# High Torque Timing Pulleys - 3GT

Compatible with 1.5GT, 2GT Types from Gates Unitta Asia Company.

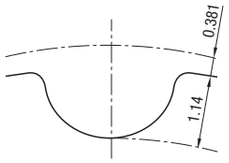
For e-Catalog non-standard products, see P.131.

For High Torque Timing Belts, see P. 1493. For Idlers with Teeth, see P. 1487.


| Type | Belt Width 6mm GT3060 | 9mm GT3090 | 15mm GT3150 | M Material* Pulley | Flange | S Surface Treatment | A Accessory* Set Screws |
|---|---|---|---|---|---|---|---|
| GPA | ● | ● | ● | Aluminum Alloy | Aluminum Alloy | Clear Anodize | SUS304 |
| GPT | ● | ● | ● | S45C Equivalent | SPCC | - | Chrome Molybdenum Steel (Black Oxide) |
| GPM | ● | ● | ● | | | Black Oxide | |

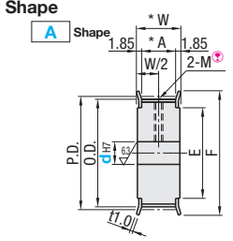
Flange is already swaged, and set screws are included with for Shaft Bores P and N. * The above material and accessory might be changed to the ones equivalent to the originals.

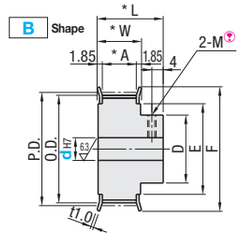
**Standard Tooth Profile**




Tooth groove dimensions slightly vary according to the number of teeth.
(Pitch: 3.0mm)

**• Pulley Shape**




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

| dH7 Shaft Bore I.D. | M (Coarse) | Accessory: Set Screw |
|---|---|---|
| 5 | M3 | M3x3 |
| 6~17 | M4 | M4x3 |
| 18~38 | M5 | M5x4 |

Shaft Bore Specs. H (Round hole), V or F (Stepped Hole), Y (Both Sides Stepped Hole) and WB (Two-stepped Hole) do not have tapped holes. ⊗For Shape B, 20 or less teeth is not selectable.

**Number of Teeth / Dimension**

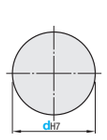
| mm | Number of Teeth 16 | 18 | 20 | 22 | 24 | 25 | 26 | 28 | 30 | 32 | 34 | 36 | 40 | 44 | 48 | 50 | 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P.D. | 15.28 | 17.19 | 19.10 | 21.01 | 22.92 | 23.87 | 24.83 | 26.74 | 28.65 | 30.56 | 32.47 | 34.38 | 38.20 | 42.02 | 45.84 | 47.75 | 57.30 |
| O.D. | 14.52 | 16.43 | 18.34 | 20.25 | 22.16 | 23.11 | 24.07 | 25.98 | 27.89 | 29.80 | 31.71 | 33.62 | 37.44 | 41.26 | 45.08 | 46.99 | 56.54 |
| D | - | - | - | 12 | 14 | 14 | 15 | 17 | 19 | 20 | 22 | 24 | 28 | 30 | 32 | 34 | 36 |
| F | 19 | 21 | 23 | 24 | 26 | 27 | 28 | 30 | 32 | 34 | 36 | 38 | 42 | 46 | 49 | 51 | 61 |
| E | 11 | 12 | 14 | 16 | 18 | 18 | 19 | 21 | 23 | 25 | 27 | 29 | 33 | 36 | 40 | 42 | 52 |

**Belt Nominal Width / Dimension**

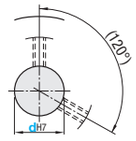
| mm | Nominal GT3060 | GT3090 | GT3150 |
|---|---|---|---|
| A | 7.3 | 10.3 | 16.3 |
| W | 11.0 | 14.0 | 20.0 |
| L | 19.0 | 22.0 | 28.0 |

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

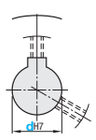
H Round Hole | P Round Hole + Tap | N New JIS Keywayed Bore + Tap | V Stepped Hole | F Stepped Hole (Counterbored Holes on the Hub Side) | Y Both Ends Stepped Hole | WB Two-stepped Hole



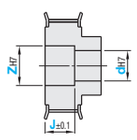

No tapped holes or set screws.



