High Torque Timing Pulleys - S2M

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

■For High Torque Timing Belts, see P.1465 and for Idlers with Teeth, see P.1449.

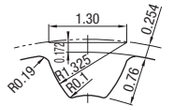
RoHS10

Type	Belt Width 4mm	Belt Width 6mm	Belt Width 10mm	Material *1 Pulley	Material *1 Flange	Surface Treatment	Accessory *1 Set Screw
	S2M040	S2M060	S2M100				
HTPA	●	●	●	A2000 Aluminum Alloy	Aluminum Alloy	Clear Anodize	EN 1.4301 Equiv.
HTPB	●	●	●			Black Anodize	
HTPK	●	●	●			Hard Clear Anodize *2	
HTPN	●	●	●			Electroless Nickel Plating	
HTPT	●	●	-	EN 1.1191 Equiv.	EN 1.0330 Equiv.	-	EN 1.7220 Equiv. (Black Oxide)
HTPM	●	●	-			Black Oxide	
HTPP	●	●	-			Electroless Nickel Plating	
HTPS	●	●	-	EN 1.4301 Equiv.	EN 1.4301 Equiv.	-	EN 1.4301 Equiv.

Flange is installed, and set screws are included with 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

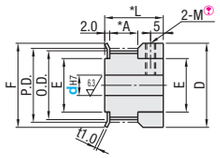


Tooth groove dimensions slightly vary according to the number of teeth.

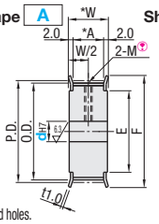
(Pitch:2.0mm)

• Pulley Shape

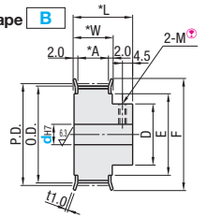
Shape K



Shape A



Shape B



Shaft Bore Specs. H (Round hole), V or F (Stepped Hole) and Y (Both Sides 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
3~5	M3	M3x3
6~24	M4	M4x3

■Number of Teeth / Dimension

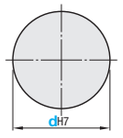
mm	Number of Teeth 14	15	16	18	20	22	23	24	25	26	28	30	32	34	36	40	44	48	50	60	72
P.D.	8.91	9.55	10.19	11.46	12.73	14.01	14.64	15.28	15.92	16.55	17.83	19.10	20.37	21.65	22.92	25.46	28.01	30.56	31.83	38.20	45.84
O.D.	8.40	9.04	9.68	10.95	12.22	13.50	14.13	14.77	15.41	16.04	17.32	18.59	19.86	21.14	22.41	24.96	27.50	30.05	31.32	37.69	45.33
D	12	12	14	14	16	18	18	20	20	22	22	22	12	14	14	18	20	20	20	30	34
F	12	12	14	14	16	18	18	20	20	22	22	22	25	25	28	30	32	35	35	44	50
E	6	6	8	8	10	11	11	13	13	14	14	14	16	16	18	20	23	25	25	32	38

■Belt Nominal Width / Dimension

mm	Nominal S2M040	S2M060	S2M100
A	5	7	11
W	9	11	15
L	17	19	23

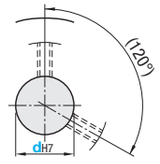
• Shaft Bore Specs. Surface treatment may not be applied to shaft bores.

H Round Hole



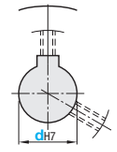
No tapped holes or set screws.

P Round Hole + Tap



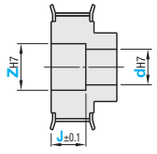
For A-Shape pulley, the screw holes are set at around 120° to keep away from peaks.

N New JIS Keywayed Bore + Tap
C Old JIS Keywayed Bore + Tap



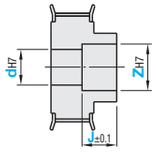
For Keyway Dimension Details, see P.1377. When selecting the shaft bore dia. 10 and the keyway width 4.0mm (height 1.8mm) for New JIS Keywayed Bore, specify NK10.

V Stepped Hole



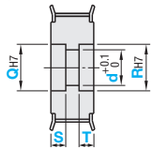
Not applicable to Shape K.
No tapped holes or set screws.

