


High Torque Timing Pulleys

2GT Type

Feature: For 2GT High Torque Timing Belts, see P.1430 and for 2GT Idlers with Teeth, see P.1424. For 1.5GT High Torque Timing Belts, please contact MISUMI.

High Torque Timing Pulleys



RoHS10

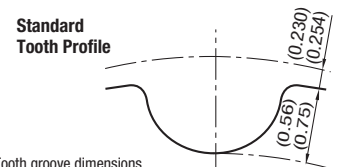
Shaft Bore Specifications
H (Round Hole) do not have tapped holes.

Tooth groove dimensions slightly change according to No. of teeth. (Pitch: 2.0 mm)

Belt Width 4 mm	Belt Width 6 mm	Belt Width 9 mm	Material	Surface Treatment
A: 5.0 W: 8.3 L: 16.0 GPA GT2040	A: 7.0 W: 10.3 L: 18.0 GPA GT2060	A: 10.0 W: 13.3 L: 21.0 GPA GT2090	2000 Series Aluminum Alloy	Clear Anodize

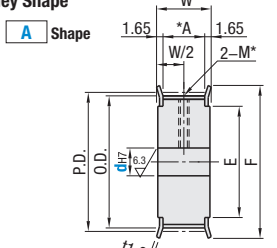
Flanges are installed. Set screws are included with P & N bore hole specification.

Standard Tooth Profile

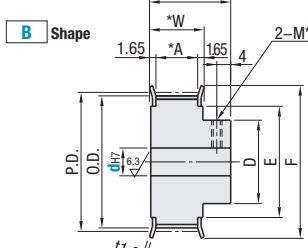


Pulley Shape

A Shape



B Shape



Number of Teeth, Dimension: 1.5GT

mm	18	20	24	30	36
P.D.	8.59	9.55	11.46	14.32	17.19
O.D.	8.13	9.09	11.00	13.86	16.73
D	—	—	8	10	—
F	13	14	16	18	22
E	6	7	8	10	13

Belt Nominal Width / Dimension

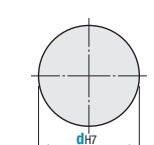
mm	Nominal			
A	5.0	5.0	7.0	10.0
W	8.3	8.3	10.3	13.3
L	16.0	16.0	18.0	21.0

Number of Teeth, Dimension: 2GT

mm	Number of Teeth																				
P.D.	14	15	16	18	20	21	22	24	25	26	28	30	32	34	36	38	40	44	48	50	60
O.D.	8.40	9.04	9.68	10.95	12.22	12.86	13.50	14.77	15.41	16.04	17.32	18.59	19.86	21.14	22.41	23.68	24.95	27.50	30.05	31.32	37.69
D	—	—	—	—	—	8	10	10	11	13	14	14	16	17	19	22	22	28	28	28	28
F	13	14	14	16	17	18	18	20	20	21	23	24	25	27	27	29	30	32	35	36	42
E	6	7	7	8	9	10	10	12	12	12	14	15	17	18	18	20	21	23	26	27	33

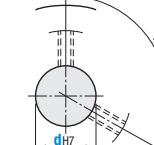
Shaft Bore Specs. The shaft bore may not have surface treatment.

H Round Hole



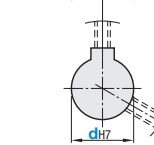
No tapped holes and set screws.
As long as shaft hole diameter d is within the selection range, shaft hole diameter 4.5, 6.35 can be selected.

P Round Hole + Tap



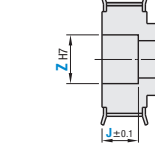
* For A Shape pulley, the set screw hole is set at around 120° to keep away from peaks.
As long as shaft hole diameter d is within the selection range, shaft hole diameter 6.35 can be selected.

N New JIS Keywayed Bore + Tap



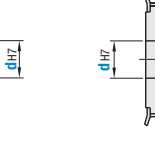
* For Keyway Dimension Details, refer to P.1338.

V Stepped Hole



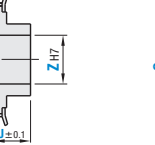
No tapped holes or set screws included.
As long as shaft hole diameter d is within the selection range, shaft hole diameter 6.35 can be selected.

F Stepped Hole (Counterbored on the hub side)



Only available for B Shape Pulley.
No tapped holes or set screws included.
As long as shaft hole diameter d is within the selection range, shaft hole diameter 6.35 can be selected.

