Timing Pulleys

T10 Type

For Timing Belts, refer to **P.1441**, Long Timing Belts, refer to **P.1444**, Keyless Timing Pulleys, refer to **P.1410**, Idlers with Teeth, refer to **P.1426**.

Timing Pulleys – T10 Type

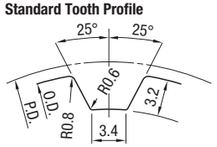
RoHS10

Belt Width 15 mm	Belt Width 20 mm	Belt Width 25 mm	Belt Width 30 mm	Belt Width 40 mm	Belt Width 50 mm	Material		Surface Treatment
A: 17 W: 22 L: 37	A: 22 W: 27 L: 42	A: 27 W: 32 L: 47 (52)	A: 32 W: 37 L: 52 (57)	A: 43 W: 48 L: 61(63)	A: 53 W: 58 L: 70	Pulley	Flange	
TTPA__T10150	TTPA__T10200	TTPA__T10250	TTPA__T10300	TTPA__T10400	TTPA__T10500	2000 Series Aluminum Alloy	Aluminum Alloy	Clear Anodize
TTPB__T10150	TTPB__T10200	TTPB__T10250	TTPB__T10300	TTPB__T10400	TTPB__T10500			Black Anodize
TTPK__T10150	TTPK__T10200	TTPK__T10250	TTPK__T10300	TTPK__T10400	TTPK__T10500			Hard Clear Anodize*
TTPN__T10150	TTPN__T10200	TTPN__T10250	TTPN__T10300	TTPN__T10400	TTPN__T10500			Electroless Nickel Plating
TTPT__T10150	TTPT__T10200	TTPT__T10250	TTPT__T10300	TTPT__T10400	TTPT__T10500	1045 Carbon Steel or Equivalent	Low Carbon Steel	—
TTPM__T10150	TTPM__T10200	TTPM__T10250	TTPM__T10300	TTPM__T10400	TTPM__T10500			Black Oxide
TTPP__T10150	TTPP__T10200	TTPP__T10250	TTPP__T10300	TTPP__T10400	TTPP__T10500			Electroless Nickel Plating

Flanges are installed. Set screws are included with P, N & C bore hole specification.
L Dimensions in () are for 44–60 toothed pulleys.

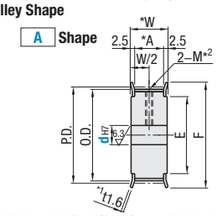
*Hard Anodize Treatment: Film Hardness 300 HV min.

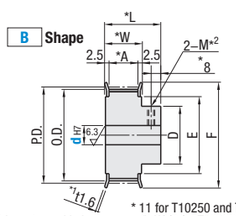
Standard Tooth Profile



Tooth groove dimensions slightly change according to No. of teeth. **(Pitch: 10.0 mm)**

Pulley Shape





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

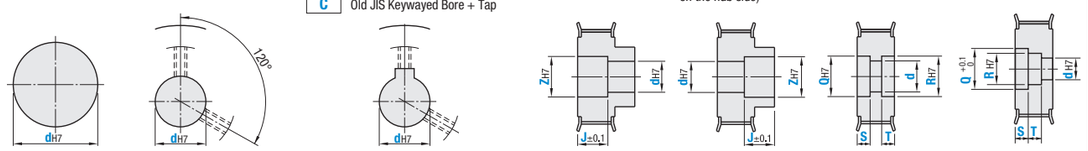
d_{H7} Shaft Bore Inner Dia.	M (Coarse)	Accessory Set Screw
8–12	M4	M4 x 3
13–17	M5	M5 x 4
18–30	M6	M6 x 5
31–45	M8	M8 x 6
46–65	M10	M10 x 8

*1 t=2.0 for 34, 50 and 60 toothed pulleys (Cut Flange).
*2 Shaft Bore Specifications H (Round Hole), V,F (Stepped Hole) and Y (Both Sides Stepped Hole), do not have tapped holes.

* 11 for T10250 and T10300 with 44–60 teeth. (L-W)/2 for T10400 and T10500.

