

Keyless Timing Pulleys

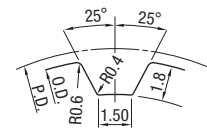
T5 Type

For Timing Belts, refer to P.1441.

Keyless Timing Pulleys – T5 Type



Standard Tooth Profile

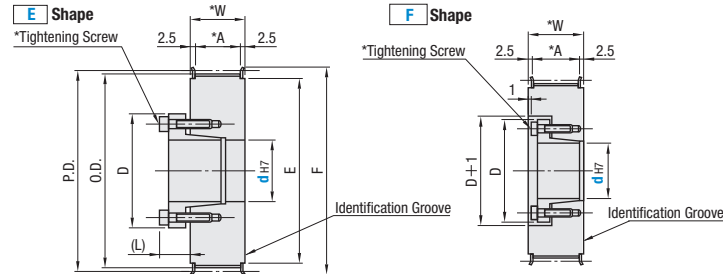


Tooth groove dimensions slightly change according to No. of teeth.
(Pitch: 5.0 mm)

- The shaft bore may not have surface treatment.
- Two types of bushings are available: Standard Type (ST Bushings) and Short Type (SH Bushings). Refer to P.1388.

Part Number				Material			Surface Treatment		
Belt Width 10 mm	Belt Width 15 mm	Belt Width 20 mm	Belt Width 25 mm	Pulley	Flange	Bushing	Pulley	Flange	Bushing
A: 11 W: 16	A: 17 W: 22	A: 22 W: 27	A: 27 W: 32	Ultra Duralumin-Based Aluminum Alloy	Aluminum Alloy	1045 Carbon Steel or Equivalent	Clear Anodize	—	—
TTLA_T5100	TTLA_T5150	TTLA_T5200	TTLA_T5250				Hard Clear Anodize*	—	
TTLK_T5100	TTLK_T5150	TTLK_T5200	TTLK_T5250				—	—	

Pulley Shape



*Hard Anodize Treatment: Film Hardness 300 HV min.

*For quantity and size of tightening screws with Flange attached, refer to P.1388.

Type	Teeth	Type, Nom. Width	Pulley Shape	dH7 Range (Select Shaft Bore Dia. from Table 1)								P.D.	O.D.	F	E	
				T5100		T5150		T5200		T5250						
				E Shape (ST Bushing)	F Shape (SH Bushing)	E Shape (ST Bushing)	F Shape (SH Bushing)	E Shape (ST Bushing)	F Shape (SH Bushing)	E Shape (ST Bushing)	F Shape (SH Bushing)					
TTLA	22	T5100 *A: 11 *W: 16	E	8	—	—	—	—	—	—	—	35.01	34.25	40	27	
	24			8 10	8	10	8	—	8	—	8	—	38.20	37.40	45	30
	25			8 10	8	10	8	—	8	—	8	—	39.79	39.00	—	—
	26			8 10-12	8	10-12	8 10	12	8, 10	12	8 10	12	41.38	40.60	48	35
	28			8 10-12	8	10-12	8 10 11	12	8 10 11	12	8 10 11	12	44.56	43.75	—	—
	30			10-12 14 15	—	—	10-12 14 15	10-12	12 14 15	10-12	12 14-15	10-12	47.75	46.95	52	36
	32			10-12 14-17	—	—	10-12 14-17	10-12	12 14-17	10-12 14	12 14-17	10-12 14	50.93	50.10	55	40
	34			10-12 14-17	—	—	10-12 14-17	10-12	12 14-17	10-12 14-18	12 14-17	10-12 14-18	54.11	53.25	61	45
	36			10-12 14-17	—	—	10-12 14-17	10-12	12 14-17	10-12 14-18	12 14-17	10-12 14-18	57.30	56.45	61	45
	40			10-12 14-17	—	—	10-12 14-17	10-12	12 14-17	10-12 14-19	12 14-17	10-12 14-19	63.66	62.85	67	50
	44			12 14-20 22 24 25	—	—	12 14-20 22 24 25	12	12 14-20 22 24 25	12 14-20 22 24 25	12 14-20 22 24 25	12 14-20 22 24 25	70.03	69.20	74	58
	48			12 14-20 22 24 25 28	—	—	12 14-20 22 24 25 28	12	12 14-20 22 24 25 28	12 14-20 22 24 25 28	12 14-20 22 24 25 28	12 14-20 22 24 25 28	76.39	75.55	83	63
50	12 14-20 22 24 25 28 30 32	—	—	12 14-20 22 24 25 28 30 32	12	12 14-20 22 24 25 28 30 32	12 14-20 22 24 25 28 30 32	12 14-20 22 24 25 28 30 32	12 14-20 22 24 25 28 30 32	79.58	78.75	87	67			
60	12 14-20 22 24 25 28 30 32 35 38	—	—	12 14-20 22 24 25 28 30 32 35 38	12	12 14-20 22 24 25 28 30 32 35 38	12 14-20 22 24 25 28 30 32 35 38	12 14-20 22 24 25 28 30 32 35 38	12 14-20 22 24 25 28 30 32 35 38	95.49	94.65	99	80			