F Stepped Hole
(Counterbored Holes on the Hub Side)



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

Y Both Ends Stepped Hole



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

Part Number Type	Number of Teeth	Type Nominal Width	Pulley Shape	Pulley Shape A: Shaft Bore Specifications (-): Specify in 1mm Increment, (,): Select the former or latter — H Round Hole	P Round Hole + Tap	N, C Keyway + Tap	V Stepped Hole V	V Stepped Hole Z d≥2	V Stepped Hole J (0.1mm Increment)	Y Both Ends Stepped Y	Y Both Ends Stepped Q, R Q(R)-d≥2	Y Both Ends Stepped S, T	Pulley Shape B·K: Shaft Bore Specifications (-): Specify in 1mm Increment, (,): Select the former or latter — H Round Hole	P Round Hole + Tap	N, C Keyway + Tap	V, F Stepped Hole V, F	V, F Stepped Hole Z d≥2	V, F Stepped Hole J (0.1mm Increment)
	14			3, 4									3, 4	3, 4				
	15			3, 4	-	-	-	-	-	-	-	-	3, 4	3, 4	-	-	-	-
	16			3, 4, 5			3	5		3	5		3, 4, 5	3, 4, 5				
	18			3, 4, 5			3	5		3	5		3, 4, 5	3, 4, 5				
Aluminum HTPA HTPB HTPK HTPN	20	S2M040	A	3~6			3, 4	5, 6		3, 4	5, 6		3~6	3~6				
	22			3~6			3, 4	5, 6		3, 4	5, 6		3~6	3~6				
	23		K	3~6			3, 4	5, 6		3, 4	5, 6		3~6	3~6				
	24			3~6, 6.35, 7	-	-	3, 4, 5	5, 6, 7		3, 4, 5	5, 6, 7		3~6, 6.35, 7	3~6, 6.35, 7	-	-	-	
	25			3~6, 6.35, 7			3, 4, 5	5, 6, 7		3, 4, 5	5, 6, 7		3~6, 6.35, 7	3~6, 6.35, 7				
	26			3~6, 6.35, 7, 8			3~6	5~8		3~6	5~8		3~6, 6.35, 7, 8	3~6, 6.35, 7, 8				
Steel HTPT HTPM HTPP	28	S2M060		3~6, 6.35, 7, 8			3~6	5~8		3~6	5~8		3~6, 6.35, 7, 8	3~6, 6.35, 7, 8				
	30	S2M100		3~6, 6.35, 7, 8			3~6	5~8	2.0≤J≤W-2.0	3~6	5~8	3~6 S+T≤W-3	3~6, 6.35, 7, 8	3~6, 6.35, 7, 8				2.0≤J≤L-2.0
	32			4~6, 6.35, 7~10	4~6, 6.35, 7~10	8	4~7	6~10		4~7	6~10		4~6, 6.35, 7, 8	4, 5, 6		4~6	6~8	
	34			4~6, 6.35, 7~10	4~6, 6.35, 7~10	8, 10, NK10	4~7	6~10		4~7	6~10		4~6, 6.35, 7~10	4~6, 6.35, 7, 8	-	4~6	6~8	
	36			4~6, 6.35, 7~10	4~6, 6.35, 7~10	8, 10, NK10	4~8	6~11		4~8	6~11		4~6, 6.35, 7~10	4~6, 6.35, 7, 8		4~8	6~10	
Stainless Steel HTPS	40		A	4~6, 6.35, 7~12	4~6, 6.35, 7~12	8, 10, NK10, 11, 12	4~10	6~12		4~10	6~12		4~6, 6.35, 7~13	4~6, 6.35, 7~10	8	4~10	6~12	
	44			5, 6, 6.35, 7~15	5, 6, 6.35, 7~13	8, 10, NK10, 11~13	5~13	7~15		5~13	7~15		5, 6, 6.35, 7~15	5, 6, 6.35, 7~12	8, 10, NK10, 11	5~13	7~15	
	48		B	5, 6, 6.35, 7~17	5, 6, 6.35, 7~15	8, 10, NK10, 11~15	5~15	7~17		5~15	7~17		5, 6, 6.35, 7~16	5, 6, 6.35, 7~12	8, 10, NK10, 11	5~14	7~16	
	50			5, 6, 6.35, 7~17	5, 6, 6.35, 7~16	8, 10, NK10, 11~16	5~15	7~24		5~15	7~24		5, 6, 6.35, 7~16	5, 6, 6.35, 7~12	8, 10, NK10, 11	5~14	7~16	
	60			5, 6, 6.35, 7~24	5, 6, 6.35, 7~22	8, 10, NK10, 11~22	5~22	7~24		5~22	7~24		5, 6, 6.35, 7~25	5, 6, 6.35, 7~22	8, 10, NK10, 11~16	5~22	7~24	
	72			5, 6, 6.35, 7~30	5, 6, 6.35, 7~24	8, 10, NK10, 11~22	5~28	7~30		7~28	7~30		5, 6, 6.35, 7~30	5, 6, 6.35, 7~24	8, 10, NK10, 11~17	5~24	7~26	

Shaft Bore Dia. 8, 11, 13, 14, 17, 21, 22 are not available for Shaft Bore Spec. C.