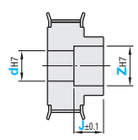

For A-Shape pulley, the screw holes are set at around 120° to keep away from peaks.



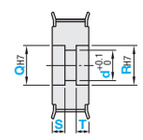

For Keyway Dimension Details, see P.1413. Specify NK10 when selecting "Shaft Bore Dia. 10" + "Keyway Width 4.0mm (Height 1.8mm)".



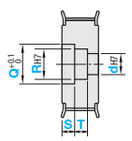

No tapped holes or set screws.




Applicable to Shape B only.
No tapped holes or set screws.




Applicable to Shape A only.
Shaft Bore Dia. d is +0.1 / 0
No tapped holes or set screws.




Applicable to Shape A only.
No tapped holes or set screws.

| Part Number Type | Number of Teeth | Type Nominal Width | Pulley Shape | Pulley Shape A: Shaft Bore Specs. "~": 1mm Increments ", ": Selectable H(d) Round Hole | P(d) Round Hole + Tap See Below | N(d) Keyway + Tap See Below | V Stepped Hole V(d) | Z Z-d≥2 | J (0.1mm Increment) | Y Both Sides Stepped Hole WB Two-stepped Hole Y(d) | Q, R Q(R)-Y≥2 | S,T (0.1mm Increment) | B: Shaft Bore Specs. "~": 1mm Increments ", ": Selectable H(d) Round Hole | P(d) Round Hole + Tap See Below | N(d) Keyway + Tap See Below | V, F Stepped Hole V, F(d) | Z Z-d≥2 | J (0.1mm Increment) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum GPA Steel GPT GPM | 16 | GT3060 | A | 4~7 | - | - | 4, 4.5, 5 | 6, 7 | 2~18 2.0≤J≤W-2.0 | 4, 4.5, 5 | 6, 7 | 3~14 S+T≤W-3 | - | - | - | - | - | 2~26 2.0≤J≤L-2.0 |
| | 18 | | | 5~8 | 5 | | 5, 6 | 7, 8 | | 5, 6 | 7, 8 | | | | | | | |
| | 20 | | | 5~10 | 5, 6 | | 5~8 | 7~10 | | 5~8 | 7~10 | | | | | | | |
| | 22 | | B | 6~12 | 6, 6.35, 7 | | 6~10 | 8~12 | | 6~10 | 8~12 | | 6~8 | | | 6 | 8 | |
| | 24 | | | 6~14 | 6~8 | | 6~12 | 8~14 | | 6~12 | 8~14 | | 6~10 | 6 | | 6~8 | 8~10 | |
| | 25 | | | 6~14 | 6~10 | | 6~12 | 8~14 | | 6~12 | 8~14 | | 6~10 | 6 | | 6~8 | 8~10 | |
| | 26 | GT3060 | | 6~15 | 6~11 | 8 | 6~13 | 8~15 | | 6~13 | 8~15 | | 6~11 | 6 | | 6~9 | 8~11 | |
| | 28 | | | 6~17 | 6~13 | 8, 10 | 6~15 | 8~17 | | 6~15 | 8~17 | | 6~13 | 6~8 | | 6~11 | 8~13 | |
| | 30 | GT3090 | | 6~19 | 6~14 | 8, 10 | 6~17 | 8~19 | | 6~17 | 8~19 | | 6~15 | 6~10 | 8 | 6~13 | 8~15 | |
| | 32 | GT3120 | | 6~21 | 6~14 | 8~12 | 6~19 | 8~21 | | 6~19 | 8~21 | | 6~16 | 6~10 | 8 | 6~14 | 8~16 | |
| | 34 | | | 8~23 | 8~16 | 8~13 | 8~21 | 10~23 | | 8~21 | 10~23 | | 8~20 | 8~12 | 8~10 | 8~18 | 10~20 | |
| | 36 | | | 8~25 | 8~18 | 8~14 | 8~23 | 10~25 | | 8~23 | 10~25 | | 8~20 | 8~14 | 8~12 | 8~18 | 10~20 | |
| | 40 | | | 8~29 | 8~23 | 8~17 | 8~27 | 10~29 | | 8~27 | 10~29 | | 8~24 | 8~18 | 8~15 | 8~22 | 10~24 | |
| | 44 | | | 10~32 | 10~25 | 10~20 | 10~30 | 12~32 | | 10~30 | 12~32 | | 10~26 | 10~20 | 10~15 | 10~24 | 12~26 | |
| | 48 | | | 10~36 | 10~25 | 10~23 | 10~34 | 12~36 | | 10~34 | 12~36 | | 10~28 | 10~22 | 10~17 | 10~26 | 12~28 | |
| | 50 | | | 10~38 | 10~28 | 10~24 | 10~36 | 12~38 | | 10~36 | 12~38 | | 10~30 | 10~23 | 10~18 | 10~28 | 12~30 | |
| | 60 | | | 12~48 | 12~38 | 12~30 | 12~46 | 14~48 | | 12~46 | 14~48 | | 12~32 | 12~24 | 12~20 | 12~30 | 14~32 | |

