High Torque Timing Pulleys - S8M

Compatible with S2M type from Mitsuboshi Belting Ltd. as well as Bando Chemical Industries Ltd.

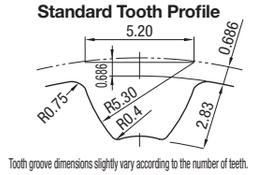
For e-Catalog non-standard products, see P.131.

■For Non-Backlash Type, see P.1441.
■For Super High Torque Timing Belts, see P.1503. For High Torque Timing Belts, see P.1499. For Keyless High Torque Timing Pulleys, see P.1469, 1470. For Idlers with Teeth, see P.1485.

Type	Belt Width 15mm S8M150	25mm S8M250	30mm S8M300	40mm S8M400	M Material*1 Pulley	Flange	S Surface Treatment	A Accessory*1 Set Screws
HTPA	●	●	●	●	Extra Super Duralumin Aluminum Alloy	Aluminum Alloy	Clear Anodize	SUS304
HTPB	●	●	●	●			Black Anodize	
HTPK	●	●	●	●			Hard Clear Anodize*2	
HTPN	●	●	●	●			Electroless Nickel Plating	
HTPT	●	●	●	●	S45C Equivalent	SPCC	-	SCM435 (Black Oxide)
HTPM	●	●	●	●			Black Oxide	
HTPP	●	●	●	●			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 ~

Standard Tooth Profile



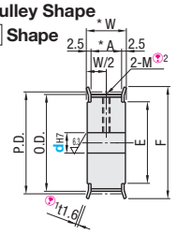
Tooth groove dimensions slightly vary according to the number of teeth.

(Pitch: 8.0mm)

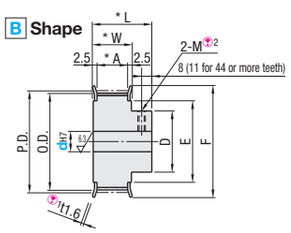
Aluminum flanges will have a thickness of 1.5.
1. t=2.0 for 72 toothed pulleys. (Machined Flange)
2. Shaft Bore Specs. H (Round hole), V or F (Stepped Hole), Y (Both Sides Stepped Hole) and WB (Two-stepped Hole) do not have tapped holes.

• Pulley Shape

A Shape



B Shape



■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
31~45	M8	M8x6
46~70	M10	M10x8

■Number of Teeth / Dimension

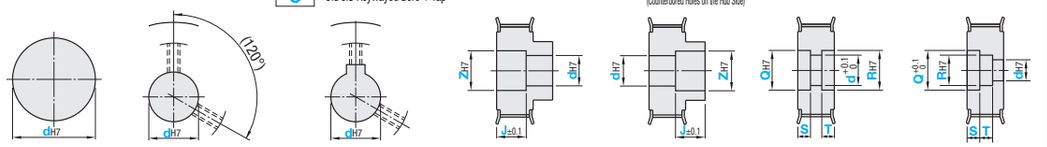
mm	Number of Teeth 18	19	20	21	22	24	25	26	28	30	32	34	36	38	40	44	48	50	60	72
P.D.	45.84	48.38	50.93	53.48	56.02	61.12	63.66	66.21	71.30	76.39	81.49	86.58	91.67	96.77	101.86	112.05	122.23	127.32	152.79	183.35
O.D.	44.46	47.01	49.56	52.10	54.65	59.74	62.29	64.84	69.93	75.02	80.12	85.21	90.30	95.39	100.49	110.67	120.86	125.95	151.42	181.97
D	32	35	36	40	41	46	48	51	55	60	63	70	75	80	85	90	100	100	100	100
F	52	55	58	61	61	67	70	74	80	87	87	95	99	104	111	119	127	135	160	190
E	36	40	40	45	45	50	56	58	60	67	67	75	80	84	90	100	105	115	140	170

■Belt Nominal Width / Dimension

mm	Nominal S8M150	S8M250	S8M300	S8M400
A	17	28	33	44
W	22	33	38	49
L Number of Teeth 18~40	37	48	53	64
L Number of Teeth 44~72	42	53	58	69

