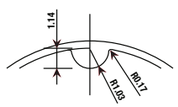
High Torque Timing Pulleys

3 mm PowerGrip® Type

Type	Part Number 6 mm MR3060	9 mm MR3090	15 mm MR3150	Material ① Pulley	Flange	Surface Treatment	Attachment Set Screws ①
GPA	•	•	•	Aluminum Alloy	Aluminum Alloy	Clear Anodize	Stainless Steel
GPB	•	•	•			Black Anodize	
GPK	•	•	•			Hard Clear Anodize*	
GPT	•	•	•	1045 Carbon Steel or Equivalent	Low Carbon Steel	—	Steel (Black Oxide)
GPM	•	•	•			Black Oxide	
GPP	•	•	•			Electroless Nickel Plating	

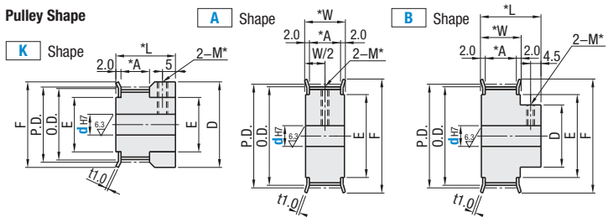
① GPP installed. Set screws are included with P, PU, N, NU & C bore hole specification.
*Hard Anodize Treatment: Film Hardness 300 HV min.

Standard Tooth Profile



Tooth groove dimensions slightly change according to No. of teeth.
(Pitch: 3.0 mm)

Pulley Shape



Tapped Hole Dimensions (Shaft Bore: P / N / C)

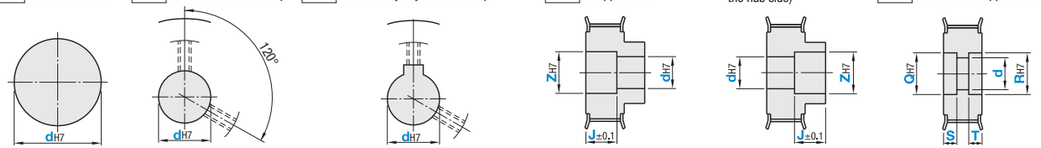
d_{H7} Shaft Bore Inner Dia.	M (Coarse)	Accessory Set Screw
4–5	M3	M3 x 3
6–17	M4	M4 x 3
18–33	M5	M5 x 4
34–46	M6	M6 x 5

*For Shaft Bore Specifications H, HU (Round Hole), F, V (Stepped Hole) and Y (Both Sides Stepped Hole), no tapped hole is machined.

Shaft Bore Specs.

① The shaft bore may not have surface treatment.

- H — Round Hole
- HU — Inch Round Hole
- P — Round Hole + Tap
- PU — Inch Round Hole + Tap
- N — New JIS Keywayed Bore + Tap
- NU — Inch New JIS Key Groove Hole + Tap
- C — Old JIS Keywayed Bore + Tap
- V — Stepped Hole
- F — Stepped Hole (counterbored holes on the hub side)
- Y — Both Ends Stepped Hole



*No tapped holes and set screws.

*For A Shape pulley, the set screw hole is set at around 120° to keep away from peaks.

⊗ Not applicable to K Shape.
*No tapped holes and set screws.

*Applicable to B Shape only.
*No tapped holes and set screws.

