape only.
* No tapped holes and set screws.



* Applicable to A Shape only.
* Shaft Bore Dia. D is general tolerance.
* No tapped holes and set screws.
* Q(R)-d>=2



* Applicable to Shape A only.
* No tapped holes or set screws.
* Q-R>=2
* R-WB>=2

Part Number Type	Teeth	Type Nom. Width	Pulley Shape	Shaft Bore Specifications	Shaft Bore Spec. (1 mm Increment) H A Shape	H B Shape	P A Shape	P B Shape	N / C A Shape	N / C B Shape	HU A Shape	HU B Shape	PU A Shape	PU B Shape	NU A Shape	NU B Shape	V / F A Shape	V / F B Shape	V / F Z_{H7} A Shape	V / F Z_{H7} B Shape	J (0.1 mm Inc) A Shape / B Shape	Y/WB d A Shape	Y/WB Q_{R7} / R_{H7} A Shape	Y/WB S / T A Shape	P.D.	O.D.	D	F	E
					d_{H7}												d_{H7}												
2017 Aluminum Alloy TTPA TTPB TTPK TTPN 1045 Carbon Steel or Equivalent TTPT TTPM TTPP	12	T5100 *A: 11 *W: 16 *L: 28	A	A B H HU P PU N NU C V F Y	5–8	—	5–8	—	8	—	C, D	—	C, D	—	—	—	5–6	—	7–8	—	—	5–6	7–8	—	19.10	18.25	—	24	12
	14				5–12	5–10	5–10	5–8	8 10 NK10		C–E	C–E	C–E	C, D	E	—	5–10	5–8	7–12	7 8		5–10	7–12		22.28	21.45	14	26	16
	15				5–14	5–11	5–10	5–8	8 10 NK10		C–E	C–E	C–E	C, D	E	—	5–12	5–9	7–14	7–10	For A Shape 2.0≤W-2.0 For B Shape 2.0≤J≤L-2.0	5–12	7–14	3–14 S+T≤W-3	23.87	23.05	15	28	18
	16				6–16	6–13	6–12	6–10	8–12	8	C–E	C–E	C–E	C–E	E	—	6–14	6–11	8–16	8–12		6–14	8–16		25.46	24.60	17	32	20
	18				6–18	6–15	6–12	6–11	8–12	8 10 NK10	C–F	C–F	C–E	C–E	E	E	6–16	6–13	8–18	8–14		6–16	8–18		28.65	27.80	19	33	22
	20				6–20	6–15	6–16	6–12	8–16	8 10 NK10	C–G	C–F	C–G	C–E	E–G	E	6–18	6–13	8–20	8–15		6–18	8–20		31.83	31.00	19	36	24
	22				7–23	7–20	7–18	7–15	8–18	8–12	D–G	D–G	D–G	D–F	E–G	E	7–21	7–18	9–23	9–19		7–21	9–23		35.01	34.25	24	40	27
	24	T5150 *A: 17 *W: 22 *L: 34			7–26	7–23	7–20	7–17	8–20	8–13	D–H	D–H	D–H	D–G	E–H	E, F	7–24	7–21	9–26	9–23		7–24	9–26		38.20	37.40	27	45	30
	25				7–26	7–23	7–20	7–18	8–20	8–15	D–H	D–H	D–H	D–G	E–H	E, F	7–24	7–21	9–26	9–23		7–24	9–26		39.79	39.00			
	26				8–31	8–27	8–23	8–21	8–22	8–17	E–K	E–K	E–H	E–H	E–H	E–G	8–29	8–25	10–31	10–27		8–29	10–31		41.38	40.60	31	48	35
	28	T5200 *A: 22 *W: 27 *L: 39			8–31	8–28	8–24	8–22	8–24	8–18	E–K	E–K	E–J	E–H	E–J	E–G	8–29	8–26	10–31	10–27		8–29	10–31		44.56	43.75	32		
	30				10–32	10–29	10–26	10–23	10–26	10–18	F–K	F–K	F–K	F–J	F–K	F, G	10–30	10–27	12–32	12–30		10–30	12–32		47.75	46.95	33	52	36
	32				10–36	10–33	10–28	10–27	10–28	10–22	F–L	F–L	F–K	F–K	F–K	F–H	10–34	10–31	12–36	12–35		10–34	12–36		50.93	50.10	37	55	40
	34				10–41	10–36	10–30	10–30	10–30	10–25	F–M	F–M	F–K	F–K	F–K	F–J	10–39	10–34	12–41	12–36		10–39	12–41		54.11	53.25	40	61	45
	36	T5250 *A: 27 *W: 32 *L: 44			10–41	10–36	10–30	10–30	10–30	10–25	F–M	F–M	F–K	F–K	F–K	F–J	10–39	10–34	12–41	12–36		10–39	12–41		57.30	56.45	40	61	45
	40				10–46	10–43	10–38	10–37	10–38	10–30	F–P	F–P	F–M	F–M	F–M	F–K	10–44	10–41	12–46	12–42		10–44	12–46		63.66	62.85	47	67	50
	44				12–54	12–46	12–42	12–40	12–40	12–32	F–R	F–Q	F–P	F–N	F–N	F–L	12–52	12–44	14–54	14–46		12–52	14–54		70.03	69.2	50	74	58
	48				12–59	12–56	12–47	12–45	12–40	12–40	F–S	F–S	F–Q	F–Q	F–N	F–N	12–57	12–54	14–59	14–55		12–57	14–59		76.39	75.55	60	83	63
	50				12–63	12–59	12–50	12–47	12–45	14–45	F–S	F–S	F–Q	F–Q	F–P	F–P	12–61	12–57	14–63	14–59		12–61	14–63		79.58	78.75	63	87	67
	60				12–76	12–71	12–50	12–50	12–50	12–50	F–S	F–S	F–Q	F–Q	F–Q	F–Q	12–74	12–69	14–76	14–71		12–74	14–76		95.49	94.65	75	99	80

