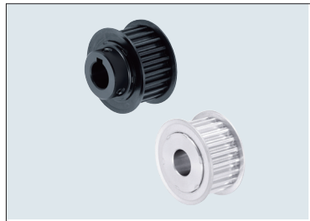
High Torque Timing Pulleys

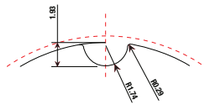
5 mm PowerGrip® Type



Type	Part Number 15 mm	Part Number 25 mm	Material: Pulley	Material: Flange	Surface Treatment	Attachment Set Screws
	MR5150	MR5250				
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	

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

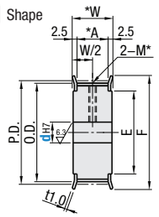
Standard Tooth Profile



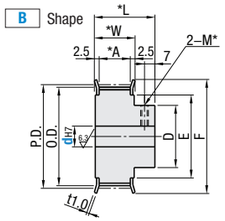
Tooth groove dimensions slightly change according to No. of teeth.
(Pitch: 5.0 mm)

Pulley Shape

A Shape



B Shape



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

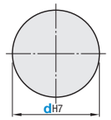
d_{H7} Shaft Bore Inner Dia.	M (Coarse)	Accessory Set Screw
6–12	M4	M4 x 3
13–17	M5	M5 x 4
18–30	M6	M6 x 5
31–45	M8	M8 x 6
46–70	M10	M10 x 8

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

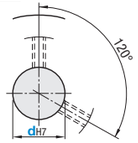
Shaft Bore Specs.

ⓘ The shaft bore may not have surface treatment.

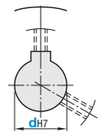
- H Round Hole
- HU Inch Round Hole
- P Round Hole + Tap
- PU Inch Round Hole + Tap
- N New JIS Keywayed Bore + Tap
- NU Inch New JIS Key Groove Hole + Tap
- C Old JIS Keywayed Bore + Tap
- V Stepped Hole
- F Stepped Hole (counterbored holes on the hub side)
- Y Both Ends Stepped Hole

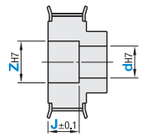


*No tapped holes and set screws.

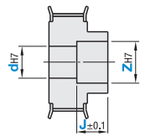


*For A Shape pulley, the set screw hole is set at around 120° to keep away from peaks.

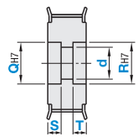




*No tapped holes and set screws.



