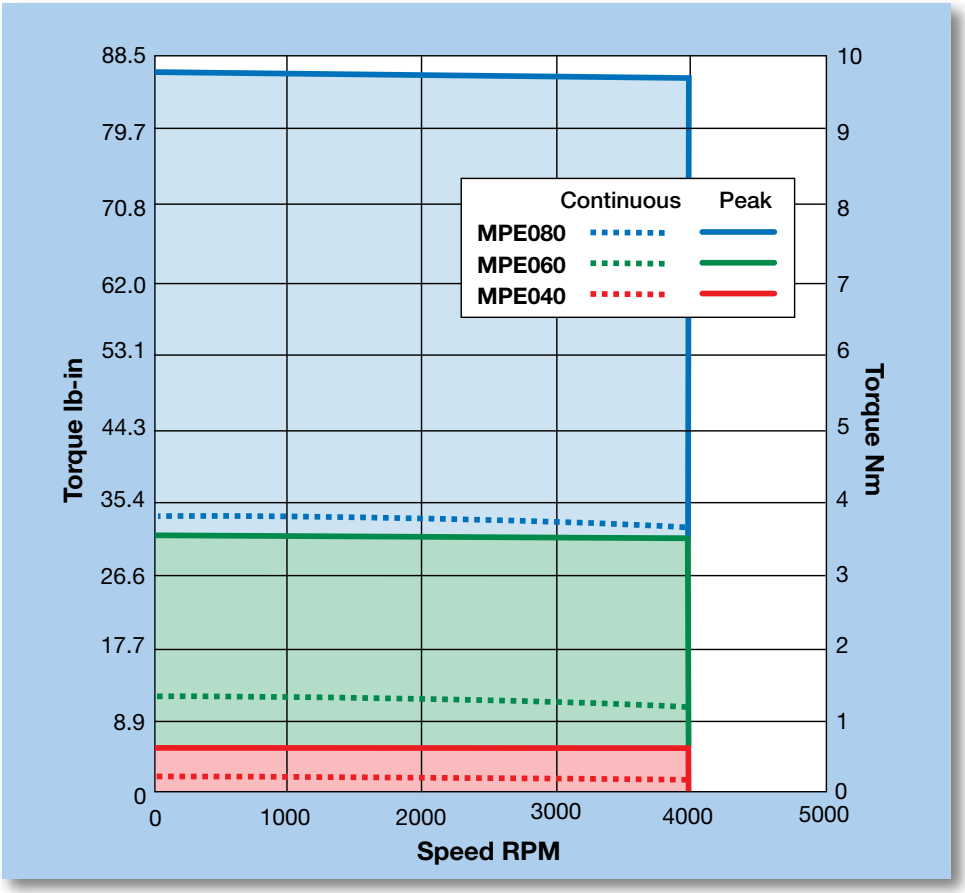
MPE Series

Economy OEM-Style Servo Motors

The new MPE Series is an economical servo motor that extends the MPP motor family to smaller sizes. The MPE is perfect for high volume applications where fast delivery and competitive pricing are required. This is accomplished through streamlined options and reduced complexity.

- **Eight models covering three frame sizes of 40, 60 and 80 mm**
- **1.4 to 31.3 in-lbs continuous torque**
- **High torque density packaging**
- **Segmented lamination design**
- **High-performance neodymium magnets**
- **2500 line encoder**

Speed/Torque Range (Max)



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email: emn_support@parker.com

www.parkermotion.com

MPE Common Specifications

Ambient Temp at Rating	T_{amb}	°C	40
Max Winding Temp	T_{max}	°C	130
Number of Rotor Magnet Poles	Np	# poles	8
Environmental Protection Rating *	IP		IP40 – IP65

* IP65 for shaft is achieved by proper installation of supplied seal. Cable end connectors are not IP65

ENGINEERING YOUR SUCCESS.