Y Both Ends Stepped Hole



Only available for A Shape Pulley.
No tapped holes or set screws included.
Shaft hole diameter 0/+1.0.
No tapped holes or set screws included.
Q(R) - Y ≥ 2

1.5GT

Type	Part Number	Number of Teeth	Type Nominal Width	Pulley Shape	Pulley Shape					
					A			B		
					H Round Hole	P Round Hole + Tap	N: Keyway + Tap	H Round Hole	P Round Hole + Tap	N: Keyway + Tap
Aluminum GPA	GT15040	18	GT15040	A	3	—	—	—	—	—
		20			3 4	—	—	—	—	
		24			4 4.5 5	5	—	—	—	
		30			4 4.5 5 6	5 6	—	—	—	
		36			5 6 6.35 7 8	5 6 6.35 7 8	8	4	5 6	5 6 6.35 7 8

2GT

Type	Part Number	Teeth	Type Nominal Width	Pulley Shape	Pulley Shape															
					A						B									
					H(d) Round Hole	P(d) Round Hole + Tap	N(d) JIS Keywayed Bore + Tap	V(d)	Z Z-d=2	J (1 mm increments)	Y(d)	Q • R	S + T (1 mm increments)	H(d) Round Hole	P(d) Round Hole + Tap	N(d) JIS Keywayed Bore + Tap	V • F(d)	Z Z(d)2	J (1 mm increments)	
Aluminum GPA	GT2040 GT2060 GT2090	14	GT2040 GT2060 GT2090	A AB	3	—	—	—	—	—	—	—	—	—	—	—	—	—		
		15			3 4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
		16			3 4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		18			4 4.5 5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		20			4 4.5 5 6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		21			4 4.5 5 6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
		22			4 6	—	—	4	6	—	—	—	—	—	—	—	—	—	—	—
		24			5 6	—	—	5 6	7 8	—	—	—	—	—	—	—	—	—	—	—
		25			5 6	—	—	5 6	7 8	—	—	—	—	—	—	—	—	—	—	—
		26			5 6	—	—	5 6	7 8	—	—	—	—	—	—	—	—	—	—	—
		28			5 8	—	—	5 8	7 10	—	—	—	—	—	—	—	—	—	—	—
		28			5 10	—	—	5 8	7 10	—	—	—	—	—	—	—	—	—	—	—
		30			5 11	—	—	5 9	7 11	—	—	—	—	—	—	—	—	—	—	—
		32			5 13	5 10	—	5 11	7 13	—	—	—	—	—	—	—	—	—	—	—
		34			6 14	6 10	—	6 12	8 14	—	—	—	—	—	—	—	—	—	—	—
		36			6 14	6 10	—	6 12	8 14	—	—	—	—	—	—	—	—	—	—	—
		38			6 16	6 10	8	6 14	8 16	—	—	—	—	—	—	—	—	—	—	—
		40			6 17	6 12	8 10	6 15	8 17	—	—	—	—	—	—	—	—	—	—	—
44	6 19	6 13	8 11	6 17	8 19	—	—	—	—	—	—	—	—	—	—	—				
48	8 22	8 15	8 13	8 20	10 22	—	—	—	—	—	—	—	—	—	—	—				
50	8 23	8 16	8 14	8 21	10 23	—	—	—	—	—	—	—	—	—	—	—				
60	8 29	8 22	8 19	8 27	10 29	—	—	—	—	—	—	—	—	—	—	—				

* For Shaft Bore Spec. N, shaft diameter 9 is not available.

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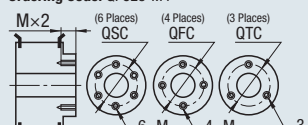
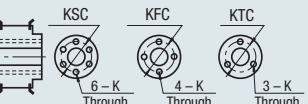
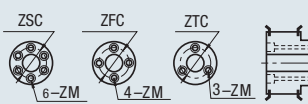
2GT Type, continued

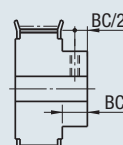
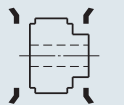
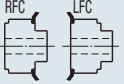
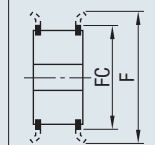
Part Number Example

Part Number: GPA32GT2060 - Pulley Shape: A - Shaft Bore Spec. / Inner Dia.: H8

Part Number Alterations

Part Number: GPA32GT2060 - Pulley Shape: A - Shaft Bore Spec. / Inner Dia.: H8 - (KC90 / QSC / QFC / QTC / KSC / KFC / KTC / BC / NFC / RFC / LFC / FC) - NFC

