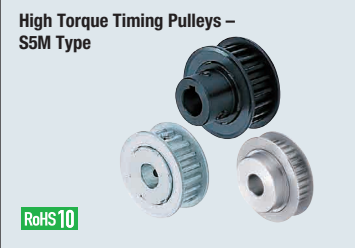


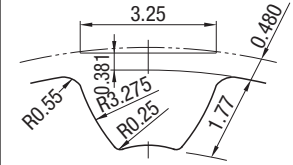
High Torque Timing Pulleys

S5M Type

For High Torque Timing Belts, refer to P.1436, Keyless High Torque Timing Pulleys, refer to P.1400, Idlers with Teeth, refer to P.1422.



Standard Tooth Profile



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

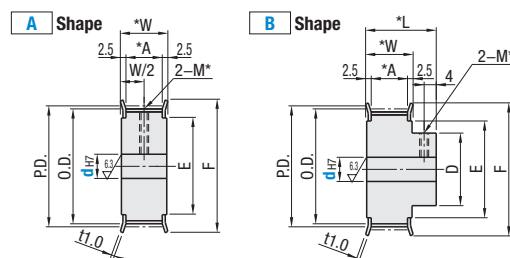
*For Shaft Bore Specifications H (Round Hole), V (Stepped Hole) and Y (Both Sides Stepped Hole), no tapped hole is machined.

Belt Width 10 mm			Belt Width 15 mm			Belt Width 25 mm			Material		Surface Treatment	
A: 11	W: 16	L: 28	A: 17	W: 22	L: 34	A: 27	W: 32	L: 44	Pulley	Flange	Surface Treatment	
HTPA	S5M100		HTPA	S5M150		HTPA	S5M250		2000 Series Aluminum Alloy	Aluminum Alloy	Clear Anodize	
HTPB	S5M100		HTPB	S5M150		HTPB	S5M250	Black Anodize				
HTPK	S5M100		HTPK	S5M150		HTPK	S5M250	Hard Clear Anodize*				
HTPN	S5M100		HTPN	S5M150		HTPN	S5M250	Electroless Nickel Plating				
HTPT	S5M100		HTPT	S5M150		HTPT	S5M250	—				
HTPM	S5M100		HTPM	S5M150		HTPM	S5M250		1045 Carbon Steel or Equivalent	Low Carbon Steel	Black Oxide	
HTPP	S5M100		HTPP	S5M150		HTPP	S5M250	Electroless Nickel Plating				
HTPS	S5M100		HTPS	S5M150				—				
									304 Stainless Steel		—	

*Flanges are installed. Set screws are included with P, N & C bore hole specification.

*Hard Anodize Treatment: Film Hardness 300 HV min.

Pulley Shape

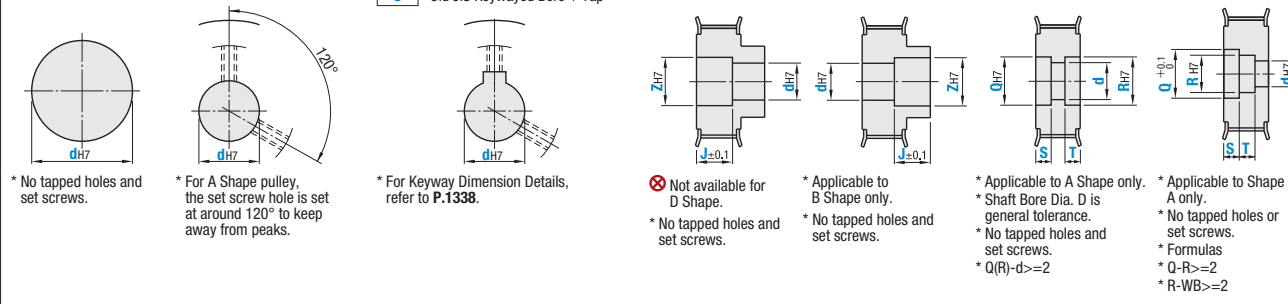


Tapped Hole Dimensions (Shaft Bore: P / N / C)

d _{tp} Shaft Bore Inner Dia.	M (Coarse)	Accessory Set Screw
5	M3	M3x3
6-12	M4	M4x3
13-17	M5	M5x4
18-30	M6	M6x5
31-45	M8	M8x6
46-65	M10	M10x8

Shaft Bore Specs.

