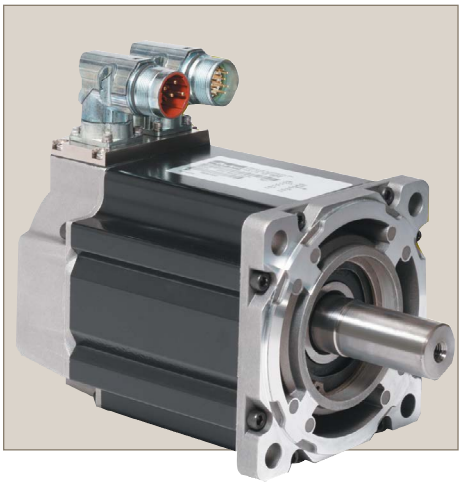
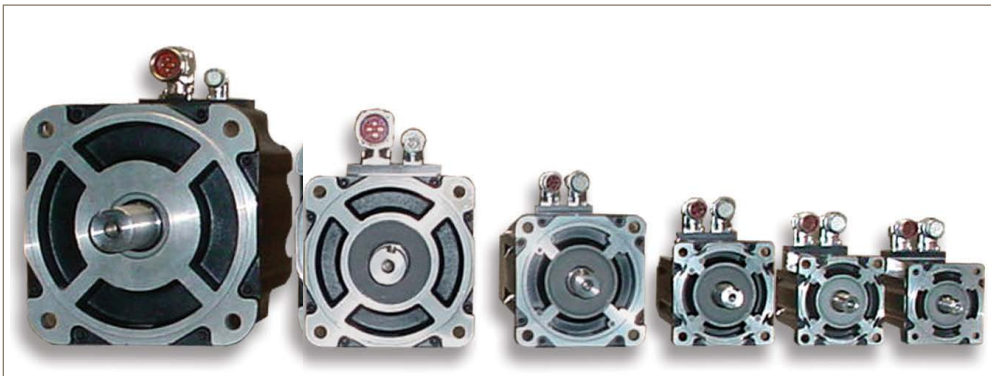
MPP/MPJ Series

Low & High Inertia Rotary Servo Motors



The MPP/MPJ family of brushless servo motors redefines performance, flexibility, and reliability.



The MPP (MaxPlusPlus) Series is the industry's highest performing servo motor. Utilizing eight-pole segmented lamination technology, the MPP produces more torque in a shorter package. Use MPP motors for higher torque applications, customization options, or when high performance is required.

The MPJ (MaxPlus-J) Series of rotary servo motors from Parker features the same design characteristics as the MPP, but with 3 - 8 times the inertia of the standard MPP. This is a perfect solution for your applications requiring a high inertia servo motor.

The MPP Series features a new design that offers lower inertia and higher power, all in a smaller motor package. These brushless servo motors are designed for the demanding applications found in today's high-performance servo systems.

The MPP motors feature segmented core technology, which can yield up to 40% higher torque per unit size than conventionally wound servo motors. "Potted" stators improve heat transfer for better thermal efficiency, resulting in increased torque at the motor shaft. High-energy neodymium magnets are employed for higher rates of acceleration.

Parker will customize any MPP/ MPJ motor to meet your specific system requirements. Parker does

Common Customized Options:

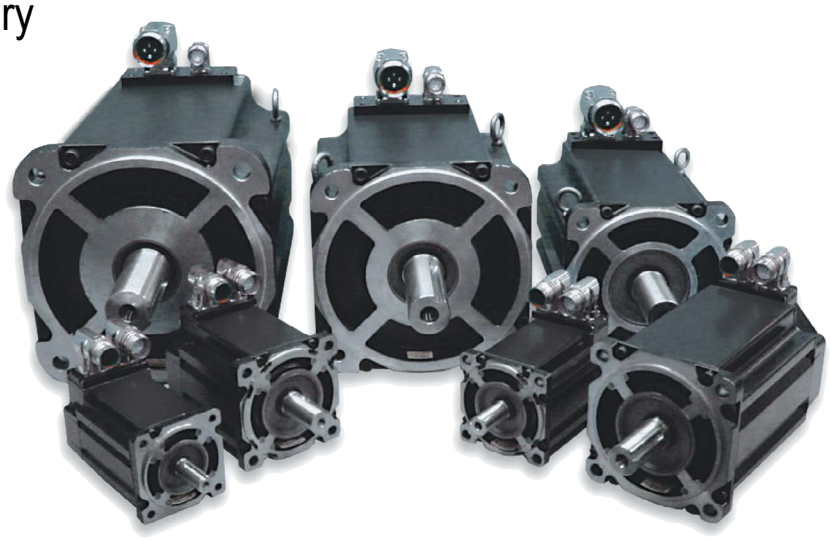
- **Shafts (longer, shorter, diameter change, hollow shafts)**
- **Front flange (bolt circle, pilot, NEMA dimensions)**
- **Motors coatings (white, PTFE, steel-it grey)**
- **Non-standard feedback devices**
- **Special connectors**

Parker

ENGINEERING YOUR SUCCESS.

MPP/MPJ Series Servo Motors

Low & High Inertia Rotary



MPP/MPJ Motor Features

- **Segmented core technology – very high torque-to-inertia ratio – 40% higher torque**
- **Potted stator design for improved thermal efficiency**
- **MPP available in 92, 100, 115, 142, 190 and 270 frame sizes**
- **MPJ available in 92,100, 115 and 142 frame sizes**
- **Continuous stall torque: 1.5 Nm (14 lb-in) to 157 Nm (1396 lb-in)**
- **Peak torque: 5 Nm (44 lb-in) to 513 Nm (4540 lb-in)**
- **Brushless construction**
- **High-performance neodymium magnets**
- **Thermistor protection**
- **Resolver, incremental encoder, or single- or multi-turn absolute encoders**
- **24 volt failsafe brake (optional)**
- **Right-angle rotatable PS-style connectors**
- **IP64 standard, IP65 optional shaft seal**
- **Best-in-class lead-time, two year warranty**

MPP/MPJ Common Specifications by Frame Size

Series Frame Size (mm)			MPP/MPJ 092	MPP/MPJ 100	MPP/MPJ 115	MPP/MPJ 142	MPP 190	MPP 270
Max DC Bus Voltage [1] **230 VAC Models** **460 VAC Models**	V_{mbus}	VDC			340 650			650
Max AC Voltage [1] **230 VAC Models** **460 VAC Models**	V_s	VAC			240 460			460
Ambient Temp at Rating	T_{amb}	°C	25					
Max Winding Temp	T_{max}	°C	155					
Winding Temp at Rating [2]	T_{wr}	°C	125					
Number of Rotor Magnet Poles	Np	# poles	8					
Motor UL Class	F	UL class	H					
Environmental Protection Rating [2]	IP		IP40 – IP65					

[6] Reference only

[7] The winding temperature at the motor rated speed may be lower than the winding maximum due to feedback or amplifier limitations.

[8] Refer to the product part number configurator for the IP rating character. All servo motors with a "V" designator in the part number for the shaft seal option are rated IP65. All other motors are rated for IP64, provided the feedback device is encased in an aluminum housing. Motors that have exposed feedback devices are rated at IP40.

