Timing Pulleys - H

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

For Timing Belts, see P.1497. For Long Timing Belts, see P.1507. For Keyless Timing Pulleys, see P.1463, 1464. For Idlers with Teeth, see P.1481.

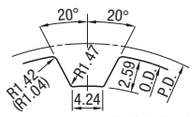
RoHS 10

Type	Belt Width 19.1mm (3/4inch) H075 (Number of Teeth: Up to 36)	25.4mm (1inch) H100	38.1mm (1.5inch) H150	50.8mm (2inch) H200 (Number of Teeth: Up to 36)	76.2mm (3inch) H300 (Number of Teeth: Up to 36)	M Material*1 Pulley	Flange*3	S Surface Treatment	A Accessory*1 Set Screws
ATPA	●	●	●	●	●	Extra Super Duralumin Aluminum Alloy	Aluminum Alloy	Clear Anodize	SUS304
ATPB	●	●	●	●	●			Black Anodize	
ATPK	●	●	●	●	●			Hard Clear Anodize*2	
ATPN	●	●	●	●	●			Electroless Nickel Plating	
ATPT	●	●	●	●	●	S45C Equivalent	SPCC	-	SCM435 (Black Oxide)
ATP	●	●	●	●	●			Black Oxide	
ATPP	●	●	●	●	●			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 ~
*3. Flange is not included for Shape D.

Tooth Profile (ISO Standard Rack Dimensions)

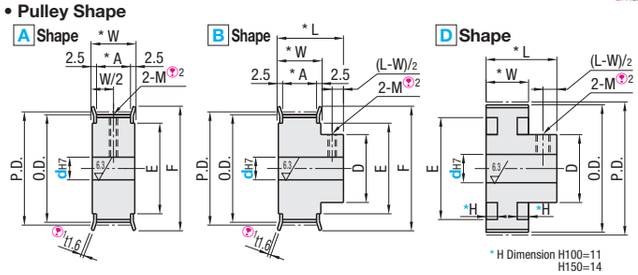


( ): 19 teeth or less.

Tooth groove dimensions slightly vary according to the number of teeth.

(Pitch: 12.7mm)

• Pulley Shape



* H Dimension H100=11 H150=14

Aluminum flanges will have a thickness of 1.5.
1. t=2.0 for 38 ~ 50 teeth. (Machined Flange)
2. 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
12	M4	M4x3
13~17	M5	M5x4
18~30	M6	M6x5
31~46	M8	M8x6
47~70	M10	M10x8

Number of Teeth / Dimension

mm	Number of Teeth 14	15	16	17	18	19	20	21	22	24	25	26	28	30	32	34	36	38	40	42	44	48	50	60	72
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	113.19	121.28	129.36	137.45	145.53	153.62	161.70	169.79	177.87	194.04	202.13	242.55	291.06
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	111.82	119.90	127.99	136.07	144.16	152.24	160.33	168.41	176.50	192.67	200.76	241.18	289.69
D	39	45	48	48	50	50	58	58	58	58	63	63	63	63	63	71	71	88	88	88	88	88	88	88	88
F	61	67	70	80	80	87	87	95	95	104	111	111	123	127	135	144	152	165	170	180	190	205	210	-	-
E	45	50	56	60	60	67	67	75	75	84	90	90	102	105	115	125	130	140(126)	150(135)	155(143)	170(152)	180(168)	185(175)	216	265

E dimensions in ( ) are for Shape D.

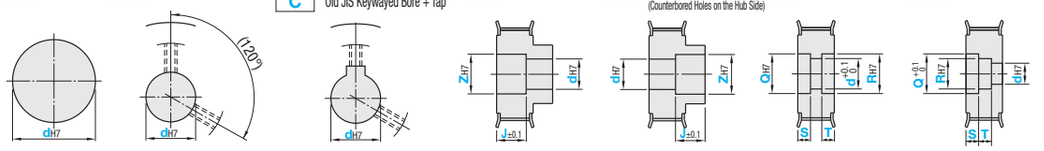
Belt Nominal Width / Dimension

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 38~60	-	53	65	-	-
L Number of Teeth 72	-	58	70	-	-

• 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 — **P** Round Hole + Tap — **N** New JIS Keyawed Bore + Tap — **C** Old JIS Keyawed 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 or set screws.

