

High Torque Timing Pulleys

S2M Type

For High Torque Timing Belts, refer to P.1436. Idlers with Teeth, refer to P.1420.

High Torque Timing Pulleys – S2M Type



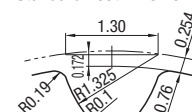
RoHS 10

Belt Width 4 mm			Belt Width 6 mm			Belt Width 10 mm			Material		Surface Treatment
A: 5	W: 9	L: 17	A: 7	W: 11	L: 19	A: 11	W: 15	L: 23	Pulley	Flange	Surface Treatment
HTPA	S2M040		HTPA	S2M060		HTPA	S2M100		2000 Series Aluminum Alloy (Duralumin)	Aluminum Alloy	Clear Anodize
HTPB	S2M040		HTPB	S2M060		HTPB	S2M100				Black Anodize
HTPK	S2M040		HTPK	S2M060		HTPK	S2M100				Hard Clear Anodize*
HTPN	S2M040		HTPN	S2M060		HTPN	S2M100				Electroless Nickel Plating
HTPT	S2M040		HTPT	S2M060					1045 Carbon Steel or Equivalent	Low Carbon Steel	—
HTPM	S2M040		HTPM	S2M060							Black Oxide
HTPP	S2M040		HTPP	S2M060							Electroless Nickel Plating
HTPS	S2M040		HTPS	S2M060							—
									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.

Standard Tooth Profile



Tooth groove dimensions slightly change according to No. of teeth.

(Pitch: 2.0 mm)

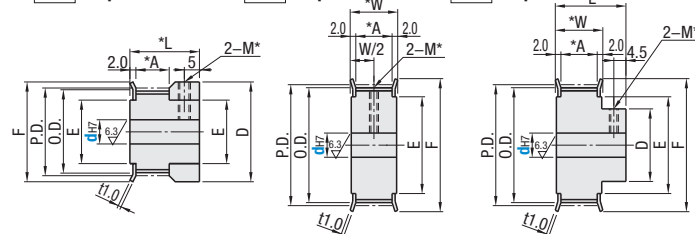
*For Shaft Bore Specifications H (Round Hole), V (Stepped Hole) and Y (Both Sides Stepped Hole), no tapped hole is machined.

Pulley Shape

K Shape

A Shape

B Shape



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

d _{H7} Shaft Bore Inner Dia.	M (Coarse)	Accessory Set Screw
3-5	M3	M3 x 3
6-24	M4	M4 x 3

Belt Nominal Width / Dimension

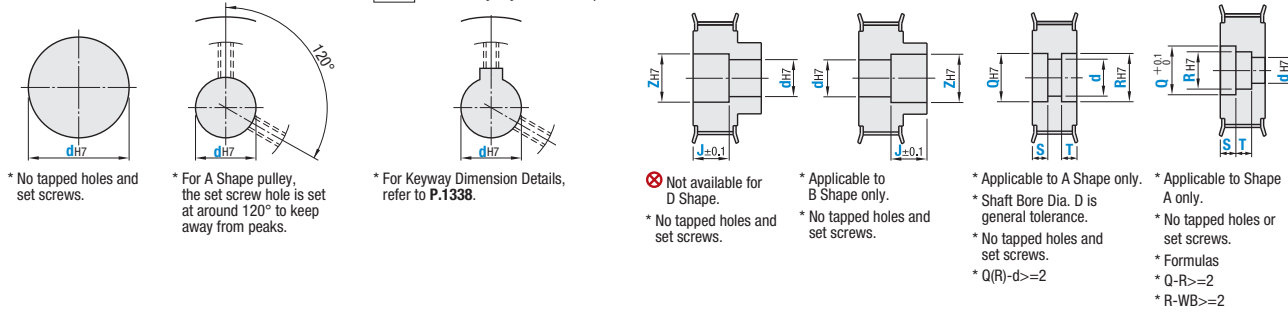
mm	Nominal		
	S2M040	S2M060	S2M100
A	5	7	11
W	9	11	15
L	17	19	23

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			

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



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-K	A	B-K	A	B	A	B	A	B-K	A	B-K	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
2017 Aluminum Alloy	S2M040	14	3	4	3	4																											
		15	3	4	3	4																											
		16*	3	4	3	4																											
		18*	3	4	3	4																											
		20*	3	4	3	4																											
	1045 Carbon Steel	S2M060	22*	3	4	3	4																										
			23	3	4	3	4																										
			24*	3	4	3	4																										
			25*	3	4	3	4																										
			26*	3	4	3	4																										
304 Stainless Steel	S2M100	30*	3	4	3	4																											
		32*	3	4	3	4																											
		34	3	4	3	4																											
		36*	3	4	3	4																											
		40*	3	4	3	4																											
	HTPS	S2M040	44	3	4	3	4																										
			48	3	4	3	4																										
			50*	3	4	3	4																										
			60	3	4	3	4																										
			72	3	4	3	4																										

Ⓛ For inch hole dimensions detail information refer to next page. Ⓛ 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.
 Ⓛ HTPS is available for * marked No. of teeth only. Ⓛ Shaft Bore Dia. 8, 9, 11, 13, 14, 17, 21-26 are not available for Shaft Bore specification C.
 Ⓛ Z-d>=2 for shaft bore specification V and F. Ⓛ Shaft Bore Dia. 9 is not available for Shaft Bore specification N.
 Ⓛ Q(R)-d>=2 for shaft bore specification Y.
 Ⓛ Select NK10 when New JIS Keywayed 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

S2M Type, continued

Part Number Example	Part Number	Pulley Shape	Shaft Bore Spec. / Inner Dia.	Z	J	Q	R	S	T
Shaft Bore: H / P / N / C	HTPA48S2M040	B	N10	-	-	-	-	-	-
Shaft Bore: V / F	HTPA60S2M060	B	V10	-	Z17	J14.2	-	-	-
Shaft Bore: Y	HTPA36S2M100	A	Y6	-	-	-	-	-	Q10 - R10 - S3 - T3

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	Pulley Shape	Shaft Bore Spec. / Inner Dia.	Z	J	Q	R	S	T
	HTPM48S2M040	B	H10	-	-	-	-	-	-
									(KC90 / QSC / QFC / QTC / KSC / KFC / KTC / BC / NFC / RFC / LFC / FC / TPC / SLH)
									NFC

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. (QSC, QFC, QTC: 1 mm increment) Ⓛ 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. Ⓛ Not applicable to K Shape. X 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 Ordering Code: BC6.5 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 Ⓛ Not applicable to K 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. M TPC M3 M4 M4 M3 Ordering Code: TPC4	Changes the length of the included set screws. Ⓛ Applicable to Shaft Bore specification P, N, C only. Set Screw SLH M3 x 3 6 M4 x 3 5, 8 Ordering Code: SLH8	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.) Application Notes Ⓛ Not available for K shape