Alterations	Set Screw Angle	Side Tapped Hole	Side Through Holes	Side Counterbore Holes
Code	KC90	QSC / QFC / QTC	KSC-KTC-KFC	ZTC-ZFC-ZSC
Spec.	<p>Changes an angle of set screw to 90°.</p> <p>For A shape pulley, the set screw hole is set at around 90° to keep away from peaks.</p> 	<p>Machines tapped hole on the side surface of hub side. (QSC, QFC, QTC: 0.5 mm Increment)</p> <p>Thickness required: minimum 2mm</p> <p>A Shape: $d+M+4 \leq QSC(QFC / QTC) \leq E-(M+4)$</p> <p>B Shape: $d+M+4 \leq QSC(QFC / QTC) \leq D-(M+4)$</p> <p>d=Z when the Shaft Bore Specifications is V.</p> <p>Specify KC90 when selecting QFC for Shaft Bore specifications P, PU, HU, N, and C.</p> <p>The pilot hole for tapping may go through.</p> <p>Not applicable to Shaft Bore Specifications F or Y.</p> <p>When the Shaft Bore Specifications are P, PU, HU, N or C, QSC is not applicable.</p> <p>Not applicable to K Shape.</p> <p>M Selection: M3, M4, M5, M6, M8</p> <p>Ordering Code: QFC28-M4</p> 	<p>Machines through hole on the side surface of hub side.</p> <p>Ordering Code: KTC28-K4.5</p> <p>K, C Selection: Please specify the hole's manufacturing position (P.C.D.)</p> <p>K Specification: K4.0-11.0 (0.5mm increments)</p> <p>Application Notes</p> <p>Not available for K shape</p> 	<p>Machines counterbore holes on the side surface of the hub side.</p> <p>Ordering Code: ZTC28-ZM4</p> <p>Z/C Selection: Please specify the hole's manufacturing position (P.C.D.)</p> <p>ZM Selection: ZM3, ZM4, ZM5, ZM6, ZM8</p> <p>Application Notes</p> <p>Not applicable for 1.5GT</p> <p>Minimum thickness is 2mm</p> <p>Conditions vary depending on the shaft hole specifications</p> 

Alterations	Hub Shortening	Flange Not Swaged	Flange Swaged on One Side	Flange Cut
Code	BC	NFC	RFC / LFC	FC
Spec.	<p>Cuts the hub length in 0.5mm increments</p> <p>Ordering Code: BC6.5</p> <p>Application Notes</p> <p>Shaft Bore specification H, V, F: $3 \leq BC \leq L-W$</p> <p>Shaft Bore specification P, N, C: $M+3 \leq BC \leq L-W$</p> <p>Not available for K, A shape</p> 	<p>Flange is not installed. (Flange included)</p> 	<p>Flange installed on the hub side (RFC) or the opposite side (LFC) only.</p> <p>Same on A Shape</p> 	<p>Cuts the outer diameter of the flange in 0.5mm increments</p> <p>Ordering Code: FC17</p> <p>Application Notes</p> <p>Same on A Shape</p> <p>$FC \geq (O.D.) + 1$</p> <p>$FC \leq F - 2$</p> <p>No surface treatment applied on flange circumference.</p> 

Performance Comparison Between MXL & 2GT Belts

Reference (1): Durability

Performance Conditions

No. of Belt Teeth: 126
Belt Width: 9.5 mm
No. of Pulley Teeth: 12 (2GT)
: 14 (MXL)
Revolutions: 7,900 rpm
Load Torque: 24.3 Nm

*Technical Data for backlash, P.1339.

Type of Belt	Life Hours (h)
MXL	~70
2GT	~300

Reference (2): Jumping Torque Capability

Performance Conditions

No. of Belt Teeth: 126
Belt Width: 4.8 mm
No. of Pulley Teeth: 20 (2GT)
: 20 (MXL)
Revolutions: 1,130 rpm

Teeth Height
MXL: 0.51 mm
2GT: 0.75 mm

*Jumping Torque represents the max. torque when a jumping occurs.

Initial Tension (N)	MXL (N-cm)	2GT (N-cm)
9.8	~60	~100
19.6	~80	~120
28.8	~100	~140

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Timing Pulleys / Belts / Keyless Bushings