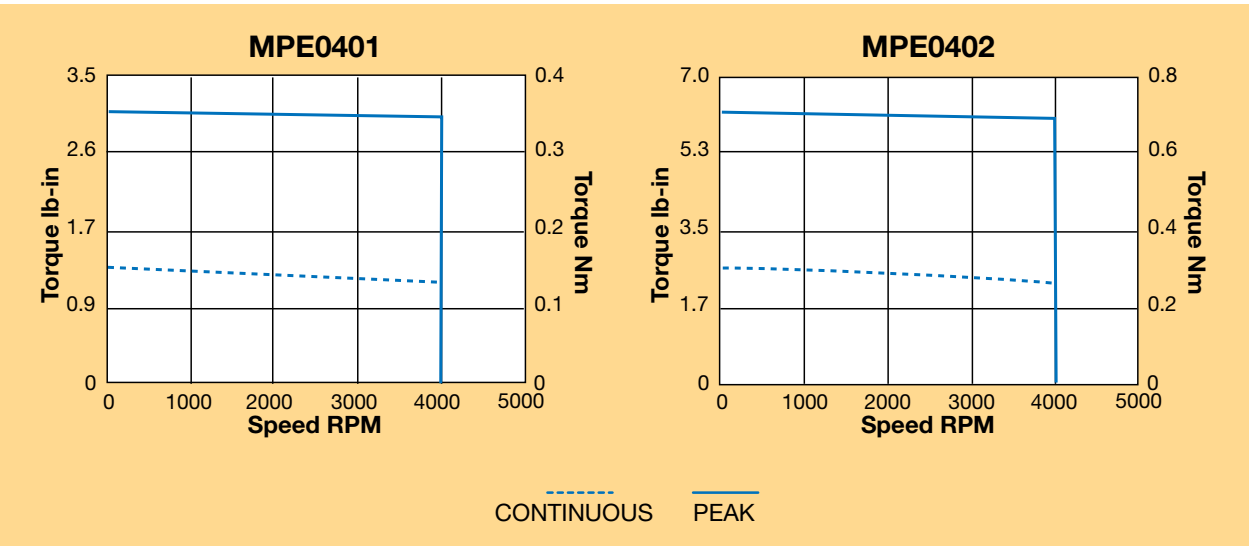
MPE Series Servo Motors

MPE 040 Specifications

Parameter	Symbol	Units	MPE0401	MPE0402
Stall Torque Continuous [1, 2, 3, 4]	T_{cs}	Nm	0.15	0.31
		in-lb	1.4	2.8
Stall Current Continuous [1, 2, 3, 4]	I_{cs}(rms)	Arms	0.6	1.2
Peak Torque	Tpk	Nm	0.35	0.71
		in-lb	3.1	6.3
Peak Current	I_{pk}(rms)	Arms	1.7	3.6
Rated Speed [1, 2, 3]	Sr	rpm	3974	3974
Rated Torque [1, 2, 3, 4]	T_r	Nm	0.13	0.26
		in-lb	1.2	2.3
Rated Shaft Output Power [1, 2, 3, 4]	P_{out}	kW	0.05	0.10
Current at Rated Speed [1, 2, 3, 4]	I_r	A_{rms}	0.5	1.1
Voltage Constant [4, 7]	K_e	V_{rms}/k_{rpm}	16.96	16.66
Torque Constant [4, 7]	K_t(sine)	Nm/A_{rms}	0.280	0.276
Resistance [4, 9]	R	ohm	26.0300	9.9300
Inductance [5, 9]	L	mH	25.555	11.905
Rotor Inertia [6, 4]	J	$kg\text{-}m^2$	2.300^{-6}	4.100^{-6}
		$in\text{-}lb\text{-}sec^2$	2.036^{-5}	3.629^{-5}
Motor Weight [6, 4]		kg	0.4	0.6
		lb	0.9	1.3

[1] Assumes motor is mounted to an aluminum plate with dimensions of 10" X 10" X 1/4" aluminum plate for 70 mm motor frames or smaller, 12" x 12" x 1/2" for 92 mm to 115 mm, 12" x 12" x 1" for 142 mm to 230 mm motor frames, and 21" x 21" x 1" for 270 mm to 320 mm motor frames.
[2] Maximum winding temperature is 130°C. Thermal protection device may be at a lower temperature.
[3] These ratings are valid for Parker Hannifin Drives. Other drives may not achieve the same ratings.
[4] ±10%
[5] ±30% @ 1kHz
[6] Reference only
[7] Measured Lead to Lead

MPE 040 Speed-Torque Performance (@240 VAC/340 VDC)

