Keyless Timing Pulleys - T10

■For Timing Belts, see P1470. For Long Timing Belts, see P1473.

Type	Part Number: Belt Width: 15mm A:17 W:22 T5100	Belt Width 20mm A:22 W:27 T10200	Belt Width 25mm A:27 W:32 T10250	Belt Width 30mm A:32 W:37 T10300	Belt Width 40mm A:43 W:48 T10400	Belt Width 50mm A:53 W:58 T10500	M Material *1 Pulley	Flange	Bushing	S Surface Treatment Pulley	Flange	Bushing
TTLA	●	●	●	●	●	●	A7075	A5052	S45C	Clear Anodize		-
TTLK	●	●	●	●	-	-				Hard Clear Anodize *2		-
TTLN	●	●	●	●	-	-				Electroless Nickel Plating		-
TTPL	●	●	●	●	●	●	S45C Equivalent	SPCC	S45C	Black Oxide		
TTLG	●	●	●	●	●	●				Electroless Nickel Plating		

*1. The above material and accessory might be changed to the ones equivalent to the originals. *2. Hard Anodize Treatment: Film Hardness 300HV ~

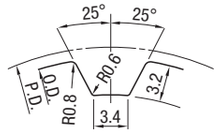
Table 1: Select Shaft Bore Dia.

dH7	Max. Allowable Torque N・m ST Bushing	SH Bushing	D ST Bushing	SH Bushing	(L)
12	48	23	32	31	10.5
14	73	37	35	36	12
15	78	39	36	37	
16	83	42	37	38	13
17	88	45	38	39	
18	154	48	43	40	14
19	163	49	45	42	
20	171	97	46	46	
22	186	110	48	47	
24	206	121	50	49	
25	216	124	52	51	
28	353	141	54	53	15.5
30	382	149	57	56	
32	412	163	59	58	16.5
35	451	173	63	61	
38	686	-	70	-	19
40	725		71		
42	757		74		20
45	1490		84		24.5
48	1600		87		
50	1660		89		

Electroless nickel plated bushing (Alterations BMC, BMR) decreases maximum allowable torque and allowable thrust load by 20 ~ 30%.

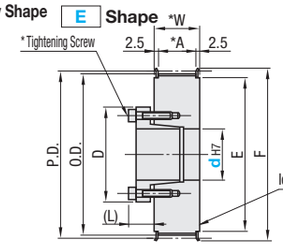
• Pulley Shape

Standard Tooth Profile

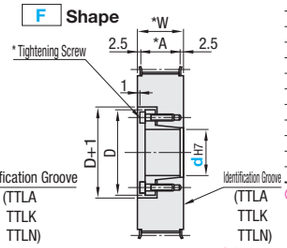


Tooth groove dimensions slightly vary according to the number of teeth.
(Pitch:10.0mm)

E Shape



F Shape



Number of Teeth	15	16	18	20	22	24	25	26	28	30	32	34	36	40	44	48	50	60
P.D.	47.75	50.93	57.30	63.66	70.03	76.39	79.58	82.76	89.13	95.49	101.86	108.23	114.59	127.32	140.06	152.79	159.15	190.99
O.D.	45.90	49.05	55.45	61.80	68.15	74.55	77.70	80.90	87.25	93.65	100.00	106.40	112.75	125.45	138.20	150.95	157.30	189.10
F	52	58	61	67	80	87	87	87	95	104	111	115	123	135	152	160	170	200
E	36	40	45	50	60	67	67	67	75	84	90	95	102	115	130	140	150	175

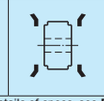
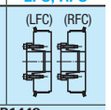
Surface treatment may not be applied to shaft bores.
*Two types of bushings are available: Standard Type (ST Bushings) and Short Type (SH Bushings). See P1425.
Machined Flange for 34, 50 and 60 Toothed Pulleys.
* For quantity and size of tightening screws with flange installed, see P1425.