For A-Shape pulley, the screw holes are set at around 120° to keep away from peaks.

For Keyway Dimension Details, see P.1413.

Not applicable to Shape D.
No tapped holes or set screws.

Applicable to Shape B only.
No tapped holes or set screws.

Applicable to Shape A only.
Shaft Bore Dia. d is +0.1 / 0
No tapped holes or set screws.

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 + Tap	N(d), C(d) Keyway + Tap	V Stepped Hole V(d)	V Stepped Hole Z Z-d≥2	J (0.1mm Increment)	Y Both Ends Stepped Hole, WB Two-stepped Hole Y(d), WB(d)	Q, R Q(R)-d≥2	S, T (0.1mm Increment)
Aluminum ATPA ATPB ATPK ATPN	14	H075 (Number of Teeth: Up to 36)	A	12-41	12-30	12-30	12-39	14-41	3.0≤J≤W-3.0	12-39	14-41	3~28 S+T≤W-3
	15			12-46	12-34	12-31	12-44	14-46		12-44	14-46	
	16			12-52	12-40	12-36	12-50	14-52		12-50	14-52	
	17			12-56	12-44	12-41	12-54	14-56		12-54	14-56	
	18			12-56	12-44	12-44	12-54	14-56		12-54	14-56	
	19			14-63	14-49	14-47	14-61	16-63		14-61	16-63	
	20			14-63	14-50	14-50	14-61	16-63		14-61	16-63	
	21			14-67	14-57	14-50	14-65	16-67		14-65	16-67	
	22			14-67	14-57	14-50	14-65	16-67		14-65	16-67	
Steel ATPT ATP ATPP	24	H100	B	16-76	16-65	16-55	16-74	18-76		16-74	18-76	
	25			16-80	16-70	16-55	16-80	18-82		16-80	18-82	
	26	H150		20-84	20-70	20-55	20-82	22-84		20-82	22-84	
	28			20-85	20-70	20-55	20-83	22-94		20-83	22-94	
	30	H200 (Number of Teeth: Up to 36)		20-85	20-70	20-55	20-83	22-95		20-83	22-95	
	32			20-85	20-70	20-55	20-83	22-95		20-83	22-95	
	34			20-85	20-70	20-55	20-83	22-95		20-83	22-95	
	36			20-85	20-70	20-55	20-83	22-95		20-83	22-95	
	38	H300 (Number of Teeth: Up to 36)	A	20-85	20-70	20-55	20-83	22-95		20-83	22-95	
	40			20-85	20-70	20-55	20-83	22-95		20-83	22-95	
Steel ATPT ATP ATPP	42			20-85	20-70	20-55	20-83	22-95		20-83	22-95	
	44		D	20~105	20-70	20-55	20~103	22~125		20~105	22~125	
	48			20~105	20-70	20-55	20~103	22~125		20~105	22~125	
	50			20~105	20-70	20-55	20~103	22~125		20~105	22~125	
	60		D	-	-	-	-	-		-	-	
	72											

