

Timing Pulleys

H Type

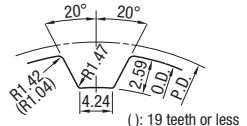
For Timing Belts, refer to **P.1434**, Long Timing Belts, refer to **P.1444**, Keyless Timing Pulleys, refer to **P.1394**, Idlers with Teeth, refer to **P.1418**.

Timing Pulleys – H Type



RoHS 10

Tooth Profile (ISO Standard Rack Dimensions)



19 teeth or less
Tooth groove dimensions slightly change according to No. of teeth.
(Pitch: 12.7 mm)

*1 t=2.0 for 38-50 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.

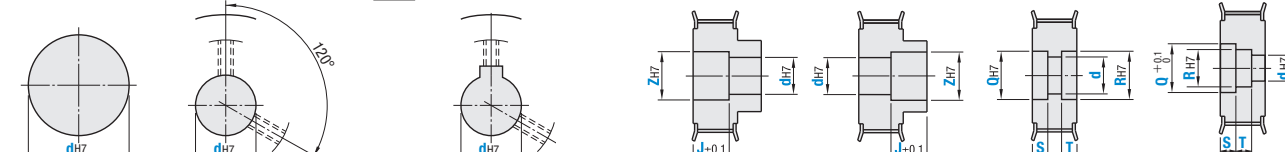
Number of Teeth / Dimension

mm	Number of Teeth											
	14	15	16	17	18	19	20	21	22	24	25	26
P.D.	56.60	60.64	64.68	68.72	72.77	76.81	80.85	84.89	88.94	97.01	101.06	105.11
O.D.	55.22	59.27	63.31	67.35	71.39	75.44	79.48	83.52	87.56	95.65	99.69	103.73
D	39	45	48	48	50	50	58	58	58	63	63	63
F	61	67	70	80	80	87	87	95	95	104	111	111
E	45	50	56	60	60	67	67	75	75	84	90	90

*E dimension in () are for D Shape with 38-48 teeth.

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

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

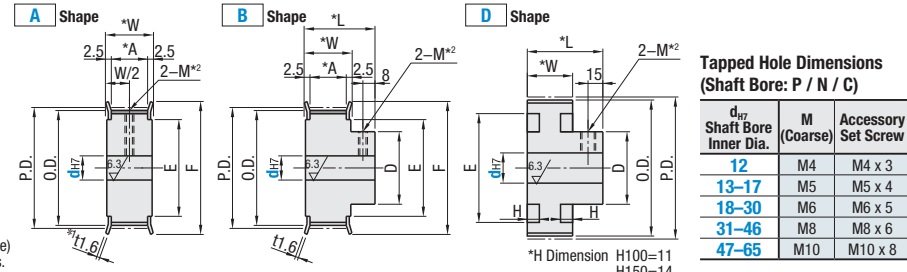


*No tapped holes and set screws.
*For A Shape pulley, the set screw hole is set at around 120° to keep away from peaks.
*For Keyway Dimension Details, refer to P.1338.
*Not available for D Shape.
*No tapped holes and set screws.
*Applicable to B Shape only.
*No tapped holes and set screws.
*Applicable 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.
*Formulas
*Q-R>=2
*R-WB>=2

Belt Width	Material		Surface Treatment
	Pulley	Flange	
19.1 mm (3/4")	Ultra Duralumin-Based Aluminum Alloy	Aluminum Alloy	Clear Anodize Black Anodize Hard Clear Anodize* Electroless Nickel Plating
25.4 mm (1")	Ultra Duralumin-Based Aluminum Alloy	Aluminum Alloy	Clear Anodize Black Anodize Hard Clear Anodize* Electroless Nickel Plating
38.1 mm (1.5")	Ultra Duralumin-Based Aluminum Alloy	Aluminum Alloy	Clear Anodize Black Anodize Hard Clear Anodize* Electroless Nickel Plating
50.8 mm (2")	1045 Carbon Steel or Equivalent	Low Carbon Steel	Black Oxide 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.

Pulley Shape



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

d _{H7} Shaft Bore Inner Dia.	M (Coarse)	Accessory Set Screw
12	M4	M4 x 3
13-17	M5	M5 x 4
18-30	M6	M6 x 5
31-46	M8	M8 x 6
47-65	M10	M10 x 8

Belt Nominal Width / Dimension

mm	Nominal				
	H075	H100	H150	H200	H300
A	21	27	40	54	80
W	26	32	45	59	85
L Number of Teeth 14-36	41	47	60	74	100
L Number of Teeth 39-60	—	53	65	—	—
L Number of Teeth 72	—	58	70	—	—

Part Number	Type	Teeth	Type Nominal Width	Pulley Shape	Shaft Bore Specs	Shaft Bore Spec. (1mm Increment)																							
						H						P						N/C		HU		PU		NU		V/F		Y/WB	
						A		B-D		A		B-D		A		B-D		A		B-D		A		B-D		A		B	
						d _{H7}																							
						Z _{H7}																							
						J (0.1mm Inc.)																							
						d																							
						Q _{R7} / R _{H7}																							
						S / T																							
						A Shape																							
						B Shape																							
						C Shape																							
						D Shape																							
						E Shape																							
						F Shape																							
						G Shape																							
						H Shape																							
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						P Shape																							
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						T Shape																							
						U Shape																							
						V Shape																							
						W Shape																							
						X Shape																							
						Y Shape																							
						Z Shape																							

For inch hole dimensions detail information refer to next page. *E dimension in () are for D Shape with 38-48 teeth. Z-d>=2 for Shaft Bore Specification V.
Shaft Bore Dia. 13, 14, 17, 21-55 are not available for Shaft Bore specification C. Q(R)-d>=2 for shaft bore specification Y. Available number of teeth with nominal width H075 and H200 is up to 36.
For shaft hole specification N, shaft hole diameters 9, and 51-54 can not be manufactured.

Timing Pulleys

H Type, continued



Part Number Example

Part Number: ATP18H150 - Pulley Shape: B - Shaft Bore Spec. / Inner Dia.: N20 - Z: - J: - Q: - R: - S: - T: -
Shaft Bore: H/P/N/C ATP20H100 - A - N20 - Z38 - J23.0
Shaft Bore: V/F ATP30H150 - A - Y25 - Q42 - R42 - S9 - T9

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: ATP18H150 - Pulley Shape: B - Shaft Bore Spec. / Inner Dia.: H20 - Z: - J: - Q: - R: - S: - T: - (KC90 / QSC / QFC / QTC / KSC / KFC / KTC / BC / NFC / RFC / LFC / FC / TPC / SLH) - KSC30-K4

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 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. 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. 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 Please specify the hole's manufacturing position (P.C.D.) K, C Selection: Please specify the hole's manufacturing position (P.C.D.) Application Notes: Not available for K shape K Specification: K4.0-11.0 (0.5mm increments)