	Rated Speed	kW	HP	Rotor Inertia MPP lb-in-sec²	Rotor Inertia MPP Kg-m²	Rotor Inertia MPJ lb-in-sec²	Rotor Inertia MPJ Kg-m²	Stall Torque Nm	Stall Torque lb-in	Peak Torque Nm	Peak Torque lb-in	Cont. Stall Current (RMS	Peak Current (RMS
230 VAC Models													
0921B	3793.57	0.52	0.69	3.90^{-04}	4.41^{-05}	3.45^{-03}	3.90^{-04}	1.55	13.72	4.32	38.22	1.83	5.78
0921C	4947.33	0.61	0.81	3.90^{-04}	4.41^{-05}	3.45^{-03}	3.90^{-04}	1.58	13.97	4.38	38.79	2.86	9.02
0922C	4287.68	1.08	1.44	6.90^{-04}	7.80^{-05}	6.11^{-03}	6.90^{-04}	2.94	25.99	8.29	73.33	3.72	11.77
0922D	4947.33	1.24	1.65	6.90^{-04}	7.80^{-05}	6.11^{-03}	6.90^{-04}	3.11	27.51	8.67	76.76	5.59	17.66
0923D	4947.33	1.55	2.07	1.00^{-03}	1.13^{-04}	—	—	4.03	35.63	11.55	102.23	7.23	22.85
1002D	4782.42	1.55	2.07	2.30^{-03}	2.60^{-04}	7.29^{-03}	8.24^{-04}	4.56	40.34	12.69	112.32	7.87	24.87
1003C	4153.31	1.77	2.36	3.30^{-03}	3.73^{-04}	—	—	6.03	53.35	17.25	152.67	7.21	22.80
1003D	4177.74	1.76	2.34	3.30^{-03}	3.73^{-04}	—	—	5.99	53.00	17.16	151.84	10.28	32.49
1152C	4067.80	1.63	2.18	2.40^{-03}	2.71^{-04}	9.01^{-03}	1.02^{-03}	5.68	50.24	15.69	138.86	8.45	26.71
1152D	4067.80	1.67	2.22	2.40^{-03}	2.71^{-04}	9.01^{-03}	1.02^{-03}	5.79	51.22	15.93	141.00	10.45	33.02
1153B	3505.88	2.20	2.93	3.60^{-03}	4.07^{-04}	1.00^{-02}	1.13^{-03}	7.91	70.02	22.23	196.71	7.74	24.46
1153C	4012.83	2.29	3.06	3.60^{-03}	4.07^{-04}	1.00^{-02}	1.13^{-03}	8.04	71.16	22.52	199.29	12.10	38.25
1154A	1903.70	1.79	2.39	4.60^{-03}	5.20^{-04}	—	—	9.85	87.18	28.01	247.92	5.36	16.94
1154B	3852.24	2.69	3.59	4.60^{-03}	5.20^{-04}	—	—	9.86	87.28	28.04	248.16	10.73	33.91
1422C	4342.65	3.40	4.53	6.90^{-03}	7.80^{-04}	6.38^{-02}	7.20^{-03}	10.89	96.37	28.08	248.48	14.62	46.20
1424B	3599.33	5.18	6.90	1.30^{-02}	1.47^{-03}	6.98^{-02}	7.88^{-03}	19.20	169.90	52.20	461.99	19.35	61.16
1424C	3750.33	5.22	6.96	1.30^{-02}	1.47^{-03}	6.98^{-02}	7.88^{-03}	19.28	170.62	52.35	463.33	24.30	76.78
1426B	3386.17	6.27	8.36	1.90^{-02}	2.15^{-03}	7.38^{-02}	8.34^{-03}	25.73	227.73	72.30	639.88	26.18	82.72
1906B	2898.29	10.00	13.33	5.55^{-02}	6.27^{-03}	—	—	45.87	405.92	121.42	1074.53	36.22	114.44
460 VAC Models													
0921R	4947.33	0.61	0.81	3.90^{-04}	4.41^{-05}	3.45^{-03}	3.90^{-04}	1.58	13.96	4.38	38.75	1.43	4.51
0922R	4947.33	1.24	1.65	6.90^{-04}	7.80^{-05}	6.11^{-03}	6.90^{-04}	3.11	27.48	8.67	76.69	2.79	8.82
0923R	4947.33	1.55	2.07	1.00^{-03}	1.13^{-04}	—	—	4.02	35.59	11.54	102.13	3.61	11.41
1002R	4782.42	1.55	2.07	2.30^{-03}	2.60^{-04}	7.29^{-03}	8.24^{-04}	4.55	40.29	12.68	112.22	3.93	12.42
1003Q	4155.75	1.85	2.46	3.30^{-03}	3.73^{-04}	—	—	6.28	55.60	17.84	157.89	3.88	12.25
1003R	4177.74	1.86	2.49	3.30^{-03}	3.73^{-04}	—	—	6.34	56.08	17.97	159.01	5.44	17.20
1152R	4067.80	1.57	2.09	2.40^{-03}	2.71^{-04}	9.01^{-03}	1.02^{-03}	5.46	48.35	15.22	134.67	4.92	15.56
1153P	3314.71	2.28	3.03	3.60^{-03}	4.07^{-04}	1.00^{-02}	1.13^{-03}	8.36	74.03	23.24	205.71	4.10	12.94
1153R	4012.83	2.29	3.06	3.60^{-03}	4.07^{-04}	1.00^{-02}	1.13^{-03}	8.03	71.08	22.50	199.11	6.04	19.10
1154P	3839.27	2.69	3.59	4.60^{-03}	5.20^{-04}	—	—	9.85	87.18	28.01	247.92	5.36	16.94
1422R	4342.65	3.39	4.53	6.90^{-03}	7.80^{-04}	6.38^{-02}	7.20^{-03}	10.88	96.26	28.05	248.27	7.30	23.07
1424R	3779.98	5.21	6.95	1.30^{-02}	1.47^{-03}	6.98^{-02}	7.88^{-03}	19.26	170.42	52.31	462.97	12.13	38.34
1426P	3371.51	6.26	8.35	1.90^{-02}	2.15^{-03}	7.38^{-02}	8.34^{-03}	25.70	227.47	72.25	639.38	13.07	41.31
1428P	2950.07	6.98	9.30	2.30^{-02}	2.60^{-03}	—	—	32.97	291.80	93.75	829.70	16.75	52.93
1428Q	2924.42	7.01	9.35	2.30^{-02}	2.60^{-03}	—	—	33.11	293.05	94.04	832.22	21.03	66.46
1904P	3377.62	8.31	11.09	4.00^{-02}	4.52^{-03}	—	—	34.18	302.47	89.06	788.19	18.14	57.31
1906P	3035.58	9.76	13.01	5.55^{-02}	6.27^{-03}	—	—	44.63	395.02	118.71	1050.56	23.45	74.11
1908N	2365.44	11.63	15.51	6.85^{-02}	7.74^{-03}	—	—	60.61	536.39	160.81	1423.13	20.60	65.08
1908P	2781.50	11.66	15.54	6.85^{-02}	7.74^{-03}	—	—	58.46	517.35	156.09	1381.38	30.31	95.77
2706M	1264.85	14.15	18.87	2.42^{-01}	2.73^{-02}	—	—	121.25	1073.1	306.63	2713.65	24.70	78.06
2706N	1775.31	17.12	22.83	2.42^{-01}	2.73^{-02}	—	—	117.08	1036.11	298.90	2645.25	32.36	102.25
2706P	2126.16	18.02	24.03	2.42^{-01}	2.73^{-02}	—	—	117.77	1042.24	300.19	2656.70	40.54	128.10
2708L	1048.86	15.69	20.92	3.13^{-01}	3.54^{-02}	—	—	157.74	1395.99	402.31	3560.46	26.44	83.56
2708M	1680.77	20.74	27.65	3.13^{-01}	3.54^{-02}	—	—	152.15	1346.51	391.75	3467.01	38.93	123.01
2708N	1961.51	21.13	28.17	3.13^{-01}	3.54^{-02}	—	—	149.65	1324.37	386.95	3424.50	49.96	157.89

230 VAC Models

Parameter	Symbol	Units	MPP/MPJ 0921B	MPP/MPJ 0921C	MPP/MPJ 0922C	MPP/MPJ 0922D	MPP0923D
Stall Torque Continuous [1, 2, 3]	T_{cs}	Nm	1.55	1.58	2.94	3.11	4.03
		in-lb	13.7	14.0	26.0	27.5	35.6
Stall Current Continuous [1, 2, 3]	I_{cs}(rms)	Arms	1.8	2.9	3.7	5.6	7.2
Peak Torque	Tpk	Nm	4.32	4.38	8.29	8.67	11.55
		in-lb	38.2	38.8	73.3	76.8	102.2
Peak Current	I_{pk}(rms)	Arms	5.8	9.0	11.8	17.7	22.8
Rated Speed [1, 2, 3]	Sr	rpm	3794	4947	4288	4947	4947
Rated Torque [1, 2, 3]	T_r	Nm	1.30	1.17	2.41	2.39	3.00
		in-lb	11.5	10.4	21.3	21.1	26.5
Rated Shaft Output Power [1, 2, 3]	P_{out}	kW	0.52	0.61	1.08	1.24	1.55
Current at Rated Speed [1, 2, 3]	I_r	A_{rms}	1.59	2.24	3.15	4.45	5.59
Voltage Constant [4]	K_e	V_{rms}/k_{rpm}	51.63	33.72	48.09	33.95	33.95
Torque Constant [4]	K_t(sine)	Nm/A_{rms}	0.854	0.558	0.795	0.561	0.561
Resistance [3, 4]	R	ohm	11.00	4.52	3.90	1.73	1.20
Inductance [3, 5]	L	mH	47	20	19	9	6
MPP Rotor Inertia [6]	J	kg-m^2	4.407^{-5}	4.407^{-5}	7.796^{-5}	7.796^{-5}	1.130^{-4}
		in-lb-sec^2	3.900^{-4}	3.900^{-4}	6.900^{-4}	6.900^{-4}	1.000^{-3}
MPJ Rotor Inertia [6]	J	kg-m^2	3.911^{-4}	3.911^{-4}	4.261^{-4}	4.261^{-4}	NA
		in-lb-sec^2	3.462^{-3}	3.462^{-3}	3.772^{-3}	3.772^{-3}	NA
Motor Weight [6]		kg	2.69	2.69	3.69	3.69	4.59
		lb	5.94	5.94	8.14	8.14	10.12

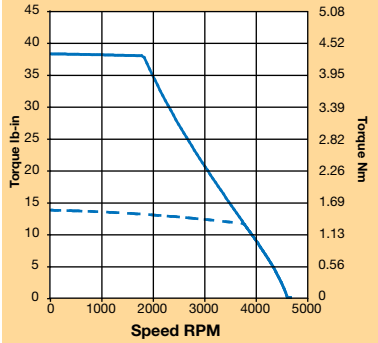
460 VAC Models

Parameter	Symbol	Units	MPP/MPJ 0921R	MPP/MPJ 0922R	MPP 0923R
Stall Torque Continuous [1, 2, 3]	T_{cs}	Nm	1.58	3.11	4.02
		in-lb	14.0	27.5	35.6
Stall Current Continuous [1, 2, 3]	I_{cs}(rms)	Arms	1.4	2.8	3.6
Peak Torque	Tpk	Nm	4.38	8.67	11.54
		in-lb	38.8	76.7	102.1
Peak Current	I_{pk}(rms)	Arms	4.5	8.8	11.4
Rated Speed [1, 2, 3]	Sr	rpm	4947	4947	4947
Rated Torque [1, 2, 3]	T_r	Nm	1.17	2.38	3.00
		in-lb	10.4	21.1	26.5
Rated Shaft Output Power [1, 2, 3]	P_{out}	kW	0.61	1.24	1.55
Current at Rated Speed [1, 2, 3]	I_r	A_{rms}	1.12	2.22	2.79
Voltage Constant [4]	K_e	V_{rms}/k_{rpm}	67.43	67.90	67.90
Torque Constant [4]	K_t(sine)	Nm/A_{rms}	1.115	1.123	1.123
Resistance [3, 4]	R	ohm	18.12	6.94	4.81
Inductance [3,5]	L	mH	80	38	26
MPP Rotor Inertia [6]	J	kg-m^2	4.407^{-5}	7.796^{-5}	1.130^{-4}
		in-lb-sec^2	3.900^{-4}	6.900^{-4}	1.000^{-3}
MPJ Rotor Inertia [6]	J	kg-m^2	3.911^{-4}	4.261^{-4}	NA
		in-lb-sec^2	3.462^{-3}	3.772^{-3}	NA

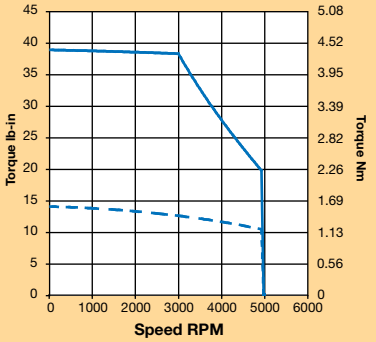
MPP/MPJ Size 92 Speed-Torque Performance

