

Timing Pulleys - MXL

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

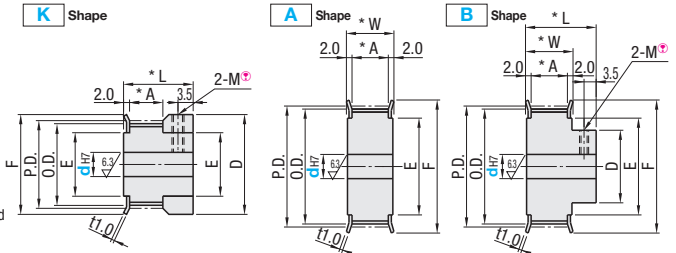
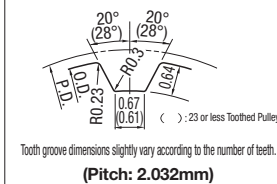
For Timing Belts, see P.1497. For Idlers with Teeth, see P.1479.



Type	Belt Width				Material*		Surface Treatment	Accessory** Set Screws
	4.8mm (3/16inch) MXL019	6.4mm (1/4inch) MXL025	9.5mm (3/8inch) MXL037	12.7mm (1/2inch) MXL050	Pulley	Flange		
ATP	●	●	●	●	Aluminum Alloy	Aluminum Alloy	Clear Anodize Black Anodize Hard Clear Anodize** Electroless Nickel Plating	SUS304
BTP	●	●	●	●				
KTP	●	●	●	●				
NTP	●	●	●	●				
MTP	-	●	●	-	S45C Equivalent	SPCC	Black Oxide Electroless Nickel Plating	SCM435 (Black Oxide)
MTPB	-	●	●	-				
MTPP	-	●	●	-				
STP	-	●	●	-	SUS304	SUS304	-	SUS304

*Flange is already swaged, and set screws are included with for Shaft Bore 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 -

Tooth Profile (ISO Standard Rack Dimensions) • Pulley Shape



Tapped Hole Dimensions (Shaft Bore Specs.: P, N, C)

Shaft Bore I.D.	M (Coarse)	Accessory: Set Screw
3-5	M3	M3x3
6-18	M4	M4x3
19-22	M5	M5x4

Number of Teeth / Dimension

mm	Number of Teeth																												
	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	30	32	34	36	38	40	42	44	46	48	50	60	72	
P.D.	9.06	9.70	10.35	11.00	11.64	12.29	12.94	13.58	14.23	14.88	15.52	16.17	16.82	17.46	18.11	19.40	20.70	21.99	23.29	24.58	25.87	27.17	28.46	29.75	31.05	32.34	38.81	46.57	
O.D.	8.55	9.19	9.84	10.49	11.14	11.78	12.43	13.07	13.72	14.37	15.02	15.66	16.31	16.96	17.60	18.90	20.19	21.48	22.78	24.07	25.36	26.66	27.95	29.24	30.54	31.84	38.30	46.06	
D	12	12	14	14	14	14	9	9	9	11	11	11	12	12	12	14	14	14	16	16	18	18	20	20	22	22	28	30	
F	12	12	14	14	14	14	18	18	18	18	18	20	20	20	22	22	25	25	25	28	28	30	30	32	32	35	35	44	52
E	6	6	8	8	8	8	11	11	11	11	13	13	13	14	14	14	16	16	16	18	18	20	20	23	23	25	25	32	40

Belt Nominal Width / Dimension

mm	Nominal		
	MXL019	MXL025	MXL037
A	6.0	7.5	11.0
W	10.0	11.5	15.0
L	16.5	18.0	22.0

Shaft Bore Specs. Select shaft bore spec mark and each dim. from the table below. Surface treatment may not be applied to shaft bores.



No tapped holes or set screws.
 Shaft Bore Dia. 4.5 and 6.35 are selectable when the shaft bore dim. d is within the selection range.
 Not available for Shape A.
 Shape A has keyway bores only, not tapped holes or set screws.
 For Keyway Dimension Details, see P.1413. Specify NK10 when selecting "New JIS Keyway Bore" + "Shaft Bore Dia. 10" + "Keyway Width 4.0mm".
 Not applicable to Shape K.
 No tapped holes or set screws.
 Shaft Bore Dia. 4.5 and 6.35 are selectable when the shaft bore dim. d is within the selection range.
 Applicable to Shape B only.
 No tapped holes or set screws.
 Shaft Bore Dia. d is +0.1/0 only.
 Applicable to Shape A only.
 No tapped holes or set screws.
 No tapped holes or set screws.
 No tapped holes or set screws.