*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	H A	H B	P A	P B	N / C A	N / C B	HU A	HU B	PU A	PU B	NU A	NU B	V d_{H7} A	V Z_{H7} A	V J (0.1mm Inc.) A	V/F d_{H7} B	V/F Z_{H7} B	V/F J (0.1 mm Inc.) 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	18	MR5150 *A :18.0 *W :23.0 *L :35.0	A B	6–18	6–15	6–12	6–11	8–12	8–10, NK10	C-G	C-F	C-E	C-E	D, E	D, E	6–16	8–18	2.0≦J≦W-2.0	6–13	8–15	2.0≦J≦L-2.0	6–16	8–18	3–14 S+T≦ W–3	28.65	27.51	19	33	22
	19			6–20	6–15	6–16	6–11	8–16	8–10, NK10	C-H	C-F	C-G	C-E	D-G	D, E	6–18	8–20		6–13	8–15		6–18	8–20		30.24	29.10	19	36	24
	20			6–20	6–15	6–16	6–11	8–16	8–10, NK10	C-H	C-F	C-G	C-E	D-G	D, E	6–18	8–20		6–13	8–15		6–18	8–20		31.83	30.69	19	36	24
	21			6–20	6–15	6–16	6–11	8–16	8–10, NK10	C-H	C-F	C-G	C-E	D-G	D, E	6–18	8–20		6–13	8–15		6–18	8–20		33.42	32.28	24	40	27
	22			7–23	7–20	7–18	7–16	8–18	8–12	D-J	D-H	D-G	D-G	D-G	D, E	7–21	9–23		7–18	9–20		7–21	9–23		35.01	33.87	24	40	27
	23			7–23	7–20	7–18	7–16	8–18	8–12	D-J	D-H	D-G	D-G	D-G	D, E	7–21	9–23		7–18	9–20		7–21	9–23		36.61	35.47	27	45	30
	24			7–26	7–23	7–20	7–17	8–20	8–13	D-K	D-J	D-H	D-G	D-H	D-F	7–24	9–26		7–21	9–23		7–24	9–26		38.20	37.06	27	45	30
	25			7–26	7–23	7–20	7–17	8–20	8–15	D-K	D-J	D-H	D-G	D-H	D-F	7–24	9–26		7–21	9–23		7–24	9–26		39.79	38.65	27	45	30
	26			8–31	8–27	8–23	8–21	8–22	8–17	E-L	E-K	E-J	E-H	E-J	E-G	8–29	10–31		8–25	10–27		8–29	10–31		41.38	40.24	31	48	35
	28			8–31	8–28	8–24	8–22	8–24	8–18	E-L	E-K	E-J	E-H	E-K	E-G	8–29	10–31		8–26	10–28		8–29	10–31		44.56	43.42	32	48	35
	30			10–32	10–29	10–26	10–23	10–26	10–18	F-L	F-K	F-K	F-J	F-K	F-G	10–30	12–32		10–27	12–29		10–30	12–32		47.75	46.61	33	52	36
	32			10–36	10–33	10–28	10–27	10–28	10–22	F-L	F-L	F-K	F-K	F-K	F-H	10–34	12–36		10–31	12–33		10–34	12–36		50.93	49.79	37	55	40
	34			10–41	10–36	10–33	10–30	10–33	10–25	F-N	F-M	F-L	F-K	F-L	F-K	10–39	12–41		10–34	12–36		10–39	12–41		54.11	52.97	40	61	45
Fe GPT GPM GPP	36	MR5250 *A :28.0 *W :33.0 *L :45.0		10–41	10–36	10–33	10–30	10–33	10–25	F-N	F-M	F-L	F-K	F-L	F-K	10–39	12–41		10–34	12–36		10–39	12–41		57.30	56.16	40	61	45
	38			10–41	10–36	10–33	10–30	10–33	10–25	F-N	F-M	F-L	F-K	F-L	F-K	10–39	12–41		10–34	12–36		10–39	12–41		60.48	59.34	47	67	50
	40			10–46	10–43	10–38	10–35	10–38	10–28	F-Q	F-P	F-M	F-M	F-M	F-K	10–44	12–46		10–41	12–43		10–44	12–46		63.66	62.52	47	67	50
	44			12–54	12–46	12–42	12–38	12–40	12–32	F-N	F-Q	F-P	E-M	F-N	F-L	12–52	14–54		12–44	14–46		12–52	14–54		70.03	68.89	50	74	58
	45			12–54	12–46	12–42	12–38	12–40	12–32	F-N	F-Q	F-P	E-M	F-N	F-L	12–52	14–54		12–44	14–46		12–52	14–54		71.62	70.48	50	74	58
	48			12–59	12–56	12–45	12–45	12–40	F-S	F-S	F-Q	F-Q	F-N	F-N	12–57	14–59		12–54	14–56		12–57	14–59		76.39	75.25	60	83	63
	50			12–63	12–59	12–50	12–47	12–43	12–43	F-S	F-S	F-R	F-Q	F-P	F-P	12–61	14–63		12–57	14–59		12–61	14–63		79.58	78.44	63	87	67
	52			12–63	12–59	12–50	12–47	12–43	12–43	F-S	F-S	F-R	F-Q	F-P	F-P	12–61	14–63		12–57	14–59		12–61	14–63		82.76	81.62	63	87	67
	56			12–63	12–59	12–50	12–47	12–43	12–43	F-S	F-S	F-R	F-Q	F-P	F-P	12–61	14–63		12–57	14–59		12–61	14–63		89.13	87.99	75	99	80
	60			12–76	12–71	12–50	12–50	12–50	12–50	F-S	F-S	F-R	F-Q	F-R	F-R	12–74	14–76		12–69	14–71		12–74	14–76		95.49	94.35	75	99	80
	64			12–76	12–71	12–50	12–50	12–50	12–50	F-S	F-S	F-R	F-Q	F-R	F-R	12–74	14–76		12–69	14–71		12–74	14–76		101.86	100.72	75	104	84
	68			12–76	12–71	12–50	12–50	12–50	12–50	F-S	F-S	F-R	F-Q	F-R	F-R	12–74	14–76		12–69	14–71		12–74	14–76		108.23	107.09	90	119	100
	72			12–85	12–80	12–70	12–70	12–55	12–55	F-S	F-S	F-S	F-S	F-S	F-S	12–83	14–92		12–84	14–86		12–83	14–92		114.59	113.45	90	119	100

ⓘ Shaft Bore Dia. 9, 51–54 are not available for Shaft Bore specification N. ⓘ Shaft Bore Dia. 6.35 are selectable for Shaft Bore specifications H, P, V.
ⓘ Shaft Bore Dia. 8, 9, 11, 13, 14, 17, 21–55 are not available for Shaft Bore specification C.

High Torque Timing Pulleys

5 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

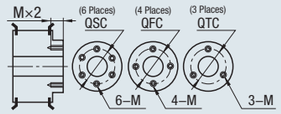
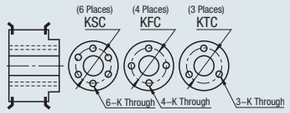
Conveying	•
Positioning	•
Power Transmission	•
High Speed	•

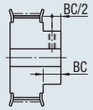
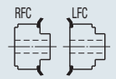
Inch Hole Specifications

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°. ⓘ For A shape pulley, the set screw hole is set at around 90° to keep away from peaks. ⓘ 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) ⓘ 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) ⓘ d=Z when the Shaft Bore Specifications is V. ⓘ Specify KC90 when selecting QFC for Shaft Bore specifications P, PU, HU, N, and C. ⓘ 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) ⓘ 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) ⓘ d=Z when the Shaft Bore Specifications is V. ⓘ 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. ⓘ Shaft Bore specification: H, V, F: 3≦BC≦L-W ⓘ Shaft Bore specification: P, N, C: M+3≦BC≦L-W  **Ordering Code:** BC6.5 ⓘ 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. ⓘ Same on A Shape  	Lowers flange by cutting. FC: 0.5 mm Increment ⓘ No surface treatment applied on flange circumference. ⓘ FC≧(O.D.)+2 ⓘ FC≦F-2 **Ordering Code:** FC17	Changes the tapped hole dimension. ⓘ Applicable to Shaft Bore specification P, N, C only. **Ordering Code:** TPC4 M | TPC M4 | M3, M5 M5 | M4, M6 M6 | M5, M8 M8 | M6, M10 M10 | M8	Changes the length of the included set screws. ⓘ Applicable to Shaft Bore specification P, N, C only. **Ordering Code:** SLH8 Set Screw | SLH M4 x 3 | 5, 8 M5 x 4 | 6, 10 M6 x 4 | 10 M8 x 6 | 10, 12 M5 x 4 | 12, 15

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