230 VAC Models

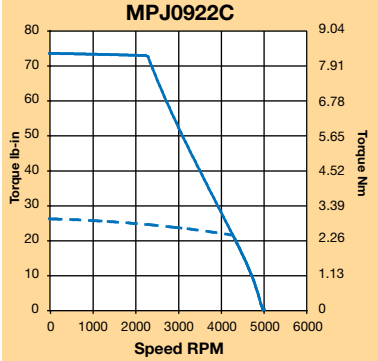
MPP0921B MPJ0921B



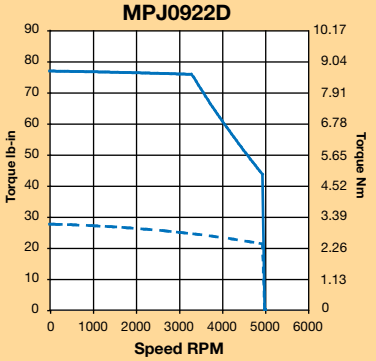
MPP0921C MPJ0921C



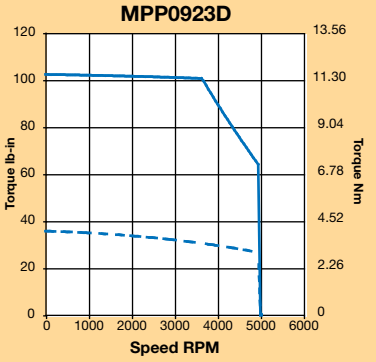
MPP0922C MPJ0922C



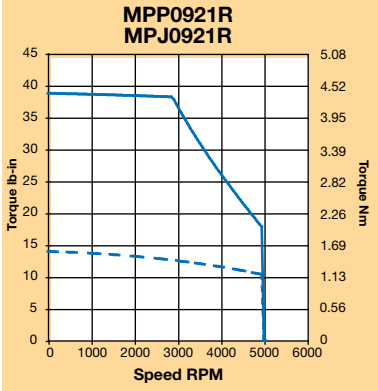
MPP0922D MPJ0922D



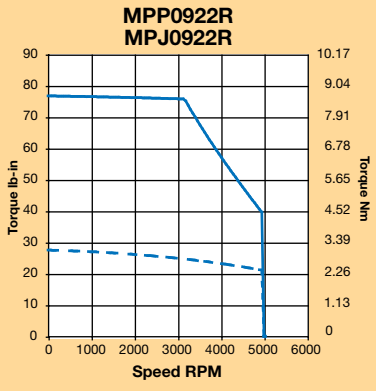
MPP0923D



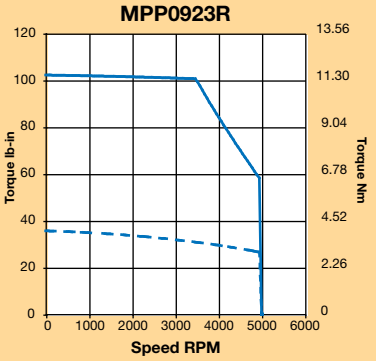
MPP0921R MPJ0921R



MPP0922R MPJ0922R



MPP0923R



CONTINUOUS PEAK

1 *Assumes motor is mounted to an aluminum plate with dimensions of 12" x 12" x 1/2" for 92 mm motor frames.*
2 *Maximum winding temperature is 155°C. Thermal protection device threshold may be at a lower temperature.*
3 *These ratings are valid for Parker drives. Other drives may not achieve the same ratings.*
4 *±10%*
5 *±30% @ 1kHz*
6 *Reference only*

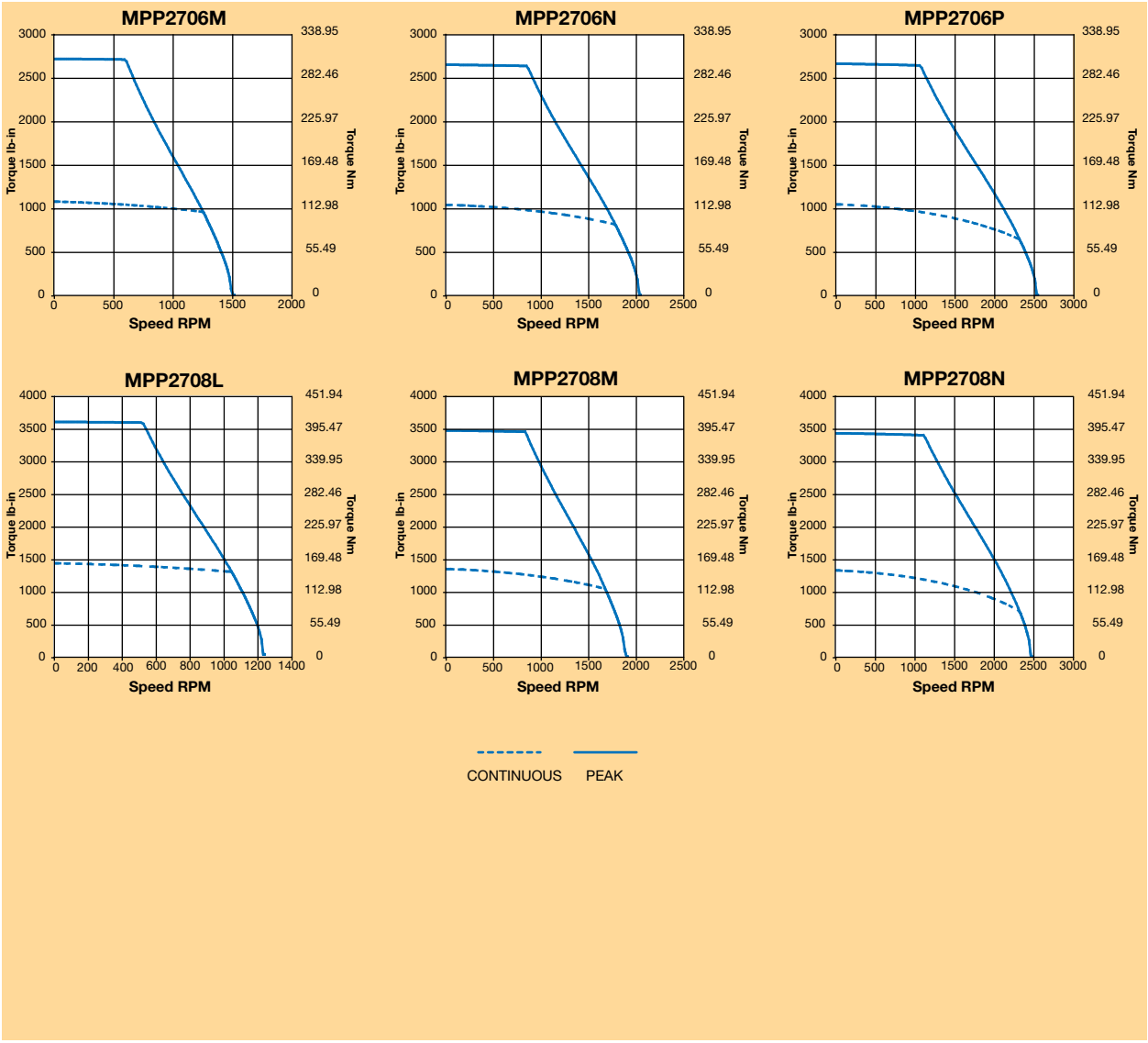
230 VAC Models

Parameter	Symbol	Units	MPP/MPJ 1002D	MPP 1003C	MPP 1003D
Stall Torque Continuous [1, 2, 3]	T_{cs}	Nm	4.56	6.03	5.99
		in-lb	40.3	53.4	53.0
Stall Current Continuous [1, 2, 3]	I_{cs}(rms)	Arms	7.9	7.2	10.3
Peak Torque	Tpk	Nm	12.69	17.25	17.16
		in-lb	112.3	152.7	151.8
Peak Current	I_{pk}(rms)	Arms	24.9	22.8	32.5
Rated Speed [1, 2, 3]	Sr	rpm	4782	4153	4178
Rated Torque [1, 2, 3]	T_r	Nm	3.10	4.07	4.01
		in-lb	27.4	36.0	35.5
Rated Shaft Output Power [1, 2, 3]	P_{out}	kW	1.55	1.77	1.76
Current at Rated Speed [1, 2, 3]	I_r	A_{rms}	5.58	5.09	7.22
Voltage Constant [4]	K_e	V_{rms}/k_{rpm}	35.36	50.92	35.49
Torque Constant [4]	K_t(sine)	Nm/A_{rms}	0.585	0.842	0.587
Resistance [3, 4]	R	ohm	0.96	1.30	0.64
Inductance [3, 5]	L	mH	4	6	3
MPP Rotor Inertia [6]	J	kg-m^2	2.599^{-4}	3.729^{-4}	3.729^{-4}
		in-lb-sec^2	2.300^{-3}	3.300^{-3}	3.300^{-3}
MPJ Rotor Inertia [6]	J	kg-m^2	8.236^{-4}	NA	NA
		in-lb-sec^2	7.290^{-3}	NA	NA

460 VAC Models

Parameter	Symbol	Units	MPP/MPJ 1002R	MPP 1003Q	MPP 1003R
Stall Torque Continuous [1, 2, 3]	T_{cs}	Nm	4.55	6.28	6.34
		in-lb	40.3	55.6	56.1
Stall Current Continuous [1, 2, 3]	I_{cs}(rms)	Arms	3.9	3.9	5.4
Peak Torque	Tpk	Nm	12.68	17.84	17.97
		in-lb	112.2	157.9	159.0
Peak Current	I_{pk}(rms)	Arms	12.4	12.3	17.2
Rated Speed [1, 2, 3]	Sr	rpm	4782	4156	4178
Rated Torque [1, 2, 3]	T_r	Nm	3.09	4.24	4.26
		in-lb	27.4	37.6	37.7
Rated Shaft Output Power [1, 2, 3]	P_{out}	kW	1.55	1.85	1.86
Current at Rated Speed [1, 2, 3]	I_r	A_{rms}	2.79	2.73	3.82
Voltage Constant [4]	K_e	V_{rms}/k_{rpm}	70.72	98.76	70.98
Torque Constant [4]	K_t(sine)	Nm/A_{rms}	1.170	1.633	1.174
Resistance [3, 4]	R	ohm	3.85	4.50	2.28
Inductance [3, 5]	L	mH	17	21	11
MPP Rotor Inertia [6]	J	kg-m^2	2.599^{-4}	3.729^{-4}	3.729^{-4}
		in-lb-sec^2	2.300^{-3}	3.300^{-3}	3.300^{-3}
MPJ Rotor Inertia [6]	J	kg-m^2	8.236^{-4}	NA	NA
		in-lb-sec^2	7.290^{-3}	NA	NA

MPP/MPJ Size 100 Speed-Torque Performance



1 *Assumes motor is mounted to an aluminum plate with dimensions of 12" x 12" x 1/2" for 100 mm motor frames.*
2 *Maximum winding temperature is 155°C. Thermal protection device threshold may be at a lower temperature.*
3 *These ratings are valid for Parker drives. Other drives may not achieve the same ratings.*
4 *±10%*
5 *±30% @ 1kHz*
6 *Reference only*