Type	Part Number: Number of Teeth	Type, Nominal Width	Pulley Shape	dH7 Range (~): Specify in 1mm Increment, (,): Select the former or latter — Shape E: T10150 ST Bushing	T10200 ST Bushing	T10250 ST Bushing	T10300 ST Bushing	T10400 ST Bushing	T10500 ST Bushing	Shape F: T10150 SH Bushing	T10200 SH Bushing	T10250 ST Bushing: 12~30, SH Bushing: 32, 35	T10300 ST Bushing: 15~32, SH Bushing: 35	T10400 ST Bushing	T10500 ST Bushing
TTLA TTLK TTLN TTPL TTLG	15	T10150 *A:17 *W:22 T10200 *A:22 *W:27 T10250 *A:27 *W:32 T10300 *A:32 *W:37 T10400 *A:43 *W:48 T10500 *A:53 *W:58	E F	12	12	12	-	12, 14	12, 14	12	12	12	15	12	12
	16			12, 14~15	12, 14~15	12, 14~15	15	12, 14~17	12, 14~17	12	12	12, 14~15	15	12, 14~15	12, 14~15
	18			12, 14~17	12, 14~17	12, 14~17	15~17	12, 14~17	12, 14~17	12	12, 14~17	12, 14~17	15~17	12, 14~17	12, 14~17
	20			12, 14~17	12, 14~17	12, 14~17	15~17	12, 14~20, 22		12	12, 14~17	12, 14~17	15~17	12, 14~18	12, 14~18
	22			14~20, 22, 24, 25	14~20, 22, 24, 25	14~20, 22, 24, 25	15~20・22・24・25	14~20, 22, 24, 25		-	14~20, 22, 24, 25	14~20, 22, 24, 25	15~20, 22, 24, 25	14~20, 22, 24, 25	14~20, 22, 24, 25
	24														
	25			14~20, 22, 24, 25	14~20, 22, 24, 25	14~20, 22, 24, 25	15~20・22・24・25	14~20, 22, 24, 25		-	14~20, 22, 24, 25		15~20, 22, 24, 25	14~20, 22, 24, 25	
	26							14~20, 22, 24, 25, 28, 30, 32, 35		-	14~20, 22, 24, 25				
	28			16~20, 22, 24, 25, 28, 30, 32, 35				16~20, 22, 24, 25, 28, 30, 32, 35		-	16~20, 22, 24, 25, 28, 30, 32, 35			16~20, 22, 24, 25, 28, 30, 32, 35	
	30			16~20, 22, 24, 25, 28, 30, 32, 35				16~20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42		-					
	32			20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42		20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42		20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42		-	20, 22, 24, 25, 28, 30, 32, 35			20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42	
	34														
	36														
	40			20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50						-	20, 22, 24, 25, 28, 30, 32, 35			20, 22, 24, 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50	
	44														
	48														
	50														
	60														

TTLK and TTLN are not available for T10400 and T10500.

Ordering Example: Part Number - Pulley Shape - Shaft Bore Dia.
TTLA40T10250 - E - 20

Alterations: Part Number - Pulley Shape - Shaft Bore Dia. - (BMC···etc.)
TTLA40T10250 - F - 30 - FC132

Alterations	Surface Treatment	Flange Cut	No Flange	Single Flange
Code	BMC, BMR	FC	NFC	LFC, RFC
Spec.	Applies electroless nickel plating on a bushing. (Antirusting treatment is applied to screws.) Electroless nickel plated bushing decreases allowable torque by 20 ~ 30%. BMC: Not RoHS Compliant (Screw: SCM435 Dacrotized Treatment) BMR: RoHS Compliant (Screw: SCM435 GeoMet Coating)			 (LFC) (RFC)

For details of specs, see P.1442.

Number of Teeth	Unit Price: TTLA (x1.0) TTLK (x1.1) TTLN (x1.2) T10150 Shape E	Shape F	T10200 Shape E	Shape F	T10250 Shape E	Shape F	T10300 Shape E	Shape F	T10400 Shape E	Shape F	T10500 Shape E	Shape F	TTPL (x1.0) TTLG (x1.1) T10150 Shape E	Shape F	T10200 Shape E	Shape F	T10250 Shape E	Shape F	T10300 Shape E	Shape F	T10400 Shape E	Shape F	T10500 Shape E	Shape F
15							-	-											-	-				
16																								
18																								
20																								
22		-												-										
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48																								
50																								
60																								

Keyless Timing Pulleys - T10

MechaLock Standard Type Incorporated (With Centering Function)

■**Features:** MechaLock Standard Type (P1491) Incorporated Timing Pulleys. It tolerates an average of 1.2 times and 2.5 times greater torque compared to the conventional ST bushing and SH bushing respectively.

