High Torque Timing Pulleys

S14M Type

For High Torque Timing Belts, refer to **P.1436,** Idlers with Teeth, refer to **P.1422**.

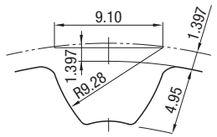
High Torque Timing Pulleys – S14M Type

RoHS 10

Belt Width 40 mm	Belt Width 60 mm	Material		Surface Treatment
A:46 W:53 L:73 (78)	A:67 W:74 L:94 (99)	Pulley	Flange	
HTPTNF__S14M400	HTPTNF__S14M600	1045 Carbon Steel or Equivalent	Low Carbon Steel	—
HTPMNF__S14M400	HTPMNF__S14M600			Black Oxide

! Flanges are installed
! L Dimensions in ( ) are for 44–56 toothed pulleys.

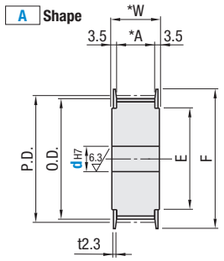
Standard Tooth Profile



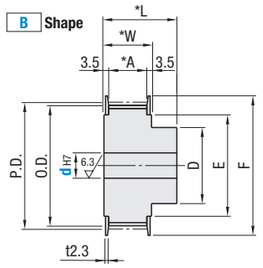
Tooth groove dimensions slightly change according to No. of teeth.
(Pitch: 14.0 mm)

Pulley Shape

A Shape

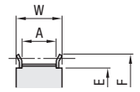


B Shape



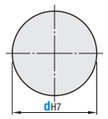
Flange Shape

! Flanges are normally machined but may be substituted with pressed products in some cases.
! Pressed flange shape shown below.



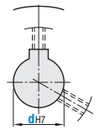
Shaft Bore Specs. ! The shaft bore may not have surface treatment.

H Round Hole



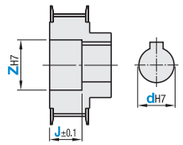
* No tapped holes and set screws
! Specify TP as alteration when tapped hole is required

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



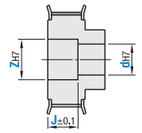
* No tapped holes and set screws.
* For Keyway Dimension Details, refer to **P.1338**.
! Specify TP as alteration when tapped hole is required

G New JIS Keywayed Bore + Stepped Hole



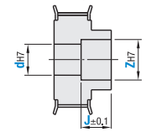
* No tapped holes and set screws.
* For Keyway Dimension Details, refer to **P.1338**.

V Stepped Hole



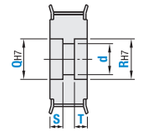
* No tapped holes and set screws

F Stepped Hole (counterbored holes on the hub side)



* Applicable to B Shape only
* No tapped holes and set screws
* Q(R)-d>=2

Y Both Ends Stepped Hole



* Applicable to A Shape only
* Shaft Bore Dia. D is general tolerance
* No tapped holes and set screws

Part Number: Type	Teeth	Type Nominal Width	Pulley Shape	Shaft Bore Specs	Shaft Bore Spec. (1 mm Increment): H — d_{H7} A Shape	H — d_{H7} B Shape	N / C / G — d_{H7} A Shape	N / C / G — d_{H7} B Shape	V / F — d_{H7} A Shape	V / F — d_{H7} B Shape	V / F — Z_{H7} A Shape	V / F — Z_{H7} B Shape	V / F — J (0.1 mm Increment) A Shape / B Shape	Y — d A Shape	Y — Q_{H7} / R_{H7} A Shape	Y — S / T A Shape	P.D.	O.D.	D	F	E
HTPTNF	28	S14M400 *A: 46 *W: 53 *L: 73 (L: 78)	A	H N C G V F Y	30–70	30–60	30–70	30–60	30–66	30–56	30–70	30–60	For A Shape 5.0≤J≤W-5.0	30–66	35–75	5–23 S+T≤W-5	124.78	121.98	90	136	101
	30				30–80	30–70	30–70	30–70	30–76	30–66	30–80	30–70		30–76	35–85		133.69	130.90	100	144	111
	32				30–85	30–75	30–70	30–70	30–81	30–71	30–85	30–75		30–81	35–90		142.60	139.81	110	152	121
	34				30–90	30–85	30–70	30–70	30–86	30–81	30–90	30–85		30–86	35–95		151.52	148.72	120	161	131
	36				30–95	30–85	30–70	30–70	30–91	30–81	30–95	30–85		30–91	35–100		160.43	157.63	120	172	141
	40				35–105	35–95	35–70	35–70	35–101	35–91	35–105	35–95		35–101	40–110		178.25	175.46	135	190	161
HTPMNF	42	S14M600 *A: 67 *W: 74 *L: 94 (L: 99)	B		35–110	35–100	35–70	35–70	35–106	35–96	35–110	35–100	For B Shape 5.0≤J≤L-5.0	35–106	40–115		187.17	184.37	145	200	164
	44				35–115	35–100	35–70	35–70	35–111	35–96	35–115	35–100		35–111	40–120		196.08	193.28	155	208	173
	48				40–120	40–110	40–70	40–70	40–116	40–106	40–120	40–110		40–116	45–125		213.90	211.11	160	224	190
	50				40–130	40–110	40–70	40–70	40–126	40–106	40–130	40–110		40–126	45–135		222.82	220.02	160	235	200
	56				40–150	40–110	40–70	40–70	40–146	40–106	40–150	40–110		40–146	45–155		249.55	246.76	160	260	224