230 VAC Models

Parameter	Symbol	Units	MPP/ MPJ 1152C	MPP/ MPJ 1152D	MPP/ MPJ 1153B	MPP/ MPJ 1153C	MPP 1154A	MPP 1154B
Stall Torque Continuous [1, 2, 3]	T_{cs}	Nm	5.68	5.79	7.91	8.04	9.85	9.86
		in-lb	50.2	51.2	70.0	71.2	87.2	87.3
Stall Current Continuous [1, 2, 3]	I_{cs}(rms)	Arms	8.5	10.4	7.7	12.1	5.4	10.7
Peak Torque	Tpk	Nm	15.69	15.93	22.23	22.52	28.01	28.04
		in-lb	138.9	141.0	196.7	199.3	247.9	248.2
Peak Current	I_{pk}(rms)	Arms	26.7	33.0	24.5	38.2	16.9	33.9
Rated Speed [1, 2, 3]	Sr	rpm	4068	4068	3506	4013	1904	3852
Rated Torque [1, 2, 3]	T_r	Nm	3.84	3.92	5.98	5.46	8.99	6.67
		in-lb	34.0	34.7	52.9	48.3	79.5	59.1
Rated Shaft Output Power [1, 2, 3]	P_{out}	kW	1.63	1.67	2.20	2.29	1.79	2.69
Current at Rated Speed [1, 2, 3]	I_r	A_{rms}	5.96	7.37	6.02	8.52	4.95	7.51
Voltage Constant [4]	K_e	V_{rms}/k_{rpm}	41.02	33.84	62.24	40.45	111.74	55.87
Torque Constant [4]	K_t(sine)	Nm/A_{rms}	0.678	0.560	1.029	0.669	1.848	0.924
Resistance [3, 4]	R	ohm	0.88	0.58	1.20	0.49	2.60	0.65
Inductance [3, 5]	L	mH	6	4	10	4	21	5
MPP Rotor Inertia [6]	J	kg-m^2	2.712^{-4}	2.712^{-4}	4.068^{-4}	4.068^{-4}	5.198^{-4}	5.198^{-4}
		in-lb-sec^2	2.400^{-3}	2.400^{-3}	3.600^{-3}	3.600^{-3}	4.600^{-3}	4.600^{-3}
MPJ Rotor Inertia [6]	J	kg-m^2	1.018^{-3}	1.018^{-3}	1.131^{-3}	1.131^{-3}	NA	NA
		in-lb-sec^2	9.011^{-3}	9.011^{-3}	1.001^{-2}	1.001^{-2}	NA	NA

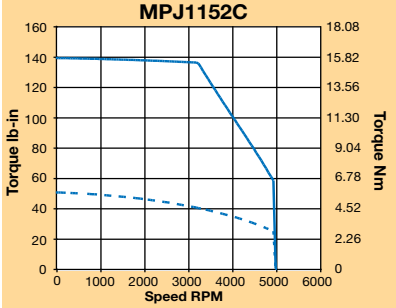
460 VAC Models

Parameter	Symbol	Units	MPP/MPJ 1152R	MPP/MPJ 1153P	MPP/MPJ 1153R	MPP 1154P
Stall Torque Continuous [1, 2, 3]	T_{cs}	Nm	5.46	8.36	8.03	9.85
		in-lb	48.3	74.0	71.1	87.2
Stall Current Continuous [1, 2, 3]	I_{cs}(rms)	Arms	4.9	4.1	6.0	5.4
Peak Torque	Tpk	Nm	15.22	23.24	22.50	28.01
		in-lb	134.7	205.7	199.1	247.9
Peak Current	I_{pk}(rms)	Arms	15.6	12.9	19.1	16.9
Rated Speed [1, 2, 3]	Sr	rpm	4068	3315	4013	3839
Rated Torque [1, 2, 3]	T_r	Nm	3.68	6.56	5.45	6.69
		in-lb	32.6	58.0	48.3	59.2
Rated Shaft Output Power [1, 2, 3]	P_{out}	kW	1.57	2.28	2.29	2.69
Current at Rated Speed [1, 2, 3]	I_r	A_{rms}	3.47	3.28	4.26	3.76
Voltage Constant [4]	K_e	V_{rms}/k_{rpm}	67.68	124.47	80.91	111.74
Torque Constant [4]	K_t(sine)	Nm/A_{rms}	1.119	2.059	1.338	1.848
Resistance [3, 4]	R	ohm	2.59	4.28	1.97	2.60
Inductance [3, 5]	L	mH	17	39	17	21
MPP Rotor Inertia [6]	J	kg-m^2	2.712^{-4}	4.068^{-4}	4.068^{-4}	5.198^{-4}
		in-lb-sec^2	2.400^{-3}	3.600^{-3}	3.600^{-3}	4.600^{-3}
MPJ Rotor Inertia [6]	J	kg-m^2	1.018^{-3}	1.131^{-3}	1.131^{-3}	NA
		in-lb-sec^2	9.011^{-3}	1.001^{-2}	1.001^{-2}	NA

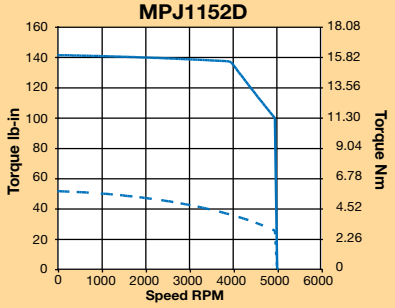
MPP/MPJ Size 115 Speed-Torque Performance

230 VAC Models

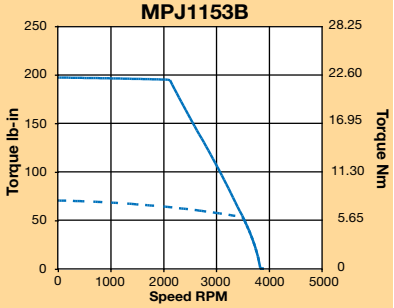
MPP1152C MPJ1152C



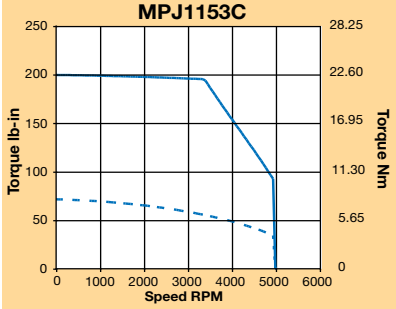
MPP1152D MPJ1152D



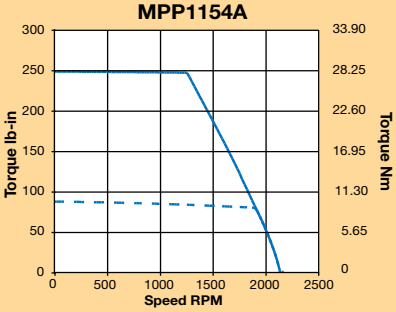
MPP1153B MPJ1153B



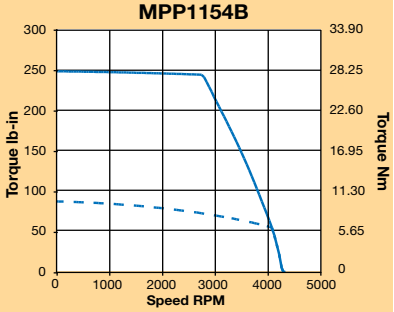
MPP1153C MPJ1153C



MPP1154A

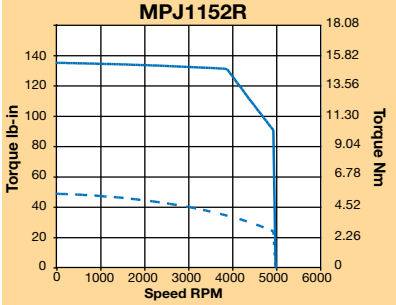


MPP1154B

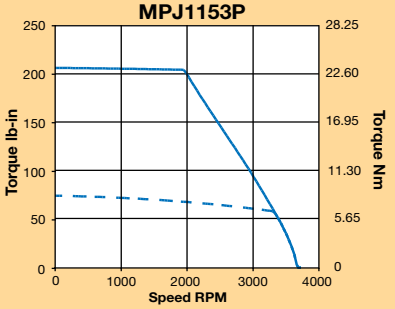


460 VAC Models

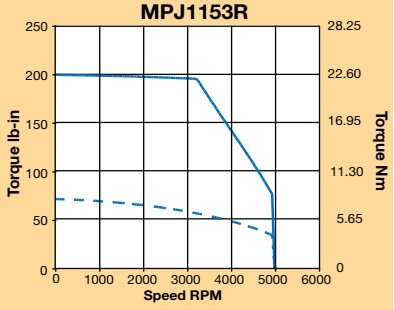
MPP1152R MPJ1152R



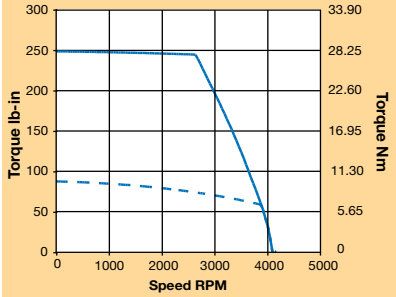
MPP1153P MPJ1153P

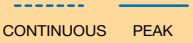


MPP1153R MPJ1153R



MPP1154P





1 *Assumes motor is mounted to an aluminum plate with dimensions of 12" x 12" x 1/2" for 115 mm motor frames.*
2 *Maximum winding temperature is 155°C. Thermal protection device threshold may be at a lower temperature.*
3 *These ratings are valid for Parker drives. Other drives may not achieve the same ratings.*
4 *±10%*
5 *±30% @ 1kHz*
6 *Reference only*

230 VAC Models

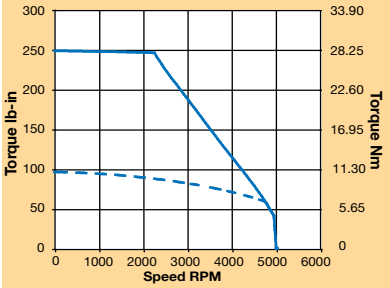
Parameter	Symbol	Units	MPP/MPJ 1422C	MPP/MPJ 1424B	MPP/MPJ 1424C	MPP/MPJ 1426B
Stall Torque Continuous [1, 2, 3]	T_{cs}	Nm	10.89	19.20	19.28	25.73
		in-lb	96.4	169.9	170.6	227.7
Stall Current Continuous [1, 2, 3]	I_{cs}(rms)	Arms	14.6	19.4	24.3	26.2
Peak Torque	Tpk	Nm	28.08	52.20	52.35	72.30
		in-lb	248.5	462.0	463.3	639.9
Peak Current	I_{pk}(rms)	Arms	46.2	61.2	76.8	82.7
Rated Speed [1, 2, 3]	Sr	rpm	4343	3599	3650	3386
Rated Torque [1, 2, 3]	T_r	Nm	7.47	13.74	13.29	17.68
		in-lb	66.1	121.6	117.6	156.5
Rated Shaft Output Power [1, 2, 3]	P_{out}	kW	3.40	5.18	5.22	6.27
Current at Rated Speed [1, 2, 3]	I_r	A_{rms}	10.27	14.07	17.03	18.28
Voltage Constant [4]	K_e	V_{rms}/ k_{rpm}	45.97	60.82	48.66	60.12
Torque Constant [4]	K_t(sine)	Nm/A_{rms}	0.760	1.006	0.805	0.994
Resistance [3, 4]	R	ohm	0.40	0.26	0.17	0.16
Inductance [3, 5]	L	mH	6	5	3	3
MPP Rotor Inertia [6]	J	$kg\text{-}m^2$	7.796^{-4}	1.469^{-3}	1.469^{-3}	2.147^{-3}
		$in\text{-}lb\text{-}sec^2$	6.900^{-3}	1.300^{-2}	1.300^{-2}	1.900^{-2}
MPJ Rotor Inertia [6]	J	$kg\text{-}m^2$	7.204^{-3}	7.882^{-3}	7.882^{-3}	8.334^{-3}
		$in\text{-}lb\text{-}sec^2$	6.377^{-2}	6.977^{-2}	6.977^{-2}	7.377^{-2}