Part Number	Pulley Shape																												
	A							B, K																					
	Shaft Bore Specs. "A": 1mm Increments "B": Selectable							Shaft Bore Specs. "B": 1mm Increments "K": Selectable																					
Type	Number of Teeth	Belt Nominal Width	Pulley Shape	H(d) Round Hole	N(d), C(d) Keyway (Without Tap)	V Stepped Hole V(c) Z Z-d≥2 (0.1mm Increment)	V Both Sides Stepped Hole, WB Two-stepped Hole Y(c), Q(R) YB(d), QR(Y)-Z2 (0.1mm Increment)	H(d) Round Hole	P(d) Round Hole + Tap	N(d), C(d) Keyway + Tap	V, F Stepped Hole V(c) Z Z-d≥2 (0.1mm Increment)	V, F Stepped Hole V(c) Z Z-d≥2 (0.1mm Increment)	V, F Stepped Hole V(c) Z Z-d≥2 (0.1mm Increment)	V, F Stepped Hole V(c) Z Z-d≥2 (0.1mm Increment)															
Aluminum	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	30	32	34	36	38	40	42	44	46	48	50	60	72	
ATP	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	30	32	34	36	38	40	42	44	46	48	50	60	72	
BTP	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	30	32	34	36	38	40	42	44	46	48	50	60	72	
KTP	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	30	32	34	36	38	40	42	44	46	48	50	60	72	
NTP	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	30	32	34	36	38	40	42	44	46	48	50	60	72	
MTP	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
MTPB	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
MTPP	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
Steel	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
MTP	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
MTPB	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
MTPP	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
Stainless Steel	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
STP	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64

Shaft Bore Dia. 9 is not available for Shaft Bore Specs. N.
 Shaft Bore Dia. 8, 11, 13, 14, 17, 21, 31 are not available for Shaft Bore Spec. C.
 Shaft Bore Dia. 4.5 and 6.35 are selectable for Shaft Bore Specs. H, P, V and F.
 NK10 is selectable for Shaft Bore Specs. N. See P.1413.

Ordering Example	Part Number	Pulley Shape	Shaft Bore Specs., I.D.	Z	J	Q	R	S	T
(Shaft Bore Specs.: H, P, N, C)	ATP40MXL025	B	N10						
(Shaft Bore Specs.: V, F)	ATP60MXL037	B	V8	Z14	J13.0				
(Shaft Bore Specs.: Y, WB)	ATP48MXL050	A	Y8			Q16	R16	S5	T5

Number of Teeth	Body Price										Shaft Bore Machining Charge (Body Price +)			
	MXL019	MXL025	MXL037	MXL050	MXL025	MXL037	MXL025	MXL037	MXL025	MXL037	ATP, BTP, KTP, NTP	MTP, MTPB, MTPP	STP	STP
14														
15														
16														
17														
18														
19														
20														
21														
22														
23														
24														
25														
26														
27														
28														
30														
32														
34														
36														
38														
40														
42														
44														
46														
48														
50														
60														
72														

Alterations Part Number - Pulley Shape - Shaft Bore Specs., I.D. - Z - J - Q - R - S - T - (KC90-etc.) - KSC20 - K4

Alterations	Set Screw Angle	No Flange Swaged	Single Flange	Flange Cut
Code	KC90	NFC	RFC, LFC	FC
Spec.	Changes an angle of set screw to 90. 	(Flange 2 pcs. included) NFC 	(Flange 1 pc. included) RFC, LFC 	Cut the flange O.D. in 0.5mm increment. FC17

Alterations	Retaining Ring Groove	Adds taper for retaining bearing	Hub Shortening	Tapped Hole Dimensions
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: 2.5-12mm 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 SRG7 	Add taper for retaining bearing inner ring Ordering Code: BTC4-TL1.5 Applicable to Shape A only. Applicable to Shaft Bore Specs. H and P only. TL<L-W Flange 1 pc. (one side installed) included for 19 teeth or less 	Cuts the hub length in 0.5mm increment. Ordering Code: BC6.5 Applicable to Shaft Bore Specs. H, V, F. 3<BC<L-W Shaft Bore Specs. P, N, C. M+3<BC<L-W Not available for Shapes K and A. 	Changes the length of the included set screws. TPC5 Applicable to Shaft Bore Specs. P, N, C only. Not applicable to Shape A. M TPC M3 M4 M4 M3, M5 M5 M4 SLH10 Applicable to Shaft Bore Specs. P, N, C only. Set Screws SLH M3x3 6 M4x3 5, 8 M5x4 6, 10

Alterations	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 Applicable to Shape K. 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) Applicable to Shape K. 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 Applicable to Shape K. 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