*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 Spec. (1mm Increment) H: A	H: B–K	P: A	P: B–K	N / C: A	N / C: B	HU: A	HU: B–K	PU: A	PU: B–K	NU: A	NU: B	V: d_{H7} A	V: Z_{H7} A	V: J (0.1mm Increment) A	V / F: d_{H7} B	V / F: Z_{H7} B	V / F: J (0.1mm Increment) B	Y: d A	Y: Q_{H7} / R_{H7} A	Y: S / T A	P.D.	O.D.	D	F	E
Al GPA GPB GPK	16	MR3060 *A :7.1 *W :11.1 *L :19.0	A K	4–7	4–7	4–5	4–7	—	—	B, C	B, C	—	B	—	—	4–5	6–7	2.0≤J≤W-2.0	—	—	2.0≤J≤L-2.0	4–5	6–7	3–9 S+T≤W–3	15.28	14.52	18	18	11
	17			4–7	4–7	4–5	4–7			B, C	B, C		B			4–5	6–7					4–5	6–7		16.23	15.47	18	18	11
	18			4–9	4–8	4–6	4–8			B–D	B–D		B			4–7	6–9					4–7	6–9		17.19	16.43	20	20	13
	19			4–10	4–8	4–6	4–8			B–E	B–D		B			4–8	6–10					4–8	6–10		18.14	17.38	22	22	14
	20			4–10	4–8	4–6	4–8			B–E	B–D		B			4–8	6–10					4–8	6–10		19.10	18.34	22	22	14
	21			4–10	4–8	4–6	4–8			B–E	B–D		B			4–8	6–10					4–8	6–10		20.05	19.29	25	25	16
	22			4–12	4–10	4–8	4–10			B–E	B–E		B–E			4–10	6–12					4–10	6–12		21.01	20.25	25	25	16
	24	MR3060 *A :7.1 *W :11.1 *L :19.0	A B	4–12	4–10	4–10	4–8			B–E	B–E	B–E	B–E			4–10	6–12		4–8	6–10		4–10	6–12		22.92	22.16	14	25	16
	25			4–14	4–12	4–11	4–10	8–11	8	B–F	B–E	B–E	B–E	D, E	D	4–12	6–14		4–10	6–12		4–12	6–14		23.87	23.11	16	28	18
	26			5–14	5–12	5–11	5–10	8–11	8	C–F	C–E	C–E	C–E	D, E	D	5–12	7–14		5–10	7–12		5–12	7–14		24.83	24.07	16	28	18
	28			5–16	5–14	5–13	5–10	8–13	8	C–G	C–E	C–F	C–E	D–F	D	5–14	7–16		5–12	7–14		5–14	7–16		26.74	25.98	18	30	20
Fe GPT GPM GPP	30	MR3090 *A :10.2 *W :14.2 *L :23.0		6–19	6–16	6–15	6–12	8–14	8–11	C–G	C–G	C–F	C–E	D–F	D, E	6–17	8–19		6–14	8–16		6–17	8–19		28.65	27.89	20	32	23
	32			6–21	6–16	6–17	6–12	8–17	8–11	C–H	C–G	C–G	C–E	D–F	D, E	6–19	8–21		6–14	8–16		6–19	8–21		30.56	29.80	20	35	25
	34			6–24	6–22	6–18	6–18	8–18	8–15	C–J	C–H	C–G	C–G	D–G	D–F	6–22	8–24		6–20	8–23		6–22	8–24		32.47	31.71	26	40	28
	36			6–24	6–22	6–18	6–18	8–19	8–15	C–J	C–H	C–G	C–G	D–G	D–F	6–22	8–24		6–20	8–23		6–22	8–24		34.38	33.62	26	40	28
	38			6–24	6–22	6–18	6–18	8–19	8–15	C–J	C–H	C–G	C–G	D–G	D–F	6–22	8–24		6–20	8–23		6–22	8–24		36.29	35.53	30	44	32
	40	MR3150 *A :16.7 *W :20.7 *L :29.0		8–28	8–26	8–23	8–21	8–23	8–17	E–K	E–K	E–J	E–H	E–J	E–G	8–26	10–28		8–24	10–26		8–26	10–28		38.20	37.44	30	44	32
	44			8–32	8–28	8–26	8–23	8–25	8–18	E–L	E–K	E–J	E–H	E–J	E–G	8–30	10–32		8–26	10–28		8–30	10–32		42.02	41.26	32	48	36
	45			8–32	8–28	8–26	8–23	8–25	8–18	E–L	E–K	E–J	E–H	E–J	E–G	8–30	10–32		8–26	10–28		8–30	10–32		42.97	42.21	32	48	36
	48			8–34	8–30	8–28	8–25	8–27	8–20	E–L	E–K	E–J	E–H	E–J	E–G	8–32	10–34		8–28	10–30		8–32	10–34		45.84	45.08	34	50	38
	50			8–36	8–30	8–30	8–25	8–29	8–20	E–M	E–K	E–K	E–J	E–K	E–H	8–34	10–36		8–28	10–30		8–34	10–36		47.75	46.99	34	52	40
	56			8–36	8–30	8–30	8–25	8–29	8–20	E–M	E–K	E–K	E–J	E–K	E–H	8–34	10–36		8–28	10–30		8–34	10–36		53.48	52.72	39	61	46
	60			8–42	8–35	8–35	8–30	8–35	8–22	E–P	E–M	E–M	E–K	E–L	E–H	8–40	10–42		8–33	10–35		8–40	10–42		57.30	56.54	39	61	46
	62			8–42	8–35	8–35	8–30	8–35	8–22	E–P	E–M	E–M	E–K	E–L	E–H	8–40	10–42		8–33	10–35		8–40	10–42		59.21	58.45	39	61	46
	68			8–42	8–35	8–35	8–30	8–35	8–22	E–P	E–M	E–M	E–K	E–L	E–H	8–40	10–42		8–33	10–35		8–40	10–42		64.94	64.18	50	74	58
	72			8–54	8–46	8–46	8–38	8–45	8–33	E–S	E–Q	E–Q	E–N	E–Q	E–L	8–52	10–54		8–44	10–46		8–52	10–54		68.75	67.99	50	74	58