Part Number Example
 Part Number: TTLA40T5250
 Pulley Shape: E
 Shaft Bore Dia.: 15

Part Number Alterations
 Part Number: TTLA40T5250
 Pulley Shape: F
 Shaft Bore Dia.: 15
 Alterations: BMC / BMR / OP / FC / NFC / LFC / RFC

Alterations	Flange Cut	Flange Not Swaged	Flange Swaged on One Side
Code	FC	NFC	RFC / LFC
Spec.	Lowers flange by cutting. FC: 0.5 mm Increment No surface treatment applied on flange circumference.	Flange is not installed. (Flange included)	Flange installed on the hub side (LFC) or the opposite side (RFC) only prior to shipping.

Alterations	Surface Treatment	Pulley for Replacement (Pulley Only)
Code	BMC / BMR	OP
Spec.	Applies electroless nickel plating on a bushing. (Anti-rusting treatment applied to screws). Electroless nickel plated bushing decreases allowable torque by 20-30%. BMC: Non-RoHS-compliant (Screw: Dacrotized treatment applied 4137 Alloy Steel) BMR: RoHS-compliant (Screw: GeoMet coating applied 4137 Alloy Steel)	Pulleys will be shipped individually (no bushings).

Table 1: Select Shaft Bore Diameter

d _{H7}	Max. Torque Nm		D		(L)
	ST Bushing	SH Bushing	ST Bushing	SH Bushing	
8	16	8.5	25.5	24.5	8.5
10	39	18	30	29	—
11	43	20	31	30	10.5
12	48	23	32	31	—
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	14
22	186	110	48	47	—
24	206	121	50	49	15.5
25	216	124	52	51	—
28	353	141	54	53	16.5
30	382	149	57	56	—
32	412	163	59	58	16.5
35	451	173	63	61	—
38	686	—	70	—	19
40	725	—	71	—	—

Electroless nickel plated bushing decreases maximum allowable torque and allowable thrust load by 20-30%

Keyless Timing Pulleys

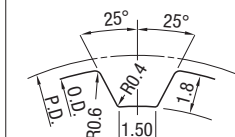
T5 Type – Keyless Bushing with Centering Function

For Timing Belts, refer to P.1441.

Keyless Timing Pulleys – T5 Type – Keyless Bushing with Centering Function



Standard Tooth Profile

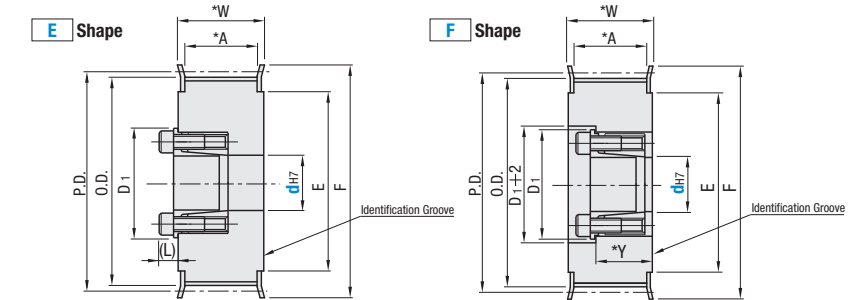


Tooth groove dimensions slightly change according to No. of teeth.
(Pitch: 5.0 mm)

- The shaft bore may not have surface treatment.

Part Number				Material			Surface Treatment		
Belt Width 10 mm	Belt Width 15 mm	Belt Width 20 mm	Belt Width 25 mm	Pulley	Flange	Bushing	Pulley	Flange	Bushing
A: 11 W: 16	A: 17 W: 22 Y: 14	A: 22 W: 27 Y: 14(18)	A: 27 W: 32 Y: 14 (22, 23.5)	Ultra Duralumin-Based Aluminum Alloy	Aluminum Alloy	1045 Carbon Steel or Equivalent	Clear Anodize	—	—
HTTA_T5100	HTTA_T5150	HTTA_T5200	HTTA_T5250				Hard Clear Anodize*	—	
HTTK_T5100	HTTK_T5150	HTTK_T5200	HTTK_T5250				—	—	

Pulley Shape



*Hard Anodize Treatment: Film Hardness 300 HV min.