460 VAC Models

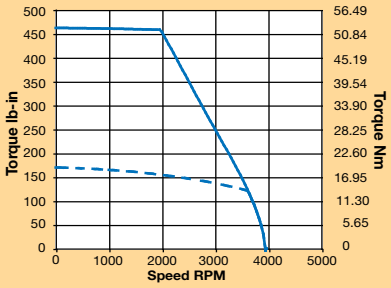
Parameter	Symbol	Units	MPP/MPJ 1422R	MPP/MPJ 1424R	MPP/MPJ 1426P	MPP 1428P	MPP 1428Q
Stall Torque Continuous [1, 2, 3]	T_{cs}	Nm	10.88	19.26	25.70	32.97	33.11
		in-lb	96.3	170.4	227.5	291.8	293.0
Stall Current Continuous [1, 2, 3]	I_{cs}(rms)	Arms	7.3	12.1	13.1	16.8	21.0
Peak Torque	Tpk	Nm	28.05	52.31	72.25	93.75	94.04
		in-lb	248.3	463.0	639.4	829.7	832.2
Peak Current	I_{pk}(rms)	Arms	23.1	38.3	41.3	52.9	66.5
Rated Speed [1, 2, 3]	Sr	rpm	4343	3780	3372	2950	2924
Rated Torque [1, 2, 3]	T_r	Nm	7.47	13.17	17.74	22.59	22.89
		in-lb	66.1	116.5	157.0	199.9	202.6
Rated Shaft Output Power [1, 2, 3]	P_{out}	kW	3.39	5.21	6.26	6.98	7.01
Current at Rated Speed [1, 2, 3]	I_r	A_{rms}	5.13	8.44	9.17	11.67	14.78
Voltage Constant [4]	K_e	V_{rms}/k_{rpm}	91.94	97.32	120.23	120.23	96.18
Torque Constant [4]	K_t(sine)	Nm/A_{rms}	1.521	1.610	1.989	1.989	1.591
Resistance [3, 4]	R	ohm	1.59	0.67	0.65	0.44	0.28
Inductance [3, 5]	L	mH	23	12	13	9	6
MPP Rotor Inertia [6]	J	$kg\text{-}m^2$	7.796^{-4}	1.469^{-3}	2.147^{-3}	2.599^{-3}	2.599^{-3}
		$in\text{-}lb\text{-}sec^2$	6.900^{-3}	1.300^{-2}	1.900^{-2}	2.300^{-2}	2.300^{-2}
MPJ Rotor Inertia [6]	J	$kg\text{-}m^2$	7.204^{-3}	7.882^{-3}	8.334^{-3}	—	—
		$in\text{-}lb\text{-}sec^2$	6.377^{-2}	6.977^{-2}	7.377^{-2}	—	—
Motor Weight [6]		kg	9.78	17.56	20.16	25.35	25.35
		lb	21.56	38.72	44.44	55.88	55.88

MPP/MPJ Size 142 Speed-Torque Performance

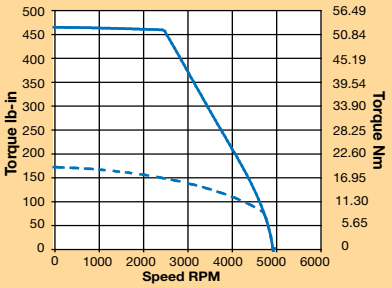
MPP1422C
MPJ1422C



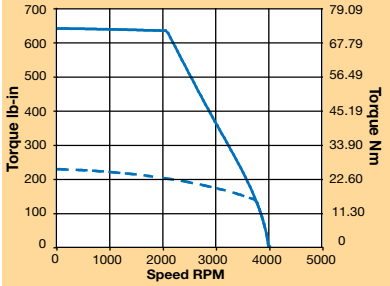
MPP1424B
MPJ1424B

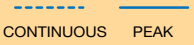


MPP1424C
MPJ1424C

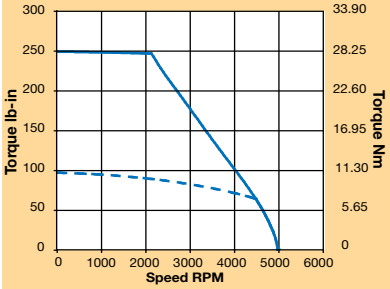


MPP1426B
MPJ1426B

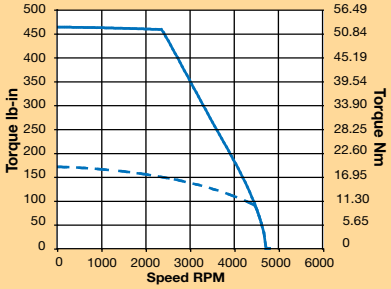




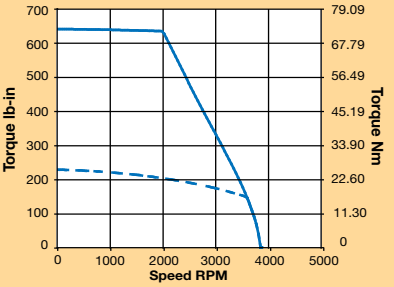
MPP1422R
MPJ1422R



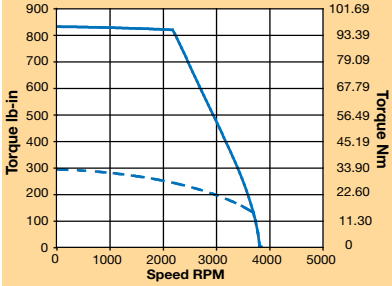
MPP1424R
MPJ1424R



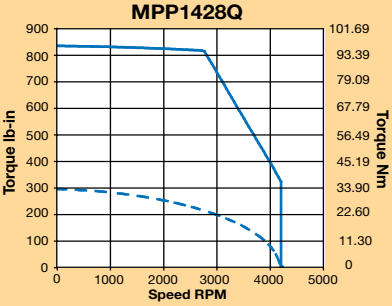
MPP1426P
MPJ1426P



MPP1428P



MPP1428Q



1 *Assumes motor is mounted to an aluminum plate with dimensions of 12" x 12" x 1" for 142 mm motor frames.*
2 *Maximum winding temperature is 155°C. Thermal protection device threshold may be at a lower temperature.*
3 *These ratings are valid for Parker drives. Other drives may not achieve the same ratings.*
4 *±10%*
5 *±30% @ 1kHz*
6 *Reference only*

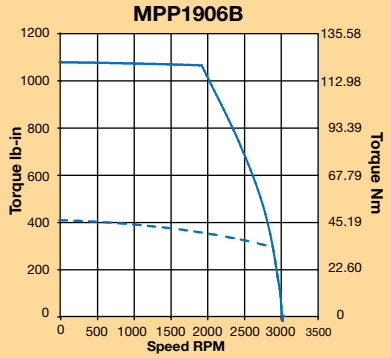
230 VAC Models

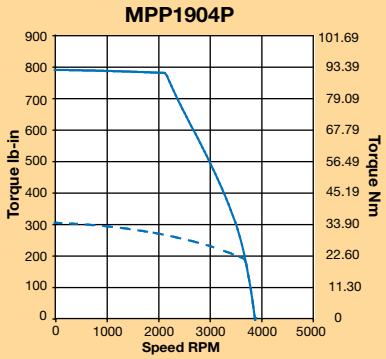
Parameter	Symbol	Units	MPP 1906B
Stall Torque Continuous [1, 2, 3]	T_{cs}	Nm	45.87
		in-lb	405.9
Stall Current Continuous [1, 2, 3]	I_{cs}(rms)	Arms	36.2
Peak Torque	Tpk	Nm	121.42
		in-lb	1074.5
Peak Current	I_{pk}(rms)	Arms	114.4
Rated Speed [1, 2, 3]	Sr	rpm	2898
Rated Torque [1, 2, 3]	T_r	Nm	32.94
		in-lb	291.5
Rated Shaft Output Power [1, 2, 3]	P_{out}	kW	10.00
Current at Rated Speed [1, 2, 3]	I_r	A_{rms}	25.95
Voltage Constant [4]	K_e	V_{rms}/k_{rpm}	79.21
Torque Constant [4]	K_t(sine)	Nm/A_{rms}	1.310
Resistance [3, 4]	R	ohm	0.11
Inductance [3, 5]	L	mH	2
MPP Rotor Inertia [6]	J	$kg\text{-}m^2$	6.271^{-3}
		$in\text{-}lb\text{-}sec^2$	5.550^{-2}

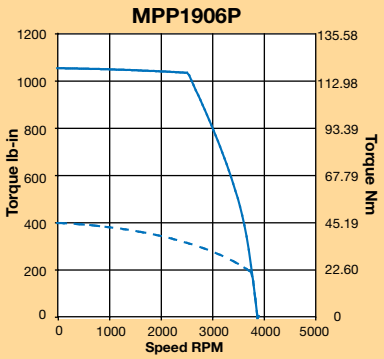
460 VAC Models

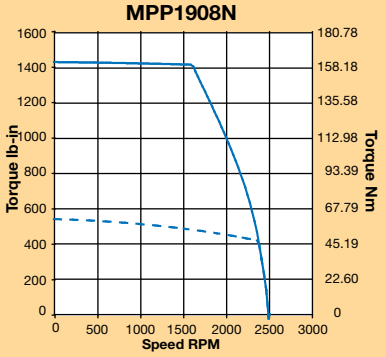
Parameter	Symbol	Units	MPP 1904P	MPP 1906P	MPP 1908N	MPP 1908P
Stall Torque Continuous [1, 2, 3]	T_{cs}	Nm	34.18	44.63	60.61	58.46
		in-lb	302.5	395.0	536.4	517.4
Stall Current Continuous [1, 2, 3]	I_{cs}(rms)	Arms	18.1	23.5	20.6	30.3
Peak Torque	Tpk	Nm	89.06	118.71	160.81	156.09
		in-lb	788.2	1050.6	1423.1	1381.4
Peak Current	I_{pk}(rms)	Arms	57.3	74.1	65.1	95.8
Rated Speed [1, 2, 3]	Sr	rpm	3378	3036	2365	2781
Rated Torque [1, 2, 3]	T_r	Nm	23.51	30.70	46.97	40.02
		in-lb	208.0	271.7	415.7	354.2
Rated Shaft Output Power [1, 2, 3]	P_{out}	kW	8.31	9.76	11.63	11.66
Current at Rated Speed [1, 2, 3]	I_r	A_{rms}	12.39	16.12	15.93	20.72
Voltage Constant [4]	K_e	V_{rms}/k_{rpm}	118.82	118.82	183.88	120.23
Torque Constant [4]	K_t(sine)	Nm/A_{rms}	1.965	1.965	3.041	1.989
Resistance [3, 4]	R	ohm	0.35	0.26	0.38	0.17
Inductance [3, 5]	L	mH	9	6	10	4
MPP Rotor Inertia [6]	J	$kg\text{-}m^2$	4.520^{-3}	6.271^{-3}	7.740^{-3}	7.740^{-3}
		$in\text{-}lb\text{-}sec^2$	4.000^{-2}	5.550^{-2}	6.850^{-2}	6.850^{-2}