For inch hole dimensions detail information refer to next page. Shaft Bore Dia. 9 is not available for Shaft Bore specification N. Z-d≥2 for shaft bore specification V and F.
Shaft Bore Dia. 8–9, 11, 13–14, 17, 21–50 are not available for Shaft Bore specification C. Q(R)-d≥2 for shaft bore specification Y.
Shaft Bore Dia. 6.35 is selectable for Shaft Bore specifications H, P, V and F.Q (R)-d≥2 for shaft bore specification Y.
Select NK10 when New JIS Keywayed Bore + Tap with shaft bore diameter of 10 and keyway width 4.0 mm (height 1.8 mm) is requested. **P.1338**.

Timing Pulleys

T5 Type, *continued*

Part Number Example

Part Number	Pulley Shape	Shaft Bore Spec. / Inner Dia.	Z	J	Q	R	S	T
Shaft Bore : H / P / N / C TTPA18T5100	A	NK10						
Shaft Bore: V / F TTPA30T5200	A	V10	Z23	J16.0				
Shaft Bore: Y TTPA48T5150	A	Y25			Q42	R37	S9	T7

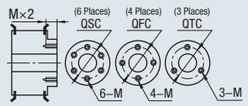
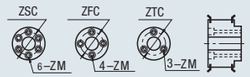
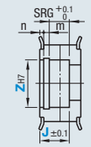
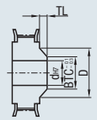
Inch Hole Specifications

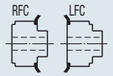
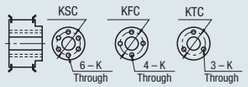
No.	Nominal	Dimension (mm)
A	1/8	3.175
B	3/16	4.763
C	1/4	6.350
D	5/16	7.938
E	3/8	9.525
F	1/2	12.700
G	5/8	15.875
H	3/4	19.050
J	7/8	22.225

No.	Nominal	Dimension (mm)
K	1	25.400
L	1-1/4	31.750
M	1-3/8	34.925
N	1-1/2	38.100
P	1-5/8	41.275
Q	1-3/4	44.450
R	1-7/8	47.625
S	2	50.800

