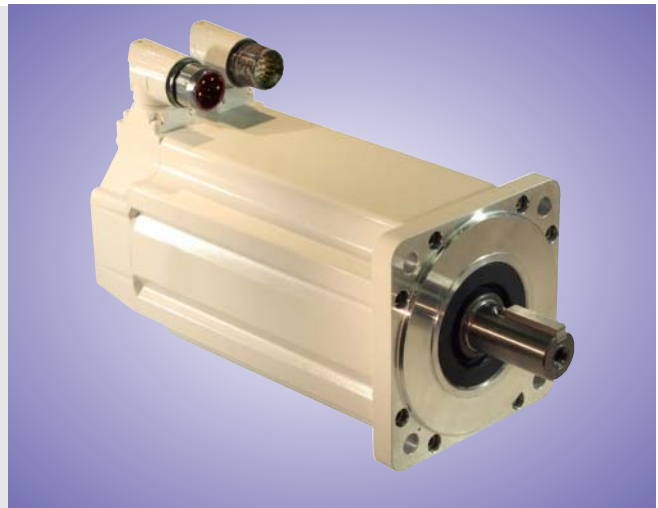


MP-Series Food Grade Motors

High performance Servo Motors for Food and Beverage Applications



The Allen-Bradley MP-Series™ Food Grade Motors combine high-efficiency, high-torque capability with features specifically designed to meet the unique needs of many food and beverage applications. These compact, low inertia servo motors build on the well established MP-Series segmented stator technology to provide high performance motors which meet the requirements of a variety of applications including food packaging, volumetric filling and form, fill and seal.



Product Overview

These high performance motors address the challenges of food environments by incorporating improved sealing techniques and non-corrosive food grade fasteners and coatings. Sealing is improved through the use of a shaft seal with a hardened wear sleeve for long-lasting operation. An optional positive air pressure fitting is also available for an extra measure of protection against liquid ingress when supplied with pressurized air.

Food grade grease and durable food grade epoxy paint allow the motors to be mounted above the food line, adding installation flexibility. The shaft and all fasteners are stainless steel, reducing corrosion caused by exposure to cleaning solutions and food by-products.

The motors are intended to be used with the Allen-Bradley Kinetix® 6000 (230 or 460 volt) and Ultra™3000 (230 or 460 volt) drives. Available in four frame sizes, they provide

continuous stall torque from 1.6 to 19.4 Nm (14-173 in-lb) and peak torque from 3.6 to 48.6 Nm (32-430 in-lb).

MP-Series Food Grade Motors feature:

- Durable two-part food grade epoxy coating
- IP66 and IP67 rated to prevent liquid contamination
- Stainless steel fasteners and shaft
- Hardened shaft wear sleeve for long-lasting shaft seal and shaft
- IP66 and IP67 rated connectors can be rotated 180 degrees without the use of tools, allowing optimum positioning without risk to seal integrity
- Machined aluminum front endcap eliminates pockets which could accumulate residue
- Food grade grease on shaft seal
- Optional positive air pressure kit
- High resolution feedback for smooth operation, with an absolute feedback option for the elimination of frequent homing routines
- Mounting identical to MP-Series Low Inertia Motors
- Fully encapsulated windings for moisture protection and increased thermal efficiency
- Integral 24 volt holding brake option
- With the introduction of MP-Series Low Inertia motors using DIN connectors, customers can standardize on a single cable family for all MP-Series products.
- MP-Series servo motors with high resolution encoders may be used as a component of the Kinetix safe-off feature.
- Use with food grade 2090 cables

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Specifications

Catalog Number	Rated Speed* rpm	Rated Output kW	Rotor Inertia* kg-m ² (lb-in.-s ²)	Continuous Stall Torque Nm (lb-in.)	Peak Stall Torque Nm (lb-in.)	Continuous Stall Current Amperes (0-peak)	Peak Stall Current Amperes (0-peak)		
MPF-A310P	5000	0.73	0.000044 (0.00039)	1.58 (14.0)	3.61(32.0)	4.85	14.0	230 volt	
MPF-A320H	3500	1.0	0.000078 (0.00069)	3.05 (27.0)	7.34 (70.0)	6.1	19.3	↓	
MPF-A320P	5000	1.3	0.000078 (0.00069)	3.05 (27.0)	7.34 (70.0)	9.0	29.5		
MPF-A330P	5000	1.6	0.00012 (0.0010)	4.18 (37.0)	11.1 (98.0)	12.0	38.0		
MPF-A430P	5000	1.9	0.00038 (0.0033)	5.99 (53.0)	19.8 (175.0)	16.8	67.0		
MPF-A430H	3500	1.8	0.00038 (0.0033)	6.21 (55.0)	19.8 (175.0)	12.2	45.0		
MPF-A4530K	4000	2.3	0.00040 (0.0036)	8.13 (72.0)	20.3 (180.0)	19.5	62.0		
MPF-A4540F	3000	2.5	0.00052 (0.0046)	10.20 (90.0)	27.1 (240.0)	18.4	58.0		
MPF-A540K	4000	4.7	0.00147 (0.013)	19.4 (172.0)	48.6 (430.0)	41.5	120.0		
MPF-B310P	5000	0.77	0.000044 (0.00039)	1.58 (14.0)	3.61 (32.0)	2.3	7.1		460 volt
MPF-B320P	5000	1.5	0.000078 (0.00069)	3.05 (27.0)	7.91 (70.0)	4.24	14.0		↓
MPF-B330P	5000	1.6	0.00012 (0.0010)	4.18 (37.0)	11.1 (98.0)	5.7	19.0		
MPF-B430P	5000	2.0	0.00038 (0.0033)	6.55 (58.0)	19.8 (175.0)	9.2	32.0		
MPF-B4530K	4000	2.4	0.00040 (0.0036)	8.25 (73.0)	20.3 (180.0)	9.9	31.0		
MPF-B4540F	3000	2.5	0.00052 (0.0046)	10.20 (90.0)	27.1 (240.0)	9.1	29.0		
MPF-B540K	4000	4.6	0.00147 (0.013)	19.40 (172.0)	48.6 (430.0)	20.5	60.0		

* Rotor inertia may vary slightly depending upon brake option.

Typical Applications

These servo motors are designed for use in many food and beverage packaging and handling applications. Food grade coatings and lubricants allow mounting in the food zone. Corrosion resistant components, combined with both IP66 and IP67 rated sealing, protect against low-pressure wash and accidental spillage. Target applications include:

- Form, fill and seal
- Food packaging and handling
- Bottle filling

For high pressure, highly caustic washdown conditions, as well as meat, poultry and dairy applications, the MP-Series Stainless Steel Motors are recommended.

Motor Cables

Rockwell Automation offers a comprehensive selection of power, feedback, and brake cables for your MP-Series motors. Offerings include standard and continuously flexing cables, in lengths ranging from 1 meter to 90 meters.

The continuously flexing power and brake cables comply with RoHS and NFPA-79 tray ratings, and are composed of UL-listed bulk cable. Jacket coloring is compliant with DESINA specifications.

Refer to the Motion Control Selection Guide, Publication GMC-SG001x to select the cables for your motion control system.



Flex cables for MP-Series Motors and other motors and actuators with DIN style connectors.

www.rockwellautomation.com

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