- Flange attached
- For installation, refer to P.1452, for details of Keyless Bushing, refer to P.1456.
- Y dimensions in () require the shaft bore diameter of 12 and above.

Type	Teeth	Type, Nom. Width	Pulley Shape	dH7 Range (Select Shaft Bore Dia. from Table 1)								P.D.	O.D.	F	E
				T5100		T5150		T5200		T5250					
				E Shape	F Shape	E Shape	F Shape	E Shape	F Shape	E Shape	F Shape				
HTTA	24	T5100 *A: 11 *W: 16	E	8	8	8	8	8	8	8	8	38.20	37.40	45	30
	25			8	8	8	8	8	8	8	8	39.79	39.00	—	—
	26			8 10	8 10	8 10	8 10	8 10	8 10	8 10	8 10	41.38	40.60	48	35
	28			8 10	8 10	8 10	8 10	8 10	8 10	8 10	8 10	44.56	43.75	—	—
	30			10	10	10	10	10	10	10	10	47.75	46.95	52	36
	32			10 12 14	10 12 14	10	10	10 12 14	10 12 14	10 12 14	10 12 14	50.93	50.10	55	40
	34			10 12 14	10 12 14-16	10	10	10 12 14-16	10 12 14-16	10 12 14-16	10 12 14-16	54.11	53.25	61	45
	36			10 12 14	10 12 14-16	10	10	10 12 14-16	10 12 14-16	10 12 14-16	10 12 14-16	57.30	56.45	61	45
	40			10 12 14	10 12 14-19	10	10	10 12 14-19	10 12 14-19	10 12 14-19	10 12 14-19	63.66	62.85	67	50
	44			12 14	12 14-20 22	—	—	12 14-20 22	12 14-20 22	12 14-20 22	12 14-20 22	70.03	69.20	74	58
	48			12 14	12 14-20 22	—	—	12 14-20 22 24	12 14-20 22 24	12 14-20 22 24	12 14-20 22 24	76.39	75.55	83	63
	50			12 14	12 14-20 22	—	—	12 14-20 22 24 25 28	12 14-20 22 24 25 28	12 14-20 22 24 25 28	12 14-20 22 24 25 28	79.58	78.75	87	67
60	12 14	12 14-20 22	—	—	12 14-20 22 24 25 28 30 32	12 14-20 22 24 25 28 30 32	12 14-20 22 24 25 28 30 32	12 14-20 22 24 25 28 30 32	95.49	94.65	99	80			

Part Number Example
 Part Number: HTTA48T5250
 Pulley Shape: F
 Shaft Bore Dia.: 20

Part Number Alterations
 Part Number: HTTA40T5250
 Pulley Shape: E
 Shaft Bore Dia.: 18
 Alterations: BMC

Alterations	Flange Cut	Flange Not Swaged	Flange Swaged on One Side	Surface Treatment
Code	FC	NFC	RFC / LFC	BMC / BMR
Spec.	Lowers flange by cutting. FC: 0.5 mm Increment No surface treatment applied on flange circumference.	Flange is not installed. (Flange included)	Flange installed on the hub side (LFC) or the opposite side (RFC) only prior to shipping.	Applies electroless nickel plating on a bushing. (Anti-rusting treatment applied to screws). Electroless nickel plated bushing decreases allowable torque by 20-30%. BMC: Non-RoHS-compliant (Screw: Dacrotized treatment applied 4137 Alloy Steel) BMR: RoHS-compliant (Screw: GeoMet coating applied 4137 Alloy Steel)

Table 1: Select Shaft Bore Diameter

d _{H7}	Max. Allowable Torque (Nm)	D1	(L)
8	19.6	23.5	6
10	27.5	25.5	—
12	44.1	28.5	—
14	63.7	30.5	—
15	80.4	31.5	6.5
16	83.3	33.0	—
17	92.2	33.5	—
18	95.1	34.5	—
19	98.1	35.5	—
20	216.0	42.0	—
22	255.0	44.0	8
24	363.0	46.0	—
25	392.0	47.0	—
28	441.0	50.0	—
30	500.0	52.0	8.5
32	530.0	54.0	—