RoHS10

Type	Part Number: Belt Width: 15mm A:17 W:22 T10150	Belt Width 20mm A:22 W:27 Y:18 T10200	Belt Width 25mm A:27 W:32 Y:22(23.5) T10250	Belt Width 30mm A:32 W:37 Y:24(25•27) T10300	Belt Width 40mm A:43 W:48 Y:30(31•34) T10400	Belt Width 50mm A:53 W:58 Y: 35(36•39) T10500	M Material *1 Pulley	Flange	MechaLock	S Surface Treatment Pulley	Flange	MechaLock
HTTA	●	●	●	●	●	●	A7075	A5052	S45C	Clear Anodize		-
HTTK	●	●	●	●	-	-				Hard Clear Anodize *2		-
HTTT	●	●	●	●	●	●	S45C Equivalent	SPCC	S45C	-		

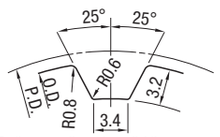
*1. The above material and accessory might be changed to the ones equivalent to the originals. *2. Hard Anodize Treatment: Film Hardness 300HV ~

Table 1: Select Shaft Bore Dia.

dH7	Max. Allowable Torque N・m	D1	(L)
12	44.1	28.5	6.5
14	63.7	30.5	
15	80.4	31.5	
16	83.3	33	
17	92.2	33.5	
18	95.1	34.5	
19	98.1	35.5	
20	216.0	42	8
22	255.0	44	
24	363.0	46	
25	392.0	47	
28	441.0	50	8.5
30	500.0	52	
32	530.0	54	
35	883.0	62	10
40	1079.0	67	
45	1285.0	72	
50	1706.0	77	10.5

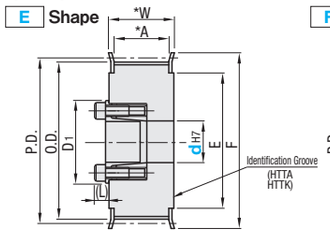
• Pulley Shape

Standard Tooth Profile

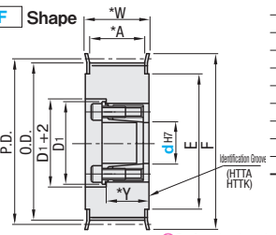


Tooth groove dimensions slightly vary according to the number of teeth.
(Pitch:10.0mm)

E Shape



F Shape



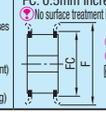
Number of Teeth	16	18	20	22	24	25	26	28	30	32	34	36	40	44	48	50	60
P.D.	50.93	57.30	63.66	70.03	76.39	79.58	82.76	89.13	95.49	101.86	108.22	114.59	127.32	140.06	152.79	159.15	190.99
O.D.	49.05	55.45	61.80	68.15	74.55	77.70	80.90	87.25	93.65	100.00	106.40	112.75	125.45	138.20	150.95	157.30	189.10
F	58	61	67	80	87	87	87	95	104	111	115	123	135	152	160	170	200
E	40	45	50	60	67	67	67	75	84	90	95	102	115	130	140	150	175

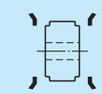
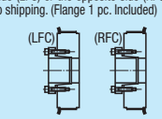
Surface treatment may not be applied to shaft bores.
Machined Flange for 34, 50 and 60 Toothed Pulleys.
Flange is installed.
Y dimensions in ( ) require the shaft bore diameter of 24 or more.
For installation, see P.1489. For details of MechaLock, see P1491.