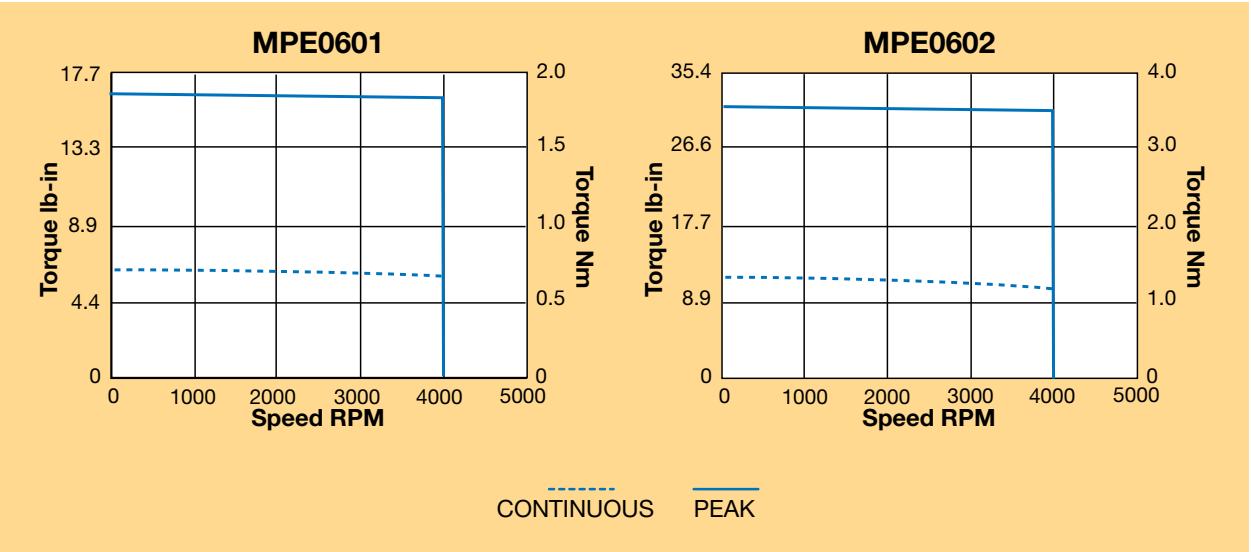


MPE 060 Specifications

Parameter	Symbol	Units	MPE0601	MPE0602
Stall Torque Continuous [1, 2, 3, 4]	T_{cs}	Nm	0.72	1.33
		in-lb	6.4	11.8
Stall Current Continuous [1, 2, 3, 4]	I_{cs}(rms)	Arms	1.8	2.8
Peak Torque	Tpk	Nm	1.86	3.56
		in-lb	16.5	31.5
Peak Current	I_{pk}(rms)	Arms	5.5	8.4
Rated Speed [1, 2, 3]	Sr	rpm	3974	3974
Rated Torque [1, 2, 3, 4]	T_r	Nm	0.67	1.20
		in-lb	6.0	10.6
Rated Shaft Output Power [1, 2, 3, 4]	P_{out}	kW	0.20	0.40
Current at Rated Speed [1, 2, 3, 4]	I_r	A_{rms}	1.8	2.6
Voltage Constant [4, 7]	K_e	V_{rms}/k_{rpm}	23.84	29.03
Torque Constant [4, 7]	K_t(sine)	Nm/A_{rms}	0.394	0.480
Resistance [4, 9]	R	ohm	7.2400	3.7700
Inductance [5, 9]	L	mH	18.915	12.805
Rotor Inertia [6, 4]	J	$kg\text{-}m^2$	1.790^{-5}	2.700^{-5}
		$in\text{-}lb\text{-}sec^2$	1.584^{-4}	2.390^{-4}
Motor Weight [6, 4]		kg	1.1	1.4
		lb	2.4	3.2

[1] Assumes motor is mounted to an aluminum plate with dimensions of 10" X 10" X 1/4" aluminum plate for 70 mm motor frames or smaller, 12" x 12" x 1/2" for 92 mm to 115 mm, 12" x 12" x 1" for 142 mm to 230 mm motor frames, and 21" x 21" x 1" for 270 mm to 320 mm motor frames.
[2] Maximum winding temperature is 130°C. Thermal protection device may be at a lower temperature.
[3] These ratings are valid for Parker Hannifin Drives. Other drives may not achieve the same ratings.
[4] ±10%
[5] ±30% @ 1kHz
[6] Reference only
[7] Measured Lead to Lead

MPE 060 Speed-Torque Performance (@240 VAC/340 VDC)