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



Part Number	Type	Teeth	Type Nom. Width	Shaft Bore Spec. (1 mm Increment)																								P.D.	O.D.	D	F	E						
				H						P						N / C						V / F											Y / WB					
				A Shape	B Shape	A Shape	B Shape	A Shape	B Shape	A Shape	B Shape	A Shape	B Shape	A Shape	B Shape	A Shape	B Shape	A Shape	B Shape	A Shape	B Shape	A Shape	B Shape	A Shape	B Shape	A Shape	B Shape						A Shape	B Shape				
2017 Aluminum Alloy	HTPA	14	*A: 11	5-12	5-10	5-10	5-8	8 10 NK10	—	C-E	C-E	C-E	C-D	D-E	—	5-10	5-8	7-12	7-10	5-10	7-12	22.28	21.32	14	26	16												
HTPB	15	*L: 28	5-14	5-11	5-10	5-8	8 10 NK10	—	C-E	C-E	C-E	C-D	D-E	—	5-12	5-9	7-14	7-11	5-12	7-14	23.87	22.91	15	28	18													
HTPK	16	*L: 28	5-16	5-13	5-12	5-10	8-12	8	C-E	C-E	C-E	C-E	D-E	D	5-14	5-11	7-16	7-13	5-14	7-16	25.46	24.50	17	32	20													
HTPN	18	*L: 28	6-18	6-15	6-12	6-11	8-12	8 10 NK10	C-F	C-F	C-E	C-E	D-E	D-E	6-16	6-13	8-18	8-15	6-16	8-18	28.65	27.69	19	36	22													
1045 Carbon Steel or Equivalent	HTPT	19	*L: 28	6-20	6-15	6-16	6-11	8-16	8 10 NK10	C-G	C-F	C-G	C-E	D-G	D-E	6-18	6-13	8-20	8-15	6-18	8-20	30.24	29.28	—	36	24												
	HTPM	20*	*A: 11	6-20	6-15	6-16	6-11	8-16	8 10 NK10	C-G	C-G	C-G	C-E	D-G	D-E	6-18	6-13	8-20	8-15	6-18	8-20	31.83	30.87	19	36	24												
	HTPP	22*	*L: 28	7-23	7-20	7-18	7-16	8-18	8-12	D-G	D-G	D-G	D-E	D-E	7-21	7-18	9-23	9-20	7-21	9-23	35.01	34.05	24	40	27													
	304 Stainless Steel	HTPS	24*	*L: 28	7-26	7-23	7-20	7-17	8-20	8-13	D-H	D-H	D-H	D-G	D-H	D-F	7-24	7-21	9-26	9-23	7-24	9-26	38.20	37.24	27	45	30											
		HTPS	25*	*L: 28	7-26	7-23	7-20	7-17	8-20	8-15	D-H	D-H	D-H	D-G	D-H	D-F	7-24	7-21	9-26	9-23	7-24	9-26	39.79	38.83	—	—	—											
			HTPS	26	*L: 28	8-31	8-28	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	40.42	31	48	35										
		HTPS	28*	*L: 28	8-31	8-28	8-24	8-22	8-24	8-18	E-K	E-K	E-J	E-J	E-G	E-G	8-29	8-26	10-31	10-28	8-29	10-31	44.56	43.60	32	—	—											
			HTPS	30*	*L: 28	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	12-29	10-30	12-32	47.75	46.79	33	52	36										
		HTPS	32*	*L: 28	10-36	10-33	10-28	10-27	10-38	10-22	F-L	F-L	F-K	F-K	F-K	F-H	10-34	10-31	12-36	12-33	10-34	12-36	50.93	49.97	37	55	40											
	HTPS		34	*L: 28	10-41	10-36	10-33	10-30	10-33	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	53.15	—	—	—											
HTPS	36*		*L: 28	10-41	10-36	10-33	10-30	10-33	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	56.34	40	61	45												
HTPS	40*		*L: 28	10-46	10-43	10-38	10-35	10-38	10-28	F-P	F-P	F-M	F-M	F-M	F-K	10-44	10-41	12-46	12-43	10-44	12-46	63.66	62.70	47	67	50												
HTPS	44		*L: 28	12-54	12-46	12-42	12-38	12-40	12-32	F-R	F-R	F-P	F-M	F-N	F-L	12-52	12-44	14-54	14-46	12-52	14-54	70.03	69.07	50	74	58												
HTPS	48		*L: 28	12-59	12-56	12-45	12-45	12-40	12-40	F-S	F-S	F-Q	F-Q	F-N	F-N	12-57	12-54	14-59	14-56	12-57	14-59	76.39	75.43	60	83	63												
HTPS	50		*L: 28	12-63	12-59	12-50	12-47	12-43	12-43	F-S	F-S	F-Q	F-Q	F-Q	F-P	12-61	12-57	14-63	14-59	12-61	14-63	79.58	78.62	63	87	67												
HTPS	50		*L: 28	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	94.53	75	99	80												
HTPS	72		*L: 28	12-85	12-80	12-70	12-70	12-55	1255	F-S	F-S	F-S	F-S	F-R	F-R	12-83	12-84	14-92	14-86	12-83	14-92	114.59	113.63	90	119	100												

① For inch hole dimensions detail information refer to next page. ② Shaft Bore Dia. 9 and 51 through 55 are not available for Shaft Bore specification N.
 ③ HTPS is available for * marked No. of teeth only. ④ Shaft Bore Dia. 8-9, 11, 13-14, 17, 21-55 are not available for Shaft Bore specification C.
 ⑤ Z-d=2 for shaft bore specification V and F. ⑥ Q(R)-d=2 for shaft bore specification Y.
 ⑦ 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.
 ⑧ Select NK10 when New JIS Keyway Bore + Tap with shaft bore diameter of 10 and keyway width 4.0 mm (height 1.8 mm) is requested. P.1338.

High Torque Timing Pulleys

S5M Type, continued

Part Number Example: Shaft Bore: H / P / N / C HTPA20S5M150 - B - NK10 - Z23 - J16.0 - Q35 - R35 - S10 - T10
 Shaft Bore: V / F HTPA26S5M150 - A - V10 - Z23 - J16.0 - Q35 - R35 - S10 - T10
 Shaft Bore: Y HTPA40S5M250 - A - Y17 - Z23 - J16.0 - Q35 - R35 - S10 - T10

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: HTPM60S5M150 - A - H30 - (KC90 / QSC / QFC / QTC / KSC / KFC / KTC / BC / NFC / RFC / LFC / FC / TPC / SLH) - KSC50 - K12

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. 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 counterbore 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 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 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.	Changes the length of the included set screws. Applicable to Shaft Bore specification P, N, C only.	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.