Type	Part Number: Number of Teeth	Type, Nominal Width	Pulley Shape	dH7 Range (,): Select the former or latter, (~): Specify in 1mm Increment — Shape E: T10150	T10200	T10250	T10300	T10400	T10500	Shape F: T10200	T10250	T10300	T10400	T10500
HTTA HTTK HTTT	16	T10150 *A:17 *W:22 T10200 *A:22 *W:27 *Y:18 T10250 *A:27 *W:32 *Y:22 (d24~:Y=23.5) T10300 *A:32 *W:37 *Y:24 (d24~32:Y=25) (d35:Y=27) T10400 *A:43 *W:48 *Y:30 (d24~32:Y=31) (d35:Y=34) T10500 *A:53 *W:58 *Y:35 (d24~32:Y=36) (d35:Y=39)	EF	12, 14	12, 14	12, 14	12, 14	12, 14	12, 14	12, 14	12, 14	12, 14	12, 14	12, 14
	18			12, 14~16	12, 14~16	12, 14~16	12, 14~16	12, 14~16	12, 14~16	12, 14~16	12, 14~16	12, 14~16	12, 14~16	12, 14~16
	20			12, 14~19	12, 14~19	12, 14~19	12, 14~19	12, 14~19	12, 14~19	12, 14~19	12, 14~19	12, 14~19	12, 14~19	12, 14~19
	22			14~20, 22	14~20, 22	14~20, 22	14~20, 22	14~20, 22	14~20, 22	14~19	14~20, 22	14~20, 22	14~20, 22	14~20, 22
	24			14~20, 22	14~20, 22, 24, 25, 28	14~20, 22, 24, 25, 28	14~20, 22, 24, 25, 28	14~20, 22, 24, 25, 28	14~20, 22, 24, 25, 28	14~19	14~20, 22, 24, 25, 28	14~20, 22, 24, 25, 28	14~20, 22, 24, 25, 28	14~20, 22, 24, 25, 28
	25													
	26													
	28			16~20, 22	16~20, 22, 24, 25, 28, 30, 32			16~20, 22, 24, 25, 28, 30, 32		16~19	16~20, 22, 24, 25, 28, 30	16~20, 22, 24, 25, 28, 30, 32		
	30													
	32			20, 22	20, 22, 24, 25, 28, 30, 32, 35	20, 22, 24, 25, 28, 30, 32, 35		20, 22, 24, 25, 28, 30, 32, 35		-	20, 22, 24, 25, 28, 30	20, 22, 24, 25, 28, 30, 32, 35		
	34													
	36			20, 22		20, 22, 24, 25, 28, 30, 32, 35, 40				-				
	40			20, 22	20, 22, 24, 25, 28, 30, 32, 35	20, 22, 24, 25, 28, 30, 32, 35, 40, 45, 50				-	20, 22, 24, 25, 28, 30	20, 22, 24, 25, 28, 30, 32, 35		
	44													
	48													
	50													
	60													

Ordering Example: Part Number - Pulley Shape - Shaft Bore Dia.
HTTA36T10250 - F - 25

Alterations: Part Number - Pulley Shape - Shaft Bore Dia. - (BMC···etc.)
HTTA36T10200 - E - 30 - BMC

Alterations	Surface Treatment	Flange Cut
Code	BMC, BMR	FC
Spec.	Applies electroless nickel plating on a MechaLock. (Antirusting treatment is applied to screws.) Electroless nickel plated bushing decreases allowable torque by 20 ~ 30%. BMC:Not RoHS Compliant (Screw: SCM435 Dacrotized Treatment) BMR:RoHS Compliant (Screw: SCM435 GeoMet Coating)	Lowers flange by cutting. FC: 0.5mm Increment. No surface treatment is applied on flange circumference.  FC≥(O. D.)+1 FC≤F-2 Ordering Code FC35

Alterations	No Flange	Single Flange
Code	NFC	LFC, RFC
Spec.	Flange is not installed. (Flange Included) 	Flange is installed on either the bushing side (LFC) or the opposite side (RFC) prior to shipping. (Flange 1 pc. Included)  (LFC) (RFC)

Number of Teeth	Body Price 1 ~ 10 pc(s). HTTA (x1.0) HTTK (x1.1) T10150	T10200	T10250	T10300	T10400	T10500	HTTT T10150	T10200	T10250	T10300	T10400	T10500
16												
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20												
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44												
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50												
60												

For orders larger than indicated quantity, please request a quotation.

dH7	MechaLock Incorporation Charge (+ Body Price)
12	
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