① Shaft Bore Dia. 4.5, 6.35 are selectable for Shaft Bore specifications H, P, V. ① Shaft bore specification P is not selectable for A Shape with 22 or less teeth and nominal width 060. ① Shaft Bore Dia. 9 is not available for Shaft Bore specification N. ① Shaft Bore Dia. 8, 9, 11, 13, 14, 17, 21–45 are not available for Shaft Bore specification C. ▭ Shaft Bore Dia. J–Q are not available for MR3060 ▭ Shaft Bore Dia. J–N are not available for MR3060 and MR3150 and M–N are not available for MR3090

High Torque Timing Pulleys

3 mm PowerGrip® Type, *continued*

Part Number Example

	Part Number	-	Pulley Shape	-	Shaft Bore Spec. / Inner Dia.	-	Z	-	J	-	Q	-	R	-	S	-	T
Shaft Bore : H / HU / P / PU / N / NU / C	GPA20MR2060	-	A	-	H6												
Shaft Bore: V / F	GPA40MR2090	-	B	-	V6	-	Z10	-	J5								
Shaft Bore: Y	GPA60MR2090	-	B	-	Y8					-	Q12	-	R12	-	S3	-	T3

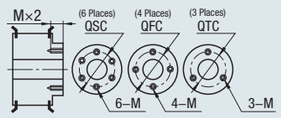
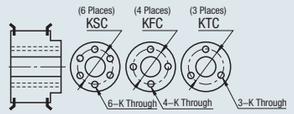
Conveying	•
Positioning	•
Power Transmission	•
High Speed	•

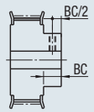
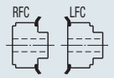
Inch Hole Specifications

No.	Nominal	Dimension (in)	No.	Nominal	Dimension (in)
A	1/8	0.125	KLA	1-1/16	1.063
B	3/16	0.188	KLB	1-1/8	1.125
C	1/4	0.250	KLC	1-3/16	1.188
D	5/16	0.313	L	1-1/4	1.250
E	3/8	0.375	LM	1-5/16	1.313
EF	7/16	0.438	M	1-3/8	1.375
F	1/2	0.500	MN	1-7/16	1.438
FG	9/16	0.563	N	1-1/2	1.500
G	5/8	0.625	P	1-5/8	1.625
GH	11/16	0.688	PQ	1-11/16	1.688
H	3/4	0.750	Q	1-3/4	1.750
HJ	13/16	0.813	QR	1-13/16	1.813
J	7/8	0.875	R	1-7/8	1.875
JK	15/16	0.938	RS	1-15/16	1.938
K	1	1.000	S	2	2.000

