

# Higher Power Rotary Servo Motors, with Low and High Inertia

The “MaxPlusPlus” (MPP) series of brushless servo motors from Parker 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.

The “MaxPlus-J” (MPJ) series of rotary servo motors from Parker feature 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.

Parker will customize any MPP/MPJ motor to meet your specific system requirements. Parker does customs like no one else. We are specialists at customs, offering unrivaled custom motor solutions and support.

## MPP / MPJ Motor Features

- Segmented core technology - 40% higher torque
- Potted stator design - improved thermal efficiency
- Size 92, 100, 115, 142, 190, 230, and 270
- Continuous torque: 1.3 Nm (12 lb-in) to 146 Nm (1295 lb-in)
- Continuous stall torque: 1.5 Nm (14 lb-in) to 162 Nm (1434 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 absolute encoder (single or multi-turn)
- 24 volt failsafe brake (optional)
- “Rotatable” right angle PS-style connectors
- Optional IP65 shaft seal
- Two-year warranty
- MPJ motor features:  
Size 92,100, 115 and 142

## Common Customizations Include:

- 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
- Special stator windings



# MPP / MPJ Series Servo Motors

| Model    | Rated Speed RPM | Rated Output kW | Rated Output HP | MPP Rotor Inertia Kg-m <sup>2</sup> (lb-in-sec <sup>2</sup> ) | MPJ Rotor Inertia Kg-m <sup>2</sup> (lb-in-sec <sup>2</sup> ) | Continuous Stall Torque Nm (lb-ins) | Peak torque Nm (lb-ins) | Continuous Stall Current Amps-rms | Peak Current Amps-rms | Voltage |
|----------|-----------------|-----------------|-----------------|---|---|-------------------------------------|-------------------------|-----------------------------------|-----------------------|---------|
| MPP0921B | 3800            | 0.5             | 0.7             | .0000441 (.00039)   | .0003911 (.00346)   | 1.5 (14)                            | 5.0 (50)                | 1.8                               | 6                     | 230     |
| MPP0921C | 5000            | 0.6             | 0.8             | .0000441 (.00039)   | .0003911 (.00346)   | 1.6 (14)                            | 5.0 (45)                | 2.9                               | 9                     | 230     |
| MPP0921R | 5000            | 0.6             | 0.8             | .0000441 (.00039)   | .0003911 (.00346)   | 1.6 (14)                            | 5.0 (45)                | 1.4                               | 5                     | 460     |
| MPP0922C | 4200            | 1.1             | 1.4             | .0000780 (.00069)   | .0004261 (.00377)   | 2.9 (26)                            | 9.3 (83)                | 3.7                               | 12                    | 230     |
| MPP0922D | 5000            | 1.2             | 1.6             | .0000780 (.00069)   | .0004261 (.00377)   | 3.1 (28)                            | 10.0 (88)               | 5.6                               | 18                    | 230     |
| MPP0922R | 5000            | 1.2             | 1.6             | .0000780 (.00069)   | .0004261 (.00377)   | 3.1 (28)                            | 9.8 (88)                | 2.8                               | 9                     | 460     |
| MPP0923D | 5000            | 1.6             | 2.1             | .0001130 (.0010)  | -   | 4.0 (36)                            | 12.8 (113)              | 7.2                               | 23                    | 230     |
| MPP0923R | 5000            | 1.6             | 2.1             | .0001130 (.0010)  | -   | 4.0 (36)                            | 12.8 (113)              | 3.6                               | 11                    | 460     |
| MPP1002D | 4900            | 1.6             | 2.1             | .0002599 (.0023)  | .0008238 (.00729)   | 4.6 (41)                            | 14.5 (129)              | 7.9                               | 25                    | 230     |
| MPP1002R | 4900            | 1.5             | 2.0             | .0002599 (.0023)  | .0008238 (.00729)   | 4.6 (41)                            | 14.5 (129)              | 3.9                               | 12                    | 460     |
| MPP1003C | 4200            | 1.8             | 2.4             | .0003729 (.0033)  | -   | 6.1 (54)                            | 19.1 (170)              | 7.2                               | 23                    | 230     |
| MPP1003D | 4200            | 1.8             | 2.4             | .0003729 (.0033)  | -   | 6.0 (53)                            | 19.1 (170)              | 10.3                              | 32                    | 230     |
| MPP1003Q | 4200            | 1.9             | 2.5             | .0003729 (.0033)  | -   | 6.3 (56)                            | 19.9 (176)              | 3.9                               | 12                    | 460     |
| MPP1003R | 4200            | 1.9             | 2.5             | .0003729 (.0033)  | -   | 6.3 (56)                            | 20.1 (178)              | 5.4                               | 17                    | 460     |
| MPP1152C | 4000            | 1.6             | 2.1             | .0002712 (.0024)  | .0010184 (.00902)   | 5.7 (51)                            | 18.1 (160)              | 8.5                               | 27                    | 230     |
| MPP1152D | 4000            | 1.7             | 2.2             | .0002712 (.0024)  | .0010184 (.00902)   | 5.8 (52)                            | 18.5 (163)              | 10.4                              | 33                    | 230     |
| MPP1152R | 4000            | 1.6             | 2.1             | .0002712 (.0024)  | .0001084 (.00902)   | 5.5 (49)                            | 17.4 (154)              | 4.9                               | 16                    | 460     |
| MPP1153B | 3400            | 2.2             | 2.9             | .0004068 (.0036)  | .0011314 (.01002)   | 7.9 (70)                            | 25.1 (222)              | 7.7                               | 24                    | 230     |
| MPP1153C | 4000            | 2.3             | 3.0             | .0004068 (.0036)  | .0011314 (.01002)   | 8.1 (71)                            | 25.5 (226)              | 12.1                              | 38                    | 230     |