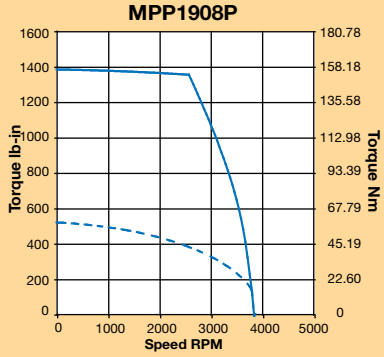
MPP Size 190 Speed-Torque Performance











CONTINUOUS PEAK

1 *Assumes motor is mounted to an aluminum plate with dimensions of 12" x 12" x 1" for 190 mm motor frames.*
2 *Maximum winding temperature is 155°C. Thermal protection device threshold may be at a lower temperature.*
3 *These ratings are valid for Parker drives. Other drives may not achieve the same ratings.*
4 *±10%*
5 *±30% @ 1kHz*
6 *Reference only*

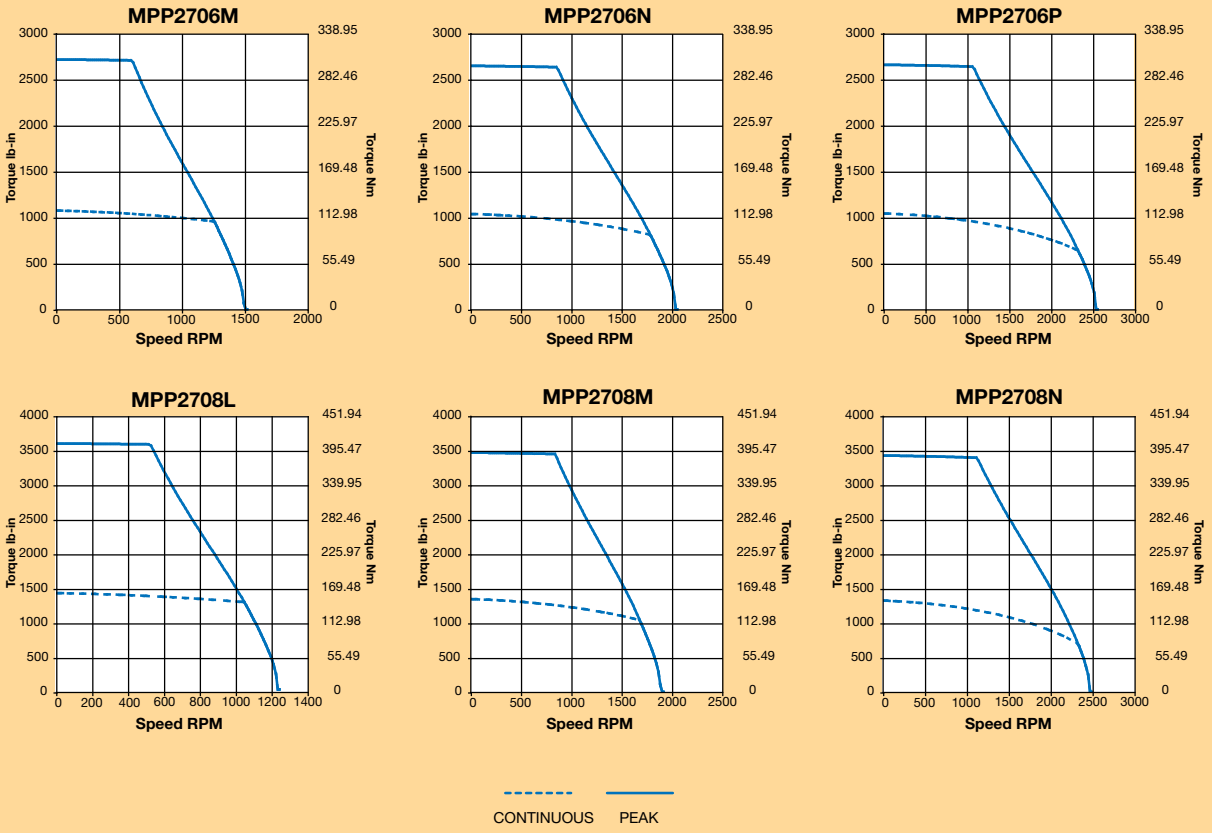
460 VAC Models

Parameter	Symbol	Units	MPP2706M	MPP2706N	MPP2706P
Stall Torque Continuous [1, 2, 3]	T_{cs}	Nm	121.25	117.07	117.77
		in-lb	1073.1	1036.1	1042.2
Stall Current Continuous [1, 2, 3]	I_{cs}(rms)	Arms	24.7	32.4	40.5
Peak Torque	Tpk	Nm	306.63	298.90	300.19
		in-lb	2713.7	2645.3	2656.7
Peak Current	I_{pk}(rms)	Arms	78.1	102.2	128.1
Rated Speed [1, 2, 3]	Sr	rpm	1265	1775	2126
Rated Torque [1, 2, 3]	T_r	Nm	106.84	92.11	80.95
		in-lb	945.5	815.2	716.4
Rated Shaft Output Power [1, 2, 3]	P_{out}	kW	14.15	17.12	18.02
Current at Rated Speed [1, 2, 3]	I_r	A_{rms}	21.70	25.34	27.69
Voltage Constant [4]	K_e	V_{rms}/k_{rpm}	306.24	225.06	180.79
Torque Constant [4]	K_t(sine)	Nm/A_{rms}	5.065	3.723	2.990
Resistance [3, 4]	R	ohm	0.34	0.20	0.13
Inductance [3, 5]	L	mH	25	13	9
MPP Rotor Inertia [6]	J	$kg\text{-}m^2$	2.734^{-2}	2.734^{-2}	2.734^{-2}
		$in\text{-}lb\text{-}sec^2$	2.420^{-1}	2.420^{-1}	2.420^{-1}

460 VAC Models

Parameter	Symbol	Units	MPP2708L	MPP2708M	MPP2708N
Stall Torque Continuous [1, 2, 3]	T_{cs}	Nm	157.74	152.15	149.65
		in-lb	1396.0	1346.5	1324.4
Stall Current Continuous [1, 2, 3]	I_{cs}(rms)	Arms	26.4	38.9	50.0
Peak Torque	Tpk	Nm	402.31	391.75	386.95
		in-lb	3560.5	3467.0	3424.5
Peak Current	I_{pk}(rms)	Arms	83.6	123.0	157.9
Rated Speed [1, 2, 3]	Sr	rpm	1049	1681	1962
Rated Torque [1, 2, 3]	T_r	Nm	142.86	117.83	102.87
		in-lb	1264.3	1042.8	910.4
Rated Shaft Output Power [1, 2, 3]	P_{out}	kW	15.69	20.74	21.13
Current at Rated Speed [1, 2, 3]	I_r	A_{rms}	23.90	30.02	34.22
Voltage Constant [4]	K_e	V_{rms}/k_{rpm}	371.30	242.58	185.65
Torque Constant [4]	K_t(sine)	Nm/A_{rms}	6.141	4.012	3.071
Resistance [3, 4]	R	ohm	0.35	0.16	0.10
Inductance [3, 5]	L	mH	26	11	7
MPP Rotor Inertia [6]	J	$kg\text{-}m^2$	3.537^{-2}	3.537^{-2}	3.537^{-2}
		$in\text{-}lb\text{-}sec^2$	3.130^{-1}	3.130^{-1}	3.130^{-1}

MPP Size 270 Speed-Torque Performance

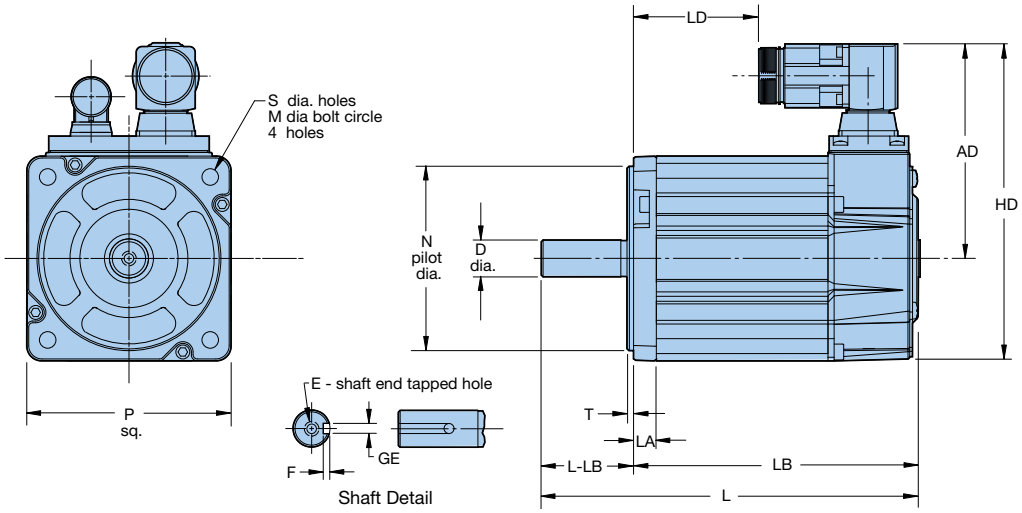


1 *Assumes motor is mounted to an aluminum plate with dimensions of 21" x 21" x 1" for 270 mm motor frames.*
2 *Maximum winding temperature is 155°C. Thermal protection device threshold may be at a lower temperature.*
3 *These ratings are valid for Parker drives. Other drives may not achieve the same ratings.*
4 *±10%*
5 *±30% @ 1kHz*
6 *Reference only*

Note: These specifications are based on theoretical motor performance and are not specific to any amplifier.