! Z-d≥4 for shaft bore specification G, V and F. ! Q(R)-d≥4 for shaft bore specification Y. ! When Z≤d+ key height for shaft bore specification G, keyway is added to the Z dimension part.
! L Dimensions in ( ) are for 44–56 toothed pulleys. ⊗ Shaft Bore Dia. 31–32, 46–49, 51–54, 56–59 are not available for Shaft Bore Specification N, C and G.

High Torque Timing Pulleys

S14M Type, *continued*

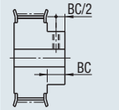
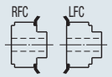
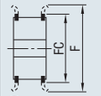
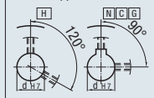
Part Number Example

Part Number	-	Pulley Shape	-	Shaft Bore Spec. / Inner Dia.	-	Z	-	J	-	Q	-	R	-	S	-	T
Shaft Bore : H / N / C HTPTNF32-S14M400	-	A	-	H40												
Shaft Bore: G / V / F HTPTNF48-S4M600	-	B	-	G70		Z90	-	J90.0								
Shaft Bore: Y HTPTNF56-S14M400	-	A	-	Y80						Q120	-	R120	-	S20	-	T20

Part Number Alterations

Part Number	-	Pulley Shape	-	Shaft Bore Spec. / Inner Dia.	-	Z	-	J	-	Q	-	R	-	S	-	T	-	(TP / QSC / QFC / QTC / KSC / KFC / KTC / BC / NFC / RFC / LFC / FC)
HTPMNF-S14M400	-	A	-	H65													-	NFC

Alterations	Side Tapped Hole	Side Through Hole
Code	QSC / QFC / QTC	KSC / KFC / KTC
Spec.	Machines tapped hole on the side surface of hub side. (QSC, QFC, QTC: 1 mm Increment) ! Thickness required: minimum 4 mm A Shape: d+M+8≤QSC(QFC / QTC)≤E-(M+8) B Shape: d+M+8≤QSC(QFC / QTC)≤D-(M+8) ! d=Z when the Shaft Bore Specifications is G-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. **M Selection:** M5, M6, M8 **Ordering Code:** QFC120-M8 	Machines through hole on the side surface. (KSC, KFC, KTC: 1 mm Increment) ! Thickness required: minimum 4 mm A Shape: d+K+8≤KSC(KFC / KTC)≤E-(K8) B Shape: d+K+8≤KSC(KFC / KTC)≤D-(K+8) ! d=Z when the Shaft Bore Specifications is G-V. ⊗ Not applicable to Shaft Bore Specifications F or Y. ⊗ KSC is not applicable to the Shaft Bore Specification P and N. **K (Through Hole Dia.) Selection:** K12–K17 (0.5 mm Increment) **Ordering Code:** KSC80-K12

Alterations	Boss Cut	No Flange	Single Flange	Flange Cut	Tapped Hole
Code	BC	NFC	RFC / LFC	FC	TP
Spec.	Cuts the hub length in 0.5 mm increment. ! 3≤BC≤L-W ! When combined with Alteration TP, M+3≤BC≤L-W  **Ordering Code:** BC6.5 ⊗ Not available for 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 	Lowers flange by cutting. FC: 0.5 mm Increment ! No surface treatment applied on flange circumference.  ! FC≥(0.D.)+2 ! FC≤F-2 **Ordering Code:** FC185	Adds a tapped hole.  ! Applicable to Shaft Bore specifications H, N, C and G only. ! Adds a tapped hole at teeth (A/2) for A Shape, at hub ((L-W)/2) for B Shape. ! For A Shape the tapped holes are set at around 90°, 120° to keep away from peaks. ! Depth of tapped hole is M x 2, and the rest is counterbore. **Tapped Hole Angle:** 90–120° **Ordering Code:** TP10-A9

d_{H7} Shaft Bore Inner Dia.	TP	A (Tapped Hole Angle)	Acc. Set Screw
30–45	M8	90°	M8 x 6
	M10		M10 x 8
46–65	M10		M10 x 8
	M12		M12 x 10
66–150	M12	120°	M12 x 10
	M16		M16 x 10