MPE Series Servo Motors

MPE 080 Specifications

Parameter	Symbol	Units	MPE0801	MPE0802	MPE0803	MPE0804
Stall Torque Continuous [1, 2, 3, 4]	T_{cs}	Nm	0.89	1.87	2.56	3.52
		in-lb	7.9	16.6	22.7	31.3
Stall Current Continuous [1, 2, 3, 4]	I_{cs}(rms)	Arms	1.55	3.2	4.3	5.7
Peak Torque	Tpk	Nm	2.30	5.12	7.21	9.54
		in-lb	20.4	45.3	63.8	84.0
Peak Current	I_{pk}(rms)	Arms	4.6	9.5	12.8	17.1
Rated Speed [1, 2, 3]	Sr	rpm	3974	3974	3974	3974
Rated Torque [1, 2, 3, 4]	T_r	Nm	0.80	1.65	2.14	3.18
		in-lb	7.1	14.6	18.9	28.0
Rated Shaft Output Power [1, 2, 3, 4]	P_{out}	kW	0.25	0.50	0.75	1.00
Current at Rated Speed [1, 2, 3, 4]	I_r	A_{rms}	1.4	2.8	3.6	5.3
Voltage Constant [4, 7]	K_e	V_{rms}/k_{rpm}	36.10	36.14	36.65	37.00
Torque Constant [4, 7]	K_t(sine)	Nm/A_{rms}	0.520	0.598	0.606	0.550
Resistance [4, 9]	R	ohm	6.73	2.42	1.48	1.13
Inductance [5, 9]	L	mH	32.030	13.775	8.270	6.300
Rotor Inertia [6, 4]	J	$kg\text{-}m^2$	4.500^{-5}	7.520^{-5}	9.300^{-5}	1.170^{-4}
		$in\text{-}lb\text{-}sec^2$	3.900^{-4}	6.656^{-4}	8.231^{-4}	1.036^{-3}
Motor Weight [6, 4]		kg	1.9	2.3	2.7	3.1
		lb	4.3	5.1	6.0	6.8