Frame Sizes 92 – 142

Dimensions – mm (in)

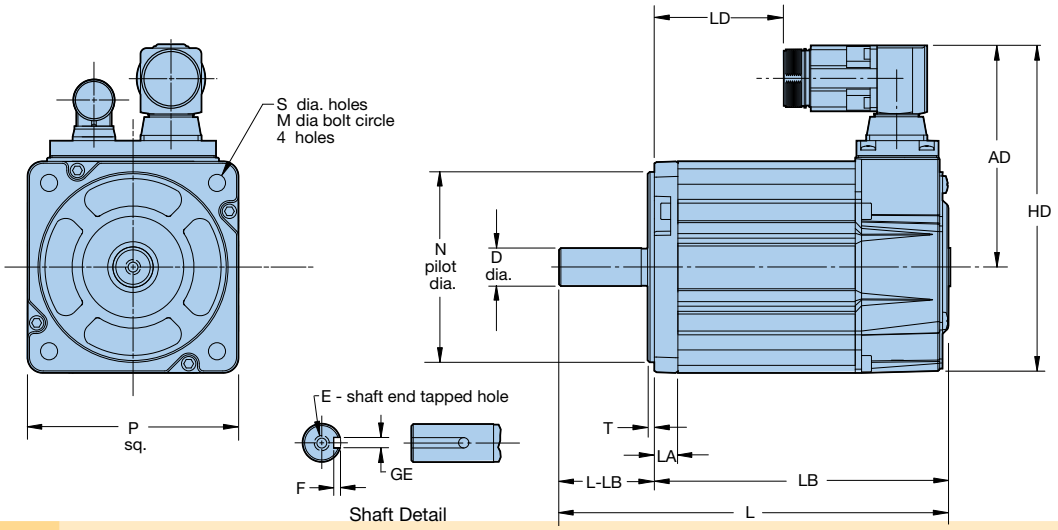


Model Number	AD	HD	T	LA	LD*	L*	LB*	L-LB
MPP0921	92.0 (3.62)	136.4 (5.37)	2.9 (0.11)	9.9 (0.39)	64.2 (2.52)	167.0 (6.57)	127.2 (5.01)	40.1 (1.58)
MPP0922/MPJ0921					90.2 (3.55)	193.0 (7.59)	152.6 (6.01)	
MPP0923/MPJ0922					115.2 (4.53)	218.0 (8.58)	178.0 (7.01)	
MPP1002	94.9 (3.73)	143.8 (5.66)	2.9 (0.11)	10.2 (0.40)	86.2 (339)	189.2 (7.45)	149.1 (5.87)	40.2 (1.58)
MPP1003/MPJ1002					111.2 (4.37)	219.2 (8.43)	174.5 (6.87)	
MPP1152	102.5 (4.04	159.0 (6.26)	3.4 (0.13)	12.2 (0.48)	89.2 (3.51)	202.6 (7.97)	152.4 (6.00)	50.6 (1.99)
MPP1153/MPJ1152					115.2 (4.53)	228.6 (9.00)	177.8 (7.00)	
MPP1154/MPJ1153					140.2 (5.52)	253.6 (9.98)	203.2 (8.00)	
MPP1422	117.45 (4.62)	188.8 (7.45)	3.4 (0.13)	14.0(0.55)	109.9 (4.32)	233.4(9.18)	172.9 (6.81)	60.4 (2.38)
MPP1424/MPJ1422					160.8 (6.33)	284.4 (11.19)	223.7 (8.81)	
MPP1426/MPJ1424					211.9 (8.34)	335.4 (13.21)	274.5 (10.81)	
MPP1428/MPJ1426					261.9 (10.31)	385.8 (15.19)	325.3 (12.81)	

Model Number	D	M	S	N	P	F	GE	E
MPP0921	16.007 (0.6302) 15.996 (0.6298)	100.0 (3.940)	7.0 (0.28)	80.012 (3.1501) 79.993 (3.1493)	88.8 (3.50)	3.0 (0.12)	5.0 (0.20)	M5 X 0.8 12.5 dp.
MPP0922/MPJ0921								
MPP0923/MPJ0922								
MPP1002	19.006 (0.7483) 18.996 (0.7489)	115.0 (4.528)	10.0 (0.41)	95.013 (3.7407) 94.991 (3.7398)	97.8 (3.85)	3.5 (0.14)	6.0 (0.24)	M6 X 1.0 16 dp.
MPP1003/MPJ1002								
MPP1152	24.005 (0.9451) 23.997 (0.9448)	130.0 (5.118)	10.0 (0.41)	110.013 (4.3312) 109.991 (4.3303)	113.0 (4.45)	4.0 (0.15)	8.0(0.31)	M8 X 1.25 19 dp.
MPP1153/MPJ1152								
MPP1154/MPJ1153								
MPP1422	28.006 (1.1026) 27.998 (1.1023)	165.0 (6.496)	12.0 (0.48)	130.014 (5.1187) 129.989 (5.1178)	142.7 (5.62)	4.1 (0.16)	8.0(0.13)	M10 X1.56 22 dp.
MPP1424/MPJ1422								
MPP1426/MPJ1424								
MPP1428/MPJ1426								

Frame Sizes 190 – 270

Dimensions – mm (in)



Model Number	AD	HD	T	LA	LD*	L*	LB*	L-LB
MPP1904	167.6 (6.60)	260.1 (10.24)	3.9 (0.15)	17.8 (0.70)	110.3 (4.34)	304.1 (11.97)	224.0 (8.81)	80.1 (3.15)
MPP1906					161.3 (6.35)	355.1 (13.98)	275.0 (10.81)	
MPP1908					211.3 (8.32)	405.1 (15.94)	325.3 (12.81)	
MPP2706	203.0 (7.99)	335.9 (13.23)	4.9 (0.19)	22.9 (0.90)	175.3 (6.90)	403.4 (15.88)	293.3 (11.55)	110.0 (4.33)
MPP2708					225.5 (8.90)	581.1 (17.88)	344.1 (13.55)	

Model Number	D	M	S	N	P	F	GE	E
MPP1904	38.016 (1.4967) 38.001 (1.4961)	215.0 (8.465)	14.5 (0.57)	180.014 (7.0872) 179.989 (7.0862)	184.9 (7.28)	5.1 (0.20)	10.0 (0.39)	M12 X 1.75 28 dp.
MPP1906								
MPP1908								
MPP2706	48.01 (1.8905) 48.002 (1.8898)	300.0 (11.81)	18.8 (.0.74)	250.016 (9.8431) 249.987 (9.8419)	266.7 (10.50)	5.6 (0.22)	14.0 (0.55)	M16 X 2.0 46 dp.
MPP2708								

*LD, L, and LB dimensions increase by the following with brake option “B”: MPP190 x 89.0 (3.50”); MPP230 x 108.0 (4.25”); MPP270 x 127.0 (5.00”)

Motor Model Number	Cont. Stall Current Amps-rms	Current Rating by Drive Model														
		IPA & Aries Drive Models						Compax3 Drive Models								
		AR01AE	AR02AE	IPA04 AR04	AR08AE	IPA15 AR13	AR20AE	S025 V2	S063 V2	S100 V2	S150 V2	S038 V4	S075 V4	S150 V4	S300 V4	H050 V4
		1.0	1.75	3.0	4.5	6.3	10.0	2.5	6.3	10.0	15.0	3.8	7.5	15.0	30.0	50.0
MPP/MPJ0921B	1.8		●					●								
MPP/MPJ0921C	2.9			●					●							
MPP0921R	1.4		◉					●				●				
MPP/MPJ0922C	3.7				●				●							
MPP/MPJ0922D	5.6					●			●							
MPP/MPJ0922R	2.8			◉					◉			●				
MPP0923D	7.2						●			●						
MPP0923R	3.6				◉				◉			●				
MPP/MPJ1002D	7.9						●			●						
MPP1002R	3.9				◉				◉			●				
MPP1003C	7.2						●			●						
MPP1003D	10.3										●					
MPP1003Q	3.9				◉				◉			●				
MPP1003R	5.4					◉			◉				●			
MPP/MPJ1152C	8.5						●			●						
MPP/MPJ1152D	10.4										●					
MPP/MPJ1152R	4.9					◉			◉				●			
MPP/MPJ1153B	7.7						●			●						
MPP/MPJ1153C	12.1										●					
MPP/MPJ1153P	4.1				◉				◉				●			
MPP/MPJ1153R	6.0					◉			◉				●			
MPP1154A	5.4					●			●							
MPP1154B	10.7										●					
MPP1154P	5.4					◉			◉				●			
MPP/MPJ1422C	14.6										●					
MPP/MPJ1422R	7.3						●			◉			●			
MPP/MPJ1424B	19.4														■	
MPP/MPJ1424C	24.3														■	
MPP/MPJ1424R	12.1										◉			●		
MPP/MPJ1426B	26.2														■	
MPP/MPJ1426P	13.1										◉			●		
MPP1428P	16.8													●		
MPP1428Q	21.0														●	
MPP1904P	18.1														●	■
MPP1906B	36.2															
MPP1906P	23.5														●	
MPP1908N	20.6														●	
MPP1908P	30.3														●	
MPP2706M	24.7														●	
MPP2706N	32.4															●
MPP2706P	40.5															●
MPP2708L	26.4														●	
MPP2708M	38.9															●

● Ideal Motor / Drive combination
◉ These motors are rated for 460 volts AC. This combination,with the 230 volt drive, will result in motor running at 1/2 its rated speed
■

Motor Feedback Drive Compatibility

MPP/MPJ Feedback Option	Order Code	Drive Compatibility				
		IPA	Aries	Compax3	Gemini	ViX
Encoder	1E	•	•	•	•	•
Resolver	41			•	•	•
SICK Absolute Encoder	6S/9S			•		
SICK Absolute DSL	6H	•				
Heidenhain Absolute Encoder*	8D*	•	•	•**		

Motor Power and Feedback for Hiperface DSL

Drive	Part Number[1]	Motor Current
IPA	PF-16H-xx	0-20 A rms; 230 or 460V
IPA	PF-36H-xx	0-30 A rms; 230 or 460V

[1] -xx denotes cable length in meters. Single cable power and feedback cables available in standard lengths of 3, 10, 20 meters.