Part Number: Type	Number of Teeth	Type Nominal Width	Pulley Shape	Pulley Shape: B, D — Shaft Bore Specs. "~": 1mm Increments ", ": Selectable — H(d) Round Hole	P(d) Round Hole + Tap	N(d), C(d) Keyway + Tap	V, F Stepped Hole V(d), F(d)	V, F Stepped Hole Z Z-d≥2	J (0.1mm Increment)
Aluminum ATPA ATPB ATPK ATPN	14	H075 (Number of Teeth: Up to 36)	B, D	12~35	12-29	12-25	12~33	14~35	3.0≤J≤L-3.0
	15			12~41	12~33	12-29	12~39	14~41	
	16			12~44	12-36	12-30	12~42	14~44	
	17			12~44	12-36	12-30	12~42	14~44	
	18			12~46	12~38	12-35	12~44	14~46	
	19			14~46	12~38	14-35	14~44	16~46	
	20			14~54	14~46	14-38	14~52	16~54	
	21			14~54	14~46	14-38	14~52	16~54	
	22			14~54	14~46	14-38	14~52	16~54	
Steel ATPT ATP ATPP	24	H100		16~54	16~46	16-38	16~52	18~54	
	25			16~59	16~49	16-41	16~57	18~59	
	26	H150		20~59	20~49	20-41	20~57	22~59	
	28			20~59	20~49	20-41	20~57	22~59	
	30	H200 (Number of Teeth: Up to 36)		20~59	20~49	20-43	20~57	22~59	
	32			20~67	20~57	20~49	20~65	22~67	
	34			20~67	20~57	20~49	20~65	22~67	
	36			20~67	20~57	20~49	20~65	22~67	
	38	H300 (Number of Teeth: Up to 36)		20~72	20~62	20~55			
	40			20~72	20~62	20~55			
Steel ATPT ATP ATPP	42			20~72	20~62	20~55	-	-	
	44			20~72	20~62	20~55			
	48			20~72	20~62	20~55			
	50			20~72	20~62	20~55			
	60			25~72	25~62	25~55	-	-	
	72			25~72	25~62	25~55			

Shaft Bore Dia. 9, 51~54 are not available for Shaft Bore Specs. N. Shaft Bore Dia. 13, 14, 17 or 21 ~ 55 are not available for Shaft Bore Specs. 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)	ATP18H150	B	N20						
(Shaft Bore Specs.: V, F)	ATP20H100	A	V20	Z38	J23.0				
(Shaft Bore Specs: Y, WB)	ATP30H150	A	Y25			Q42	R42	S9	T9

Number of Teeth	Body Price ATPA(x1.0) ATPB, ATPK(x1.1) ATPN(x1.2) H075 Shape A	H075 Shape B	H100 Shape A	H100 Shape B	H150 Shape A	H150 Shape B	H200 Shape A	H200 Shape B	H300 Shape A	H300 Shape B	ATPT(x1.0) ATP(x1.05) ATPP(x1.15) H075 Shape A	H075 Shape B	H100 Shape A	H100 Shapes B and D	H150 Shape A	H150 Shapes B and D	H200 Shape A	H200 Shape B	H300 Shape A	H300 Shape B	Shaft Bore Machining Charge (Body Price +) P Hole	N, C Hole	V, F Hole	Y, WB Hole
14																								
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44	-	-	-	-	-	-	-	-	-	-	-	-					-	-	-	-				
48																								
50																								
60															-		-							-
72																								

Alterations — Part Number - Pulley Shape - Shaft Bore Specs., I.D. - Z - J - Q - R - S - T - (KC90---etc.)
ATP18H150 - B - H20 - KSC30 - K4

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 Not applicable to Shape D.	(Flange 1 pc. Included) Ordering Code RFC Not applicable to Shape D. 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. Not applicable to Shape D. 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 2.5~91.5mm 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 SRG+0.1 0 n m Z H7 J±0.1	Add taper for retaining bearing ring Ordering Code BTC12-TL1.5 Application Notes Applicable to Shape A only. Applicable to Shaft Bore Specs. H and P holes only. TL<L-W TL dH7 BTC +0.1 0 D	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 applicable to Shapes A and D. BC/2 BC	Ordering Code TPC5 Application Notes Applicable to Shaft Bore Specs. P, N, C only. M: TPC M4: M5 M5: M4, M6 M6: M5, M8 M8: M6, M10 M10: M8	Ordering Code SLH10 Application Notes Applicable to Shaft Bore Specs. P, N, C only. Set Screws: SLH M4x3: 5, 8 M5x4: 6, 10 M6x5: 10 M8x6: 10, 12 M10x8: 12, 15

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 Not applicable to Shape D. 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 Not applicable to Shape D. 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 Through	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 Not applicable to Shape D. 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