Part Number Alterations

Part Number	Pulley Shape	Shaft Bore Spec. / Inner Dia.	Z	J	Q	R	S	T	(KC90 / QSC / QFC / QTC / KSC / KFC / KTC / BC / NFC / RFC / LFC / FC / TPC / SLH)
TTPA25T5100	A	H10							QSC18 - M4

Alterations	Set Screw Angle	Side Tapped Hole	Side Counterbore Holes	Groove for Retainer Ring	Taper for Retaining Bearing
Code	KC90	QSC / QFC / QTC	ZTC-ZFC-ZSC	SRG	BTC
Spec.	Changes an angle of set screw to 90°. For A shape pulley, the set screw hole is set at around 90° to keep away from peaks. 	Machines tapped hole on the side surface of hub side. (QSC, QFC, QTC: 1 mm Increment) Thickness required: minimum 2 mm A Shape: d+M+4≤QSC(QFC / QTC)≤E-(M+4) B Shape: d+M+4≤QSC(QFC / QTC)≤D-(M+4) Specify KC90 when selecting QFC for the Shaft Bore specifications P and N. d=Z when the Shaft Bore Specifications is V. The pilot hole for tapping may go through. Not applicable to Shaft Bore Specifications F or Y. QSC is not applicable to the Shaft Bore Specification P and N. **M Selection:** M3, M4, M5, M6, M8 **Ordering Code:** QFC28-M4 	Machines countbore holes on the side surface of the hub side. **Ordering Code:** ZTC28-ZM4 **Z/C Selection:** Please specify the hole's manufacturing position (P.C.D.) **ZM Selection:** ZM3, ZM4, ZM5, ZM6, ZM8 Application Notes Not applicable for 1.5GT Minimum thickness is 2mm Conditions vary depending on the shaft hole specifications 	Machines groove for retainer ring in line with the stepped hole of the shaft **SRG Specification:** 2.5-36.5mm (0.5mm increments) Application Notes Minimum thickness is 2mm Applicable to shaft bore specifications V, F only. Use retainer ring groove standards for Z dimension n ≤ J–SRG–m **Ordering Code:** SRG7 	Add taper for retaining bearing inner ring **Ordering Code:** BTC8-TL1.5 Application Notes Applicable to Shape A only. Applicable to shaft bore specifications H, P only. TL < L-W 

Alterations	Hub Shortening	Flange Not Swaged	Flange Swaged on One Side	Flange Cut	Tapped Hole Dimensions	Set Screw Length	Side Through Holes
Code	BC	NFC	RFC / LFC	FC	TPC	SLH	KSC·KTC·KFC
Spec.	Cuts the hub length in 0.5mm increments **Ordering Code:** BC6.5 Application Notes Shaft Bore specification H, V, F: 3≤BC≤L-W Shaft Bore specification P, N, C: M+3≤BC≤L-W Not available for K, A shape 	Flange is not Installed. (Flange included) 	Flange installed on the hub side (RFC) or the opposite side (LFC) only. Same on A Shape 	Cuts the outer diameter of the flange in 0.5mm increments **Ordering Code:** FC17 Application Notes FC ≥ (O.D.) + 1 FC ≤ F - 2 No surface treatment applied on flange circumference. 	Changes the tapped hole dimension. Applicable to Shaft Bore specification P, N, C only. M / TPC M3 / M4 M4 / M3, M5 M5 / M4, M6 M6 / M5, M8 M8 / M6 **Ordering Code:** TPC5	Changes the length of the included set screws. Applicable to Shaft Bore specification P, N, C only. Set Screw / SLH M3 x 3 / 6 M4 x 3 / 5, 8 M5 x 4 / 6, 10 M6 x 5 / 10 M8 x 6 / 10, 12 **Ordering Code:** SLH12	Machines through hole on the side surface of hub side. **Ordering Code:** KTC28-K4.5 **K, C Selection:** Please specify the hole's manufacturing position (P.C.D.) **K Specification:** K4.0-11.0 (0.5mm increments) Application Notes Not available for K shape