Motor Feedback Cables

Drive	Feedback Type	Part Number
IPA & Aries	Encoder - Incremental Heidenhain Absolute	F-1A1-xx F-1A2-xx
Compax3	Resolver Encoder - Incremental Stegmann Absolute Heidenhain Absolute	F-2B1-xx F-2C1-xx F-2B1-xx F-2A2-xx

Power Cables

Model Number	Motor Current	Part Number [1, 2]
MPP/MPJ0921B	Up to 6 A rms; 230 V only	P-1A1-xx
MPP/MPJ0921C		
MPP0921R	0 – 20 A rms; 230 or 460 V	P-3B1-xx
MPP/MPJ0922C	Up to 6 A rms; 230 V only	P-1A1-xx
MPP/MPJ0922D		
MPP/MPJ0922R	0 – 20 A rms; 230 or 460 V	P-3B1-xx
MPP0923D		
MPP0923R		
MPP/MPJ1002D	0 – 20 A rms; 230 or 460 V	P-3B1-xx
MPP1002R		
MPP1003C		
MPP1003D		
MPP1003Q		
MPP1003R		

Model Number	Motor Current	Part Number [1, 2]
MPP/MPJ1422C	0 – 20 A rms; 230 or 460 V	P-3B1-xx
MPP/MPJ1422R		
MPP/MPJ1424B		
MPP/MPJ1424C		P-4B1-xx
MPP/MPJ1424R		P-3B1-xx
MPP/MPJ1426B		P-4B1-xx
MPP/MPJ1426P		P-3B1-xx
MPP1428P		
MPP1428Q		P-4B1-xx
MPP1904P	0 – 20 A rms; 230 or 460 V	P-4B2-xx
MPP1906B	30 – 50 A rms; 230 or 460 V	P-6B2-xx
MPP1906P	0 – 20 A rms; 230 or 460 V	P-4B2-xx
MPP1908N		
MPP1908P		
MPP2706M	0 – 20 A rms; 230 or 460 V	P-4B2-xx
MPP2706N	30 – 50 A rms; 230 or 460 V	P-6B2-xx
MPP2706P		
MPP2708L	0 – 20 A rms; 230 or 460 V	P-4B2-xx

[1] Motor sizes 92 – 142 use size 1.0 PS Connector; sizes 190 – 270 use size 1.5 PS Connector

[2] -xx denotes cable length in feet. Motor power and feedback cables available in standard lengths of 10, 25, 50 feet. Other lengths are available. Drive current values are default values. When running Drive PWM frequency at values other than default, current output values will change. Please consult drive manual for current values, and

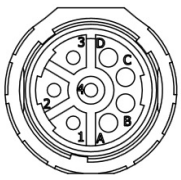
“PS” and “PF”Connectors (all motor sizes)

The PS connector option for MPP/MPJ motors feature high-quality Hypertac - Interconnectron circular connectors mounted to the motor body. These connectors are a right-angle mount and can be fully rotated. This allows for greater cable routing options. Mating cables are specified and ordered separately. The PS option joins the motor phase wires and brake leads into a one connector. The second connector has motor feedback signals, Hall effect signals, and thermistor signals.

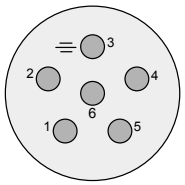
Motor Power/Brake

Designation	Size 1.0 Connector Pin Number	Size 1.5 Connector Pin Number
Phase A	1	U
Phase B	2	V
Phase C	6	W
Ground	3	⏚
Shield	3	⏚
Brake	4	+

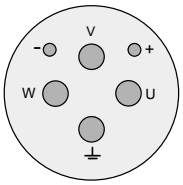
Connector Pin Assignments



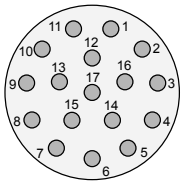
Hiperface DSL Motor Connector # 270-00768 (Mating Conn. Intercontec # BSTA078FR05580100-142)



Size 1.0 Motor Connector # 43-024091-01 (Mating Conn.# 43-021659-01)



Size 1.5 Motor Connector # 43-025366-01 (Mating Conn.# 43-025495-01)



Feedback Connector # 43-025367-01 (Mating Conn.# 43-021660-01)

Resolver Feedback (Order Code 41)

Designation	Motor Feedback Connector Pin Number
Sin+	2
Sin -	1
Cos+	11
Cos -	12
Ref+	14
Ref -	17
Temp	9

Incremental Encoder/Hall Feedback (Order Code 1E, 3E)

Encoder (or Smart Encoder) Designation	Motor Feedback Connector Pin Number
Vcc	8
Ground	7
CH A+	2
CH A-	1
CH B+	11
CH B-	12
Index + (or Data +)	15
Index - (or Data -)	16
Temperature Sensor	
Temp	13
Temp	9
Hall Gnd*	7
Hall +5*	8
Hall 1 (or CLK+)	4
Hall 2 (or CLK-)	5
Hall 3*	6

Absolute Encoders

	Designation	Motor Feedback Connector Pin Number
Heidenhain EnDat (Order Code 8D)	Vcc	14
	Ground	7
	CH A+	2
	CH A-	1
	CH B+	11
	CH B-	12
	Data +	15
	Data -	16
	Temp	13
	Temp	9
	Gnd	7
	+5	8
	CLK+	4
	CLK-	5
SICK Hiperface® (Order Code 6S, 9S)	Ref Sin	1
	Sin +	2
	Data +	5
	Data-	6
	Temp+	9
	Cos+	11
	Ref Cos	12
	Temp	13
	+5	14
	Gnd	17

Incremental Encoder Specifications (Order Code 1E, 3E)

Parameter	Value
Accuracy	±2 min of arc
Input power	5 VDC ±5%, 180 mA
Operating frequency	250 kHz max
Output device	26LS31
Sink/Source, nominal	20 mA

Hall Effect Specifications

Parameter	Value
Input power	5 VDC ±5%, 80 mA
Output device - open collector	LM339
Maximu pull-up	12 VDC

Heidenhain Absolute Encoder Specifications (Order Code 8D)

Parameter	Multi Turn (8D)
Absolute Position Values	
Position values/rev.	524,288 (19 bits)
Distinguishable rev.	4096 (12 bits)
Part Number	EQI 1331

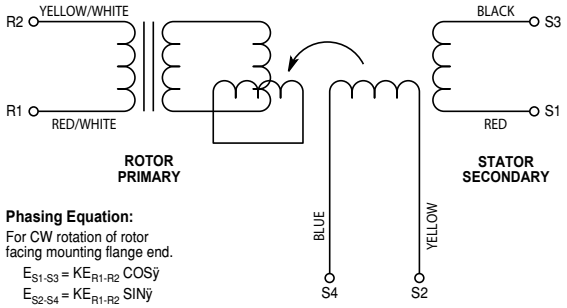
SICK Hiperface Absolute Encoder Specifications (Order Code (6H, 6S, 9S)

Parameter	Single Turn (9S)	Multi Turn (6H)	Multi Turn (6S)
Absolute Position Values			
Position values/rev.	32768 (15 bits)	262144 (18 bits)	32768 (15 bits)
Distinguishable rev.	n/a	4096 (12 bits	4096 (12 bits)
Part Number	SRS 50	EKM 36	SRM 50

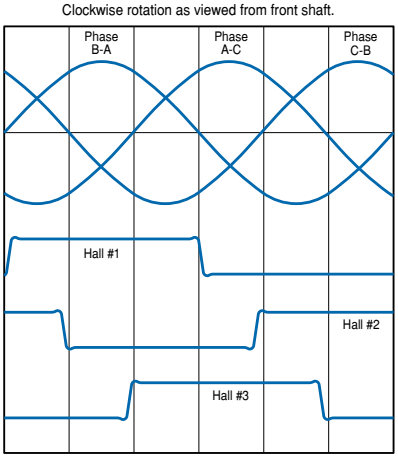
Resolver Specifications (Order Code 41)

Parameter	Value
Input voltage @ 2 kHz	4 V rms
Input current, max	55 mA
Input power, nominal	0.045 watts
Impedance ZSO (@ 90°)	260 ohms
Impedance ZRO	150 ohms
Impedance ZRS	135 ohms
Transformation ratio	.5 ±10%
Output voltage	2.0 ±10%
DC rotor resistance	31 ±10%
DC stator resistance	126 ±10%
Sensitivity	35 mV/degree
Max error from EZ	±10 minutes
Phase shift, open circuit	20° leading ±10°
Null voltage, total	20 mV rms
Impedance ZSS	240 ohms

Resolver Schematic Diagram



Commutation Chart



MPP/MPJ Options

Electrically Released Brake

Parameter	Units	MPP/MPJ 092	MPP/MPJ 100	MPP/MPJ 115	MPP/MPJ 142
Static Rated Torque	Nm (lb-in)	4.18 (37)	10.2 (90)	10.2 (90)	28.3 (250)
Coil Current @ 24 VDC	amps	0.50	0.70	0.70	1.28
Maximum Backlash	(minutes)	45	37	37	25
Engage/Disengage	mSec	50/20	110/25	110/25	70/50
Avg. Rotor Inertia*	Kg-M^2 (lb-in-s^2)	0.00001 (0.00009)	0.00004 (0.00036)	0.00004 (0.00036)	0.00011 (0.00098)

Parameter	Units	MPP190	MPP270
Static Rated Torque	Nm (lb-in)	70(619)	153 (1350)
Coil Current @ 24 VDC	amps	2.19**	4.7**
Maximum Backlash	(minutes)	25	25
Engage/Disengage	mSec	200/120	300/200
Avg. Rotor Inertia*	Kg-M^2 (lb-in-s^2)	0.00033 (0.00294)	0.00210 (0.01875)
Avg. Weight*	Kg (lb)	9.70 (21.23)	17.75 (39.1)

MPP/MPJ 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
MPJ	092	2	C	1E	– N	PS	B

1	2	3	4		5	6	7	8
			Winding					
Series	**Frame Size**	**Stack**	**230 V**	**460 V**	**Feedback Type**	**Shaft**	**Connectors**	**Options**
MPP/MPJ	**092**	1	B, C	R	1E 41 8D 6H 6S 9S	K N	PS PF*	N B V
		2	C, D	R				
		3*	D	R				
	100	2	D	R				
		3*	C, D	Q, R				
	115	2	C, D	R				
		3	B, C	P, R				
		4*	A, B	P				
	142	2	C	R		K		
		4	B, C	R				
		6	B	P				
		8*	—	P, Q				
MPP	**190**	4	—	P	41 8D * 6S 9S	K		
		6	B	P				
		8	—	N, P				
	270	6	—	M, N, P				
		8	—	L, M, N				

Codes:

Feedback Type	1E	2000-line incremental encoder
	41	Single speed resolver
	8D	Multi-turn high-resolution absolute encoder - Heidenhain EnDat*
	9S	Single-turn high-resolution absolute encoder - SICK Hiperface®
	6H	Multi-turn high-resolution absolute encoder - SICK Hiperface® DSL
	6S	Multi-turn high-resolution absolute encoder - SICK Hiperface®
Shaft	N	Smooth shaft
	K	Keyway
Connectors	PS	Parker-style right angle rotatable
Options	N	None
	B	24 volt failsafe spring brake
	V	Shaft seal - IP65

* Not available on MPP270 frame size.

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北京润诚时代科技有限公司
自动化事业部
地址：北京市朝阳区汤立路218号C座968室
邮编：100012
电话：010-84450370
传真：010-84450371
网址：www.runcheng.net