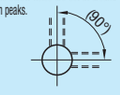
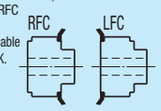
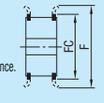
Ordering Example

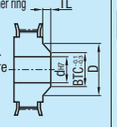
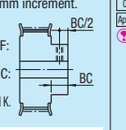
	Part Number	Pulley Shape	Shaft Bore Specs., I.D.	Z	J	Q	R	S	T
(Shaft Bore Specs.: H, P, N, C)	HTPA48S2M040	B	N10						
(Shaft Bore Specs.: V, F)	HTPA60S2M060	B	V10	Z17	J14.2				
(Shaft Bore Specs: Y)	HTPA36S2M100	A	Y6			Q10	R10	S3	T3

Number of Teeth	Body Price HTPA (x1.0) HTPB, HTPK (x1.1) HTPN (x1.2) S2M040 Shape A	S2M040 Shapes B and K	S2M060 Shape A	S2M060 Shapes B and K	S2M100 Shape A	S2M100 Shapes B and K	HTPT (x1.0) HTPM (x1.05) HTPP (x1.15) S2M040 Shape A	S2M040 Shapes B and K	S2M060 Shape A	S2M060 Shapes B and K	HTPS (x1.0) S2M040 Shape A	S2M040 Shapes B and K	S2M060 Shape A	S2M060 Shapes B and K	Shaft Bore Machining Charge (Body Price +) HTPA, HTPB, HTPK, HTPN HTPT, HTPM, HTPP P Hole	N, C, V, F Hole	Y Hole	HTPS P Hole	N, C, V, F Hole	Y Hole
14																-	-		-	-
15																				
16																				
18																				
20																				
22																				
23																				
24																				
25																				
26																				
28																				
30																				
32																				
34																				
36																				
40																				
44																				
48																				
50																				
60																				
72																				

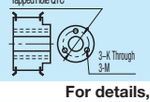
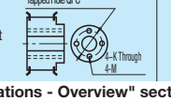
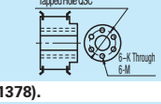
Alterations

Part Number	Pulley Shape	Shaft Bore Specs., I.D.	Z	J	Q	R	S	T	(KC90···etc.)
HTPM48S2M040	B	H10							NFC

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 Application Notes Not applicable to Shape K. 	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 available for Stainless Steel Type. 

Alterations	Adds taper for retaining bearing	Hub Shortening	Tapped Hole Dimensions	Changes the length of the included set screws
Code	BTC	BC	TPC	SLH
Spec.	Add taper for retaining bearing inner ring Ordering Code BTC4-TL1.5 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 applicable to Shapes A and K. 	Ordering Code TPC5 Application Notes Applicable to Shaft Bore Specs. P, N, C only. M TPC M3 M4 M4 M3	Ordering Code SLH10 Application Notes Applicable to Shaft Bore Specs. P, N, C only. Set Screws SLH M3x3 6 M4x3 5, 8

For details, see the "Timing Pulley Alterations - Overview" section (P.1378).

Alterations	Side Through Hole / Side Tapped Hole, 3 places	Side Through Hole / Side Tapped Hole, 4 places	Side Through Hole / Side Tapped Hole, 6 places
Code	KTC, QTC	KFC, QFC	KSC, QSC
Spec.	Machine Through Hole / Tapped Hole on the side surface of hub side Ordering Code (Through Hole) KTC20-K5.0 Ordering Code (Tapped Hole) QTC28-M4 Selection (Through Hole) K Selection K4.0~K13.0 (0.5mm Increment) Selection (Tapped Hole) M Selection M3, M4, M5, M6, M8 Application Notes Not available for Shape K. Not applicable to Shaft Bore Specs. F or Y. When KTC/QTC is selected for Shaft Bore Specs. P, N and C, KC90 is not available. 	Machine Through Hole / Tapped Hole on the side surface of hub side Ordering Code (Through Hole) KFC20-K5.0 Ordering Code (Tapped Hole) QFC28-M4 Selection (Through Hole) K Selection K4.0~K13.0 (0.5mm Increment) Selection (Tapped Hole) M Selection M3, M4, M5, M6, M8 Application Notes Not available for Shape K. Not applicable to Shaft Bore Specs. F or Y. Specify KC90 when selecting KFC/QFC for Shaft Bore Specs. P, N and C. Side holes and tooth side tapped holes might interfere with each other. For details, see the relevant CAD data. 	Machine Through Hole / Tapped Hole on the side surface of hub side Ordering Code (Through Hole) KSC20-K5.0 Ordering Code (Tapped Hole) QSC28-M4 Selection (Through Hole) K Selection K4.0~K13.0 (0.5mm Increment) Selection (Tapped Hole) M Selection M3, M4, M5, M6, M8 Application Notes Not available for Shape K. Not applicable to Shaft Bore Specs. F or Y. KSC/QSC is not applicable to the Shaft Bore Specs. P, N and C. 

For details, see the "Timing Pulley Alterations - Overview" section (P.1378).