

The mPR Series

High Precision Rotary Stage



- Compact size
- Self-contained stage includes direct drive motor, high resolution feedback, and high precision rotary bearing
- Easily mounted to existing Parker mSR, MX, and XR product lines
- Very high precision rotary motion



Typical Enhancements

- Hall effect sensors for commutation
- Direct mounting pattern for mSR, MX, and XR products
- 3 meter length high-flex cables
- Integrated servo motor
- Ample through hole
- Clean room option available
- 3 digital encoder resolution options, plus a 1 Vp-p analog option
- CE and RoHS compliant as standard

		mPR80	mPR100
Maximum Payload	Kg	4.0	12.0
Axial & Radial Runout	µm	6.0	6.0
Repeatability	+/- Arc-Sec	1	1
Velocity	RPM	600	600
Mounts to existing Parker product series:		mSR80	404XR
		mSR100	-
		MX80-L	-

* Note: the mPR stage can be paired with numerous other Parker linear stages. Contact the factory for your exact needs.

The Miniature Precision Rotary (mPR) stage is designed to meet the needs of OEMs and machine builders seeking very high precision in a compact direct drive product.

Two form factors of 80mm and 104mm diameter mount easily on top of small linear motion axes for building complete multi-axis motion systems.

The mPR is lightweight without sacrificing precision and stiffness and delivers excellent torque density.

High angular resolution and precision angular repeatability, combined with high precision runout values, make the mPR a high performer in the field of precision rotary motion control.

The mPR is driven with a direct drive, 3 phase AC servo motor which is integrated directly to the products Aluminum base. The direct drive eliminates mechanical compliance

which might exist from gearing or screw driven devices.

As a result the mPR has delivers excellent angular dynamic response, and high precision rotary positioning. The combination of all of these features make the mPR the ideal stage for applications in laser processing, electronics manufacturing, semiconductor inspection, and high precision metrology.

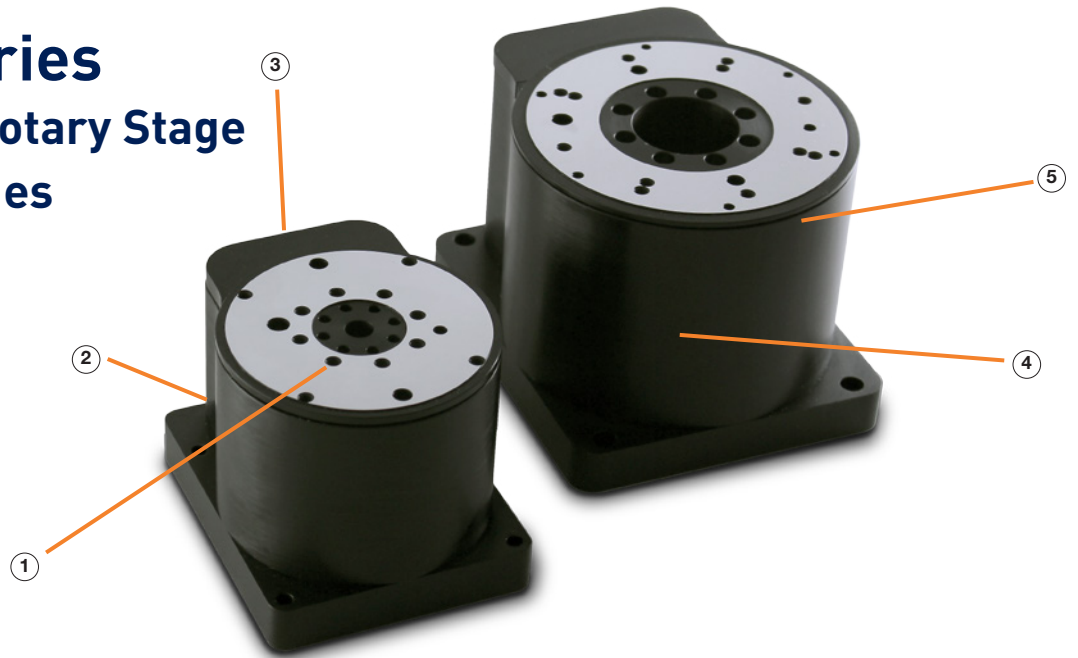
For examples of multiaxis systems, visit www.parker.com/emn/mPR.



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Design Advantages



- ① Tapped Holes and Dowel Pinning**
The mPR has tapped holes in both the top and base for ease of mounting and dowel pins to ensure repeatable mounting when mounting additional tooling to the stage.
- ② High Flex Cabling**
The mPR uses high flex cabling as standard to ensure maximum life of the stage regardless of whether it's integrated into a multi or single axis system.
- ③ Integrated, Optical Linear Encoder**
The mPR provides maximum versatility with three different optical digital encoder resolutions and an analog sine/cosine option. Easily change resolutions with an external interface, instead of changing the entire head.
- ④ Frameless Kit Motor Direct Drive**
The frameless kit motor is directly integrated with the drive train to deliver reliable performance in small spaces.
- ⑤ High Precision Crossed Roller Bearings**
High performance precision-grade bearings have up to five times the life expectancy of typical ball bearings. These bearings are lubricated for the life of the product to reduce maintenance.
- ⑥ Cleanroom Tested**
Limited contact surfaces within the product make the mPR ideal for clean room applications. Higher clean room versions are available for order as custom. Contact the Parker applications engineering department for more details at 1.800.358.9070.

Parker Hannifin Corporation
Electromechanical & Drives Division
 1140 Sandy Hill Road
 Irwin, PA 15642
 phone 800 358 9070
 fax 724 861 3330
www.parker.com/emn



Standard Features	
Travel	360 Degree Continuous
Motor	Frameless Direct Drive Motor (will hall Effect Device)
Feedback	Non-Contact Optical Encoder
Scale	20um Pitch Stainless Steel Ring
Resolution	1Vp-p Analog Output (see specifications) Digital Output Options (see specifications)
Sensors	Integrated Home Mark (Encoder Channel C)
Runout	Axial: 6 µm Radial: 6 µm
Bearings	High Precision Crossed Roller Bearings
Encoder Cable	High Flex, 10M Cycle, 3m length
Motor / Hall Cable	Integrated with Motor
Structure	Anodized Aluminum 6064-T6
Environment	Standard Optional: Clean Room
Temperature	0-50 degrees Celsius
Humidity	10-80% Non-Condensing