| MPP1153P | 3100            | 2.2             | 2.9             | .0004068 (.0036)  | .0011314 (.01002)   | 8.4 (74)                            | 26.6 (235)              | 4.1                               | 13                    | 460     |
| MPP1153R | 4000            | 2.3             | 3.0             | .0004068 (.0036)  | .0011314 (.01002)   | 8.1 (72)                            | 25.5 (226)              | 6.0                               | 19                    | 460     |
| MPP1154A | 1900            | 1.8             | 2.4             | .0005198 (.0046)  | -   | 9.8 (87)                            | 31.2 (277)              | 5.4                               | 17                    | 230     |
| MPP1154B | 3800            | 2.7             | 3.5             | .0005198 (.0046)  | -   | 9.8 (87)                            | 31.3 (277)              | 10.7                              | 34                    | 230     |
| MPP1154P | 3700            | 2.7             | 3.5             | .0005198 (.0046)  | -   | 9.8 (87)                            | 31.2 (277)              | 5.4                               | 17                    | 460     |
| MPP1422C | 4000            | 3.4             | 4.5             | .000779 (.0069)   | .007204 (.06377)  | 11.1 (98)                           | 35.1 (311)              | 14.6                              | 46                    | 230     |
| MPP1422R | 3800            | 3.3             | 4.5             | .000779 (.0069)   | .007204 (.06377)  | 11.1 (98)                           | 35.1 (311)              | 7.3                               | 23                    | 460     |
| MPP1424B | 3100            | 5.0             | 6.6             | .001469 (.013)  | .007882 (.06978)  | 19.4 (172)                          | 61.5 (544)              | 19.4                              | 61                    | 230     |
| MPP1424C | 3800            | 5.2             | 6.8             | .001469 (.013)  | .007882 (.06978)  | 19.5 (173)                          | 61.7 (546)              | 24.3                              | 77                    | 230     |
| MPP1424R | 3700            | 5.2             | 6.8             | .001469 (.013)  | .007882 (.06978)  | 19.5 (173)                          | 61.6 (546)              | 12.1                              | 38                    | 460     |
| MPP1426B | 3000            | 6.2             | 8.1             | .002147 (.019)  | .008334 (.07378)  | 26.0 (230)                          | 72.1 (726)              | 26.2                              | 83                    | 230     |
| MPP1426P | 3000            | 6.2             | 8.1             | .002147 (.019)  | .008334 (.07378)  | 26.0 (230)                          | 82.1 (726)              | 13.1                              | 41                    | 460     |
| MPP1428P | 2900            | 7.0             | 9.2             | .002599 (.023)  | -   | 33.2 (294)                          | 105.0 (931)             | 16.8                              | 53                    | 460     |
| MPP1428Q | 2900            | 7.0             | 9.2             | .002599 (.023)  | -   | 33.4 (295)                          | 106.0 (935)             | 21.0                              | 66                    | 460     |
| MPP1904P | 3000            | 8.3             | 10.9            | .00452 (.040)   | -   | 35.5 (315)                          | 113.0 (996)             | 18.0                              | 57                    | 460     |
| MPP1906B | 2500            | 9.7             | 12.7            | .00627 (.055)   | -   | 47.3 (419)                          | 150.0 (1326)            | 36.2                              | 114                   | 230     |
| MPP1906P | 3000            | 9.9             | 13.0            | .00627 (.055)   | -   | 45.9 (407)                          | 146.0 (1288)            | 23.5                              | 74                    | 460     |
| MPP1908N | 2100            | 11.1            | 14.5            | .00774 (.068)   | -   | 62.4 (553)                          | 198.0 (1750)            | 20.6                              | 65                    | 460     |
| MPP1908P | 2800            | 11.8            | 15.5            | .00774 (.068)   | -   | 60.1 (532)                          | 190.0 (1684)            | 30.3                              | 96                    | 460     |
| MPP2306N | 2000            | 11.6            | 15.2            | .01690 (.150)   | -   | 80.3 (712)                          | 255.0 (2252)            | 28.5                              | 90                    | 460     |
| MPP2308N | 1600            | 13.6            | 17.8            | .02237 (.198)   | -   | 106.5 (943)                         | 337.0 (2985)            | 28.1                              | 89                    | 460     |
| MPP2308P | 1900            | 14.1            | 18.5            | .02237 (.198)   | -   | 105.7 (936)                         | 335.0 (2964)            | 35.7                              | 113                   | 460     |
| MPP2706M | 1000            | 12.0            | 15.7            | .02734 (.242)   | -   | 124.8 (1105)                        | 395.0 (3497)            | 24.7                              | 78                    | 460     |
| MPP2706N | 1400            | 14.4            | 18.9            | .02734 (.242)   | -   | 120.1 (1064)                        | 380.3 (3366)            | 32.4                              | 102                   | 460     |
| MPP2706P | 1600            | 16.5            | 21.6            | .02734 (.242)   | -   | 120.9 (1071)                        | 382.7 (3388)            | 40.5                              | 128                   | 460     |
| MPP2708L | 900             | 13.6            | 18.1            | .0353 (.313)  | -   | 161.9 (1433)                        | 512.7 (4538)            | 26.4                              | 84                    | 460     |
| MPP2708M | 1300            | 17.8            | 23.3            | .0353 (.313)  | -   | 155.8 (1379)                        | 493.1 (4364)            | 38.9                              | 123                   | 460     |
| MPP2708N | 1600            | 20.3            | 26.6            | .0353 (.313)  | -   | 153.0 (1354)                        | 484.0 (4287)            | 50.1                              | 158                   | 460     |