Part Number Alterations

	Part Number	-	Pulley Shape	-	Shaft Bore Spec. / Inner Dia.	-	Z	-	J	-	Q	-	R	-	S	-	T	-	(KC90 / QSC / QFC / QTC / KSC / KFC / KTC / BC / NFC / RFC / LFC / FC / TPC / SLH)
Shaft Bore : H / HU / P / PU / N / NU / C	GPA20MR2060	-	A	-	H6													-	NFC

Alterations	Set Screw Angle	Side Tapped Hole	Side Through Hole
Code	KC90	QSC / QFC / QTC	KSC / KFC / KTC
Spec.	Changes an angle of set screw to 90°. ① For A shape pulley, the set screw hole is set at around 90° to keep away from peaks. ① For P, PU, N, NU and C shaft bore specs.	Machines tapped hole on the side surface of hub side. (QSC, QFC, QTC: 0.5 mm Increment) ① Thickness required: minimum 2mm A Shape: d+M+4≤QSC(QFC / QTC)≤E-(M+4) B Shape: d+M+4≤QSC(QFC / QTC)≤D-(M+4) ① d=Z when the Shaft Bore Specifications is V. ① Specify KC90 when selecting QFC for Shaft Bore specifications P, PU, HU, N, and C. ① The pilot hole for tapping may go through. ⊗ Not applicable to Shaft Bore Specifications F or Y. ⊗ When the Shaft Bore Specifications are P, PU, HU, N or C, QSC is not applicable. ⊗ Not applicable to K Shape. M Selection: M3, M4, M5, M6, M8 **Ordering Code:** QFC28-M4  	Machines through hole on the side surface of hub side. (KSC, KFC, KTC: 0.5 mm Increment) ① Thickness required: minimum 2mm A Shape: d+K+4≤KSC(KFC / KTC)≤E-(K+4) B Shape: d+K+4≤KSC(KFC / KTC)≤D-(K+4) ① d=Z when the Shaft Bore Specifications is V. ① Specify KC90 when selecting KFC for Shaft Bore Specifications P, PU, HU, N and C. ⊗ Not applicable to K Shape. ⊗ Not applicable to Shaft Bore Specifications F or Y. ⊗ When the Shaft Bore Specifications are P, PU, HU, N or C, KSC is not applicable. K (Through Hole Dia.) Selection: K4.0–K13.0 (0.5 mm Increment) **Ordering Code:** KSC20-K5 

Alterations	Boss Cut	No Flange	Single Flange	Flange Cut	Tapped Hole Dimensions	Set Screw Length
Code	BC	NFC	RFC / LFC	FC	TPC	SLH
Spec.	Cuts the hub length in 0.5 mm increment. ① Shaft Bore specification: H, V, F: 3≤BC≤L-W ① Shaft Bore P, N, C: M+3≤BC≤L-W  **Ordering Code:** BC6.5 ① Clear anodized products may not have surface treatment on the embossed plane. ⊗ Not available to K and A Shape.	Flange is not Installed. (Flange included) 	Flange installed on the hub side (RFC) or the opposite side (LFC) only. ① Same on A Shape ⊗ Not applicable to K Shape.  	Lowers flange by cutting. FC: 0.5 mm Increment ① No surface treatment applied on flange circumference. ① FC≥(O.D.)+2 ① FC≤F-2 **Ordering Code:** FC17	Changes the tapped hole dimension. ① Applicable to Shaft Bore specification P, N, C only. **Ordering Code:** TPC4 M — TPC M3 — M4 M4 — M3, M5 M5 — M4	Changes the length of the included set screws. ① Applicable to Shaft Bore specification P, N, C only. **Ordering Code:** SLH8 Set Screw — SLH M3 x 3 — 6 M4 x 3 — 5, 8 M5 x 4 — 6, 10

① BC, TPC, and SLH alterations are not available for inch bores.