⊗Shaft Bore Dia. 9 is not available for Shaft Bore Specs. N. Shaft Bore Dia. 4.5 and 6.35 are selectable for Shaft Bore Specs. H, P, V and F.

**Ordering Example**

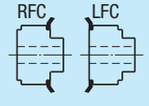
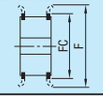
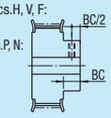
| | Part Number | Pulley Shape | Shaft Bore Specs., I.D. | Z | J | Q | R | S | T |
|---|---|---|---|---|---|---|---|---|---|
| (Shaft Bore Specs.: H, P, N) | GPA30GT3060 - | A - | H10 | | | | | | |
| (Shaft Bore Specs.: V, F) | GPA40GT3150 - | B - | V12 | - Z14 | - J18.0 | | | | |
| (Shaft Bore Specs.: Y, WB) | GPA36GT3090 - | A - | Y15 | | | - Q18 | - R20 | - S3 | - T4 |

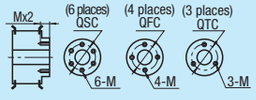
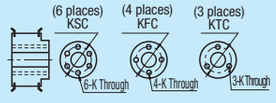
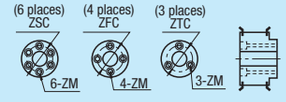


| Number of Teeth | Body Price: Aluminum Alloy (Clear Anodize) GT3060 Shape A | GT3060 Shape B | GT3090 Shape A | GT3090 Shape B | GT3150 Shape A | GT3150 Shape B | S45C Equivalent GT3060 Shape A | GT3060 Shape B | GT3090 Shape A | GT3090 Shape B | GT3150 Shape A | GT3150 Shape B | S45C Equivalent (Black Oxide) GT3060 Shape A | GT3060 Shape B | GT3090 Shape A | GT3090 Shape B | GT3150 Shape A | GT3150 Shape B | Shaft Bore Machining Charge (Body Price +) P Hole | N, V, F Hole | Y, WB Hole |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | | | | | | | | | | | | | | | | | | | | | |
| 18 | | - | | - | | - | | - | | - | | - | | - | | - | | - | | | |
| 20 | | | | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | | | | | | | | |
| 50 | | | | | | | | | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | | | | | | | | | |

**Alterations**

| Part Number | Pulley Shape | Shaft Bore Specs., I.D. | Z | J | Q | R | S | T | (KC90···etc.) |
|---|---|---|---|---|---|---|---|---|---|
| GPA30GT3090 - | A - | H10 | | | | | | - | FC30.0 |

| Alterations | Set Screw Angle | No Flange Swaged | Single Flange | Flange Cut | Hub Shortening |
|---|---|---|---|---|---|
| Code | KC90 | NFC | RFC, LFC | FC | BC |
| Spec. | Changes an angle of set screw to 90. For A-Shape pulley, the screw holes are set at around 90° to keep away from peaks.   | (Flange 2 pcs. Included) Ordering Code NFC  | (Flange 1 pc. Included) Ordering Code RFC   | Cut the flange O.D. in 0.5mm increment. Ordering Code FC17 Application Notes FC≥(O. D.)+1 FC≤F-2 No surface treatment is applied on flange circumference.   | Cuts the hub length in 0.5mm increment. Ordering Code BC6.5 Application Notes Shaft Bore Specs.H, V, F: 3≤BC<L-W Shaft Bore Specs.P, N: M+3≤BC<L-W ⊗Not available for Shape A.   For details, see Shaft Alteration Overview. P.1414 |

| Alterations | Add Side Holes (Conditions may vary depending on the shaft bore specs. P.1414) 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 Application Notes 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) Application Notes 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 Application Notes 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 | | |