• 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 Keyawyed Bore + Tap | C Old JIS Keyawyed 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. | 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 + Tapped	V Stepped Hole V(d)	Z Z-d≥2	J (0.1mm Increment)	Y Both Ends Stepped Hole Y(d), WB(d)	Q, R Q(R)-d≥2	S, T (0.1mm Increment)	B: Shaft Bore Specs. "~": 1mm Increments ", ": Selectable H(d) Round Hole	P(d) Round Hole + Tap	N(d), C(d) Keyway + Tapped	V, F Stepped Hole V(d), F(d)	Z Z-d≥2	J (0.1mm Increment)
Aluminum HTPA HTPB HTPK HTPN Steel HTPT HTPM HTPP	18	S8M150 S8M250 S8M300 S8M400	A B	12~32	12~26	12~26	12~30	14~32	3.0≤J≤W-3.0	12~30	14~32	3~23 S+T≤W-3	12~28	12~22	12~20	12~26	14~28	3.0≤J≤L-3.0
	19			12~36	12~28	12~28	12~34	14~36		12~34	14~36		12~31	12~25	12~20	12~29	14~31	
	20			12~36	12~30	12~30	12~34	14~36		12~34	14~36		12~32	12~26	12~22	12~30	14~32	
	21			12~41	12~32	12~32	12~39	14~41		12~39	14~41		12~36	12~30	12~24	12~34	14~36	
	22			12~41	12~34	12~34	12~39	14~41		12~39	14~41		12~37	12~30	12~25	12~35	14~37	
	24			12~46	12~40	12~40	12~44	14~46		12~44	14~46		12~42	12~34	12~28	12~40	14~42	
	25			12~52	12~40	12~40	12~50	14~52		12~50	14~52		12~44	12~36	12~28	12~42	14~44	
	26			14~54	14~45	14~45	14~52	16~54		14~52	16~54		14~47	14~39	14~31	14~45	16~47	
	28			14~56	14~48	14~48	14~54	16~56		14~54	16~56		14~51	14~43	14~35	14~49	16~51	
	30			14~63	14~50	14~50	14~61	16~63		14~61	16~63		14~56	14~46	14~38	14~54	16~56	
	32			14~63	14~55	14~55	14~61	16~63		14~61	16~63		14~59	14~49	14~45	14~57	16~59	
	34			16~67	16~60	16~55	16~65	18~67		16~65	18~67		16~66	16~56	16~48	16~64	18~66	
	36			16~72	16~65	16~55	16~70	18~72		16~70	18~72		16~71	16~61	16~50	16~69	18~71	
	38			16~76	16~65	16~55	16~74	18~76		16~74	18~76		16~76	16~65	16~50	16~74	18~76	
	40			20~80	20~70	20~55	20~80	22~82		20~80	22~82		20~80	20~65	20~55	20~79	22~81	
	44			20~85	20~70	20~55	20~85	22~92		20~85	22~92		20~80	20~70	20~55	20~84	22~86	
	48			20~85	20~70	20~55	20~85	22~95		20~85	22~95		20~85	20~70	20~55	20~85	22~95	
	50			20~85	20~70	20~55	20~85	22~95		20~85	22~95		20~85	20~70	20~55	20~85	22~95	
	60			20~85	20~70	20~55	20~85	22~95		20~85	22~95		20~85	20~70	20~55	20~85	22~95	
	72			20~85	20~70	20~55	20~85	22~95		20~85	22~95		20~85	20~70	20~55	20~85	22~95	

⊗Shaft Bore Dia. 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.

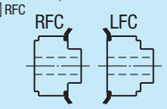
Ordering Example

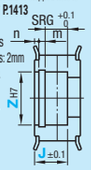
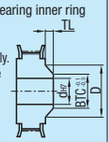
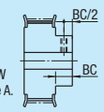
	Part Number	Pulley Shape	Shaft Bore Specs., I.D.	Z	J	Q	R	S	T
(Shaft Bore Specs.: H, P, N, C)	HTPA36S8M250	A	H65						
(Shaft Bore Specs.: V, F)	HTPA30S8M300	B	V20	Z38	J23.0				
(Shaft Bore Specs: Y, WB)	HTPA40S8M250	A	Y30			Q62	R47	S16	T9

Number of Teeth	Body Price HTPA (x1.0) HTPB, HTPK (x1.1) HTPN (x1.2) S8M150 Shape A	S8M150 Shape B	S8M250 Shape A	S8M250 Shape B	S8M300 Shape A	S8M300 Shape B	S8M400 Shape A	S8M400 Shape B	HTPT (x1.0) HTPM (x1.05) HTPP (x1.15) S8M150 Shape A	S8M150 Shape B	S8M250 Shape A	S8M250 Shape B	S8M300 Shape A	S8M300 Shape B	S8M400 Shape A	S8M400 Shape B	Shaft Bore Machining Charge (Body Price +) P Hole	N, C, V, F Hole	Y, WB Hole
18																			
19																			
20																			
21																			
22																			
24																			
25																			
26																			
28																			
30																			
32																			
34																			
36																			
38																			
40																			
44																			
48																			
50																			
60																			
72																			

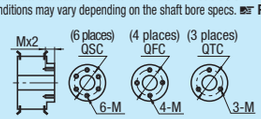
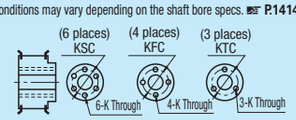
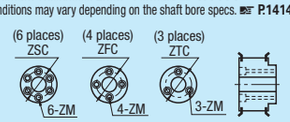
Alterations

Part Number	Pulley Shape	Shaft Bore Specs., I.D.	Z	J	Q	R	S	T	(KC90 ··· etc.)
HTPA60S8M250	A	H65							KSC80-K8

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.	(Flange 2 pcs. Included) Ordering Code NFC	(Flange 1 pc. Included) Ordering Code RFC 	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.

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 2.5~40.5mm 0.5mm Increments. 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 	Add taper for retaining bearing inner ring Ordering Code BTC15-TL4 Application Notes: Applicable to Shape A only. Applicable to Shaft Bore Specs. H and P only. TL<L-W 	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 available for Shape A. 	Ordering Code TPC5 Application Notes: Applicable to Shaft Bore Specs. P, N, C only. M→TPC, M4, M5, M4, 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: Minimum Thickness: 2mm Formula P.1414. Conditions may vary depending on the shaft bore specs. P.1414 	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: Minimum Thickness: 2mm Formula P.1414. Conditions may vary depending on the shaft bore specs. P.1414 	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: Minimum Thickness: 2mm Formula P.1414. Conditions may vary depending on the shaft bore specs. P.1414 

For details, see Shaft Alteration Overview. P.1414