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 Specs	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 d_{H7} A Shape	V / F d_{H7} 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_{H7} / R_{H7} A Shape	Y/WB S / T A Shape	P.D.	O.D.	D	F	E
2017 Aluminum Alloy TTPA TTPB TTPK TTPN / 1045 Carbon Steel or Equivalent TTPT TTPM TTPP	12	T10150 *A: 17 *W: 22 *L: 37	A	H HU P PU N NU C V F Y	8–23	—	8–18	—	8–18	—	E-G	—	E-G	—	E-G	—	8–21	—	10–23	—	For A Shape 3.0≤J≤W-3.0 / For B Shape 3.0≤J≤L-3.0	8–21	10–23	3–17 S+T≤W-3	38.20	36.35	—	40	27
	14				10–31	10–28	10–26	10–22	10–26	10–20	F-K	F-K	F-K	F-H	F-J	F-H	10–29	10–26	12–31	12–27		10–29	12–31		44.56	42.70	32	48	35
	15				10–32	10–29	10–26	10–23	10–26	10–20	F-K	F-K	F-K	F-J	F-K	F-H	10–30	10–27	12–32	12–28		10–30	12–32		47.75	45.90	33	52	36
	16	T10200 *A: 22 *W: 27 *L: 42			12–36	12–33	12–30	12–27	12–30	12–22	F-L	F-L	F-K	F-K	F-K	F-H	12–34	12–31	14–36	14–32		12–34	14–36		50.93	49.05	37	58	40
	18				12–41	12–36	12–30	12–30	12–30	12–25	F-M	F-M	F-K	F-K	F-M	F-J	12–39	12–34	14–41	14–36		12–39	14–41		57.30	55.45	40	61	45
	20	T10250 *A: 27 *W: 32 *L: 47 (L: 52)			12–46	12–43	12–40	12–35	12–40	12–29	F-P	F-P	F-N	F-M	F-N	F-K	12–44	12–41	14–46	14–42		12–44	14–46		63.66	61.80	47	67	50
	22				12–56	12–46	12–48	12–38	12–48	12–32	F-S	F-Q	F-R	F-M	F-R	F-K	12–54	12–44	14–56	14–46		12–54	14–56		70.03	68.15	50	80	60
	24				12–63	12–56	12–50	12–46	12–50	12–40	F-S	F-S	F-R	F-Q	F-R	F-L	12–61	12–54	14–63	14–56		12–61	14–63		76.39	74.55	60	87	67
	25				12–63	12–59	12–50	12–49	12–50	12–43	F-S	F-S	F-R	F-R	F-R	F-N	12–61	12–57	14–63	14–59		12–61	14–63		79.58	77.70	63		
	26				12–63	12–59	12–50	12–49	12–50	12–43	F-S	F-S	F-R	F-R	F-R	F-P	12–61	12–57	14–63	14–59		12–61	14–63		82.76	80.90			
	28	T10300 *A: 32 *W: 37 *L: 52 (L: 57)			12–68	12–66	12–57	12–56	12–50	12–48	F-S	F-S	F-S	F-S	F-R	F-P	12–66	12–64	14–68	14–66		12–66	14–68		89.13	87.25	70	95	75
	30				12–76	12–71	12–65	12–61	12–55	12–50	F-S	F-S	F-S	F-S	F-R	F-R	12–74	12–69	14–76	14–71		12–74	14–76		95.49	93.65	75	104	84
	32				20–80	20–80	20–70	20–65	20–55	20–55	J-S	J-S	J-S	J-S	J-R	J-R	20–80	20–79	22–82	22–81		20–80	22–82		101.86	100.00	85	111	90
	34	T10400 *A: 43 *W: 48 *L: 61 (L: 63)			20–80	20–84	20–70	20–70	20–55	20–55	J-S	J-S	J-S	J-S	J-R	J-R	20–80	20–82	22–92	22–86		20–80	22–92		108.23	106.40	90	115	95
	36				20–85	20–85	20–70	20–70	20–55	20–55	J-S	J-S	J-S	J-S	J-R	J-R	20–83	20–83	22–94	22–91		20–80	22–94		114.59	112.75	95	123	102
	40				20–85	20–85	20–70	20–70	20–55	20–55	J-S	J-S	J-S	J-S	J-R	J-R	20–83	20–83	22–95	22–95		20–83	22–95		127.32	125.45		135	115
	44	T10500 *A: 53 *W: 58 *L: 70			20–85	20–85	20–70	20–70	20–55	20–55	J-S	J-S	J-S	J-S	J-R	J-R	20–83	20–83	22–95	22–95		20–83	22–95		140.06	138.20		152	130
	48				20–85	20–85	20–70	20–70	20–55	20–55	J-S	J-S	J-S	J-S	J-R	J-R	20–83	20–83	22–95	22–95		20–83	22–95		152.79	150.95	100	160	140
	50				20–85	20–85	20–70	20–70	20–55	20–55	J-S	J-S	J-S	J-S	J-R	J-R	20–83	20–83	22–95	22–95		20–83	22–95		159.15	157.30		170	150
	60				20–85	20–85	20–70	20–70	20–55	20–55	J-S	J-S	J-S	J-S	J-R	J-R	20–83	20–83	22–95	22–95		20–83	22–95		190.99	189.10		200	175

For inch hole dimensions detail information refer to next page. Shaft Bore Dia. 9 and 51 through 55 are 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. L Dimensions in () are for 44–60 toothed pulleys.
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

T10 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 TTPA14T10500	-	A	-	NK10						
Shaft Bore: V / F TTPA48T10500	-	B	-	V20	- Z38	- J23.5				
Shaft Bore: Y TTPA24T10250	-	A	-	Y25			- Q37	- R37	- S7	- T7

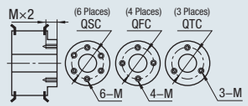
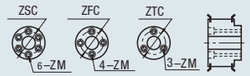
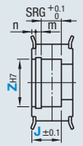
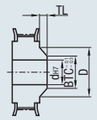
Inch Hole Specifications

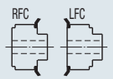
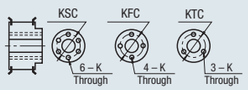
No.	Nominal	Dimension (mm)
A	1/8	3.175
B	3/16	4.763
C	1/4	6.350
D	5/16	7.938
E	3/8	9.525
F	1/2	12.700
G	5/8	15.875
H	3/4	19.050
J	7/8	22.225

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)
TTPA36T10250	-	A	-	H40							- KSC80 - K10

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 M4 – M5 M5 – M4, M6 M6 – M5, M8 M8 – M6, M10 M10 – M8 **Ordering Code:** TPC5	Changes the length of the included set screws. Applicable to Shaft Bore specification P, N, C only. Set Screw – SLH M4 x 3 – 5, 8 M5 x 4 – 6, 10 M6 x 5 – 10 M8 x 6 – 10, 12 M10 x 8 – 12, 15 **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