[1] Assumes motor is mounted to an aluminum plate with dimensions of 10" X 10" X 1/4" aluminum plate for 70mm motor frames or smaller, 12" x 12" x 1/2" for 92 mm to 115 mm, 12" x 12" x 1" for 142 mm to 230 mm motor frames, and 21" x 21" x 1" for 270 mm to 320 mm motor frames.
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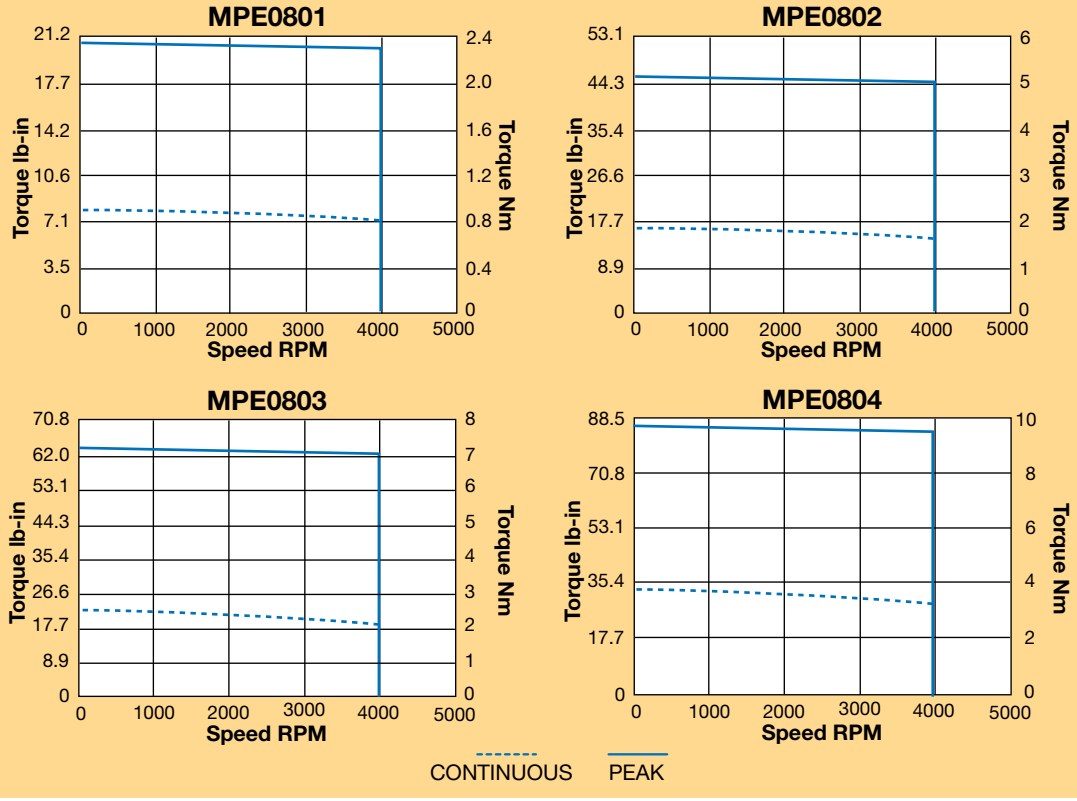
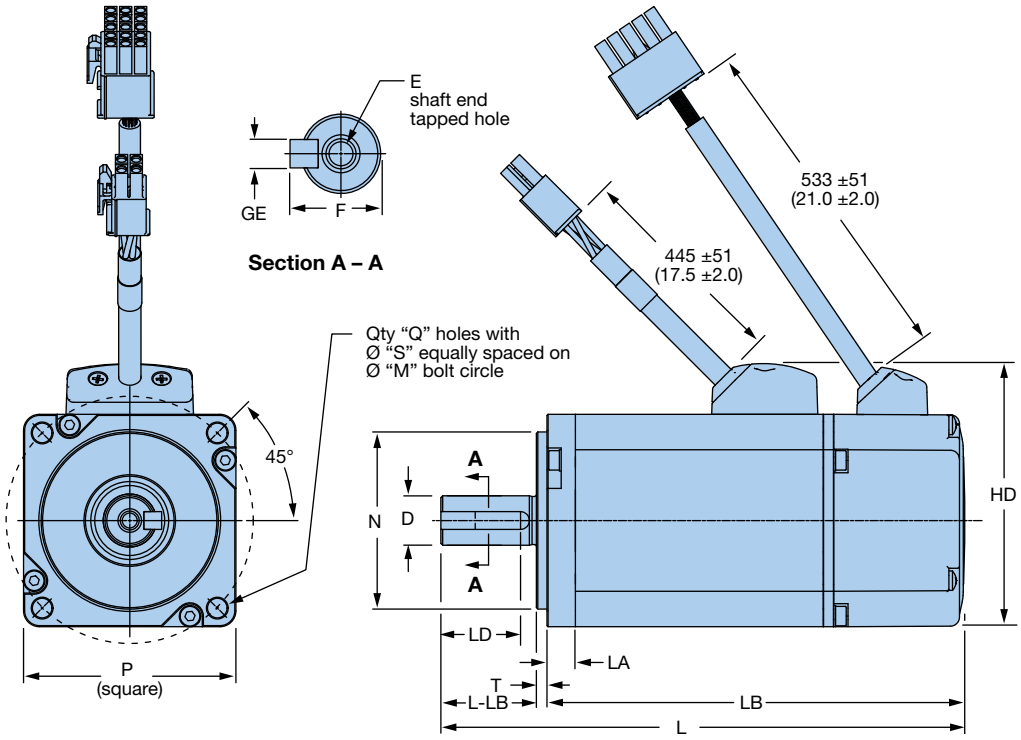
[4] ±10% [5] ±30% @ 1kHz [6] Reference only [7] Measured Lead to Lead

MPE 080 Speed-Torque Performance (@240 VAC/340 VDC)



MPE Dimensions – mm (in)



Model Number	ØD	ØE x depth-min	F	GE	HD	M	N	P	Q	S
MPE0401 **MPE0402**	8 (0.3150)	M3 x 0.31 x 8	9.2 (0.362)	3 (0.1181)	53.4 (2.10)	46 (1.811)	30 (1.1811)	40 (1.57)	2	4.5 (0.177)
MPE0601 **MPE0602**	14 (0.5512)	M5 x 0.4 x 10	16 (0.630)	5 (0.1969)	74.4 (2.93)	70 (2.756)	50 (1.9685)	60 (2.36)	4	5.5 (0.217)
MPE0801 **MPE0802** **MPE0803** **MPE0804**	19 (0.7480)	M5 x 0.4 x 10	21.5 (0.846)	6 (0.2362)	95 (3.72)	90 (3.543)	70 (2.7559)	80 (3.15)	4	6.5 (0.256)

Model Number	L	LB	LA	L-LB	LD	T
MPE0401	97.8 (3.85)	72.8 (2.87)	6 (0.24)	25 (0.98)	12 (0.472)	2.5 (0.10)
MPE0402	115.8 (4.56)	90.8 (3.57)				
MPE0601	128.1 (5.04)	98.1 (3.86)	8 (0.31)	30 (1.18)	22.5 (0.886)	3 (0.12)
MPE0602	148 (5.83)	118 (4.65)				
MPE0801	140.8 (5.54)	100.8 (3.97)	9.5 (0.37)	40 (1.57)	22 (0.866)	
MPE0802	155.8 (6.13)	115.8 (4.56)				
MPE0803	170.8 (6.72)	130.8 (5.15)				
MPE0804	185.8 (7.31)	145.8 (5.74)				

MPE Series Servo Motors

Connections

Motor Connector

Housing: AMP 172167-1
Terminal: AMP 170360-1

Pin #	Signal	Color
1	U	Red
2	V	Yellow
3	W	Blue
4	PE	Yellow/Green

Encoder Connector

Housing: AMP 172171-1
Terminal: AMP 770835-1

Pin #	Signal	Color
1	+5V	Red
2	Gnd	Black
3	U+	Brown
4	U–	Brown/Black
5	V+	Gray
6	V–	Gray/Black
7	W+	White
8	W–	White/Black
9	A+	Blue/Black
10	A–	Blue
11	B+	Green
12	B–	Green/Black
13	Z+	Yellow
14	Z–	Yellow/Black
15	Shield	Shield

Motor/Drive Compatibility

Motor Model Number	Continuous Stall Current Amps-RMS	Aries Drive Compatibilty				
		AR-01	AR-02	AR-04	AR-08	AR-13
		Current Rating				
		1.0		3	4.5	6.3
MPE0401A	0.6	•				
MPE0402A	1.2	•				
MPE0601A	1.8		•	•		
MPE0602A	2.8			•	•	
MPE0801A	1.55		•	•		
MPE0802A	3.2			•	•	
MPE0803A	4.3				•	•
MPE0804A	5.7				•	•

• Best fit
• Drive may not provide full torque at higher speeds. Refer to Parker sizing software or contact Parker Application Engineering for more information.

Motor Model Number	Continuous Stall Current Amps-RMS	Compax3 Drive Compatibilty			
		S025V2	S063V2	M050D6	M100D6
		Current Rating			
		2.5	6.3	5	10
MPE0401A	0.6	•		•	
MPE0402A	1.2	•		•	
MPE0601A	1.8	•		•	
MPE0602A	2.8		•	•	
MPE0801A	1.55	•		•	
MPE0802A	3.2		•	•	
MPE0803A	4.3		•	•	
MPE0804A	5.7		•		•

MPE Ordering Information

Fill in an order code from each of the numbered fields to create a complete model order code.

	①	②	③	④	⑤		⑥	⑦	⑧
Order Example:	MPE	080	2	A	4E	-	K	C1	N

① Series	② Frame Size	③ Stack	④ Winding	⑤ Feedback	⑥ Shaft	⑦ Connectors	⑧ Options
MPE	040	1	A (230 V)	4E (2500 line encoder)	K (keyway)	C1 (quick connect pin connector)	N (none)
		2					
	060	1					
		2					
	080	1					
		2					
		3					
		4					

Cables Options

	Type	Part Number
	Power (All models)	71-030630-xx
Feedback	Aries	71-030631-xx
Feedback	Compax3	71-030633-xx
Feedback	Flying Leads	71-030634-xx

-xx denotes cable length in feet. Motor power and feedback cables available in standard lengths of 10, 25, 50 feet. Include length to complete cable part number.

Need more torque? Use a Parker gearhead!

Gearhead Advantages:

- **Multiply torque — allowing smaller motors (and drives) to be used, saving $$**
- **Reduce the reflected inertial load to the motor — making it easier to tune and increase stiffness and stability**
- **Provide high side-load capacity**
- **Increase low-speed smoothness**
- **Shorten in-line length with right-angle gearheads**

Parker Gen II Stealth® gearheads are designed with helical planetary gears that provide low backlash, high stiffness, high torque and long life. Stealth gearheads are ideal for high performance applications.

Parker PV series gearheads are standard-grade gearheads with high side-load capacity and the power of a planetary gearhead in a cost-effective solution.

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