MRD-S
Electrical · Rotary Actuators · Miniature Rotary Actuators

Sizes
4 .. 12

Weight
1.2 kg .. 1.8 kg

Max. torque
0.4 Nm .. 1.2 Nm

Max. speed
Max. speed 600 rpm

Max. useful load
1 kg .. 3 kg

Application example

Rotary Gripping Combination with Z-stroke for the rapid handling of workpieces

1. Miniature Rotary Actuators
2. 2-Finger Parallel Gripper MPG 20 with attachment-fingers
3. Short-stroke Module with linear direct drive
Miniature Rotary Actuator
Powerful torque motor with electric and pneumatic rotary feed-through

Area of application
For all applications with exceptional requirements in terms of achievable repeatability, rotary speed, acceleration and tool life.

Your advantages and benefits
Brushless synchronous motor with permanent magnet for maximum positioning accuracy
Integrated pneumatic and electric rotary feed-through for modest space requirements and minimized interfering contours
Large number of pole pairs for a powerful torque even at low speeds
Special motor geometry for superior dynamics and acceleration
Virtually no wearing parts for a highly reliable system with long service life
EcoDrive CS drive system with various standard communication interfaces for easy integration and start-up (Simodrive system available on request)

Information about the series
Drive
3-phase, electronically commutated AC synchronous motor. The primary part (stator) is a 3-phase Cu coil, the secondary part (rotor) is an iron support with integrated permanent magnet
Measuring system
Non-contact, optical incremental measuring system with extremely high resolution and integrated reference track with reference mark
Media feed-through
4 electric (max. 60 V / 1 A)
2 pneumatic (max. 8 bar)
Bearing arrangement
Preloaded precision ball bearings, free from play, with life-time lubrication

Material
Anodized motor housing, hard-coated rotary table
Operating temperature
From 10 °C to 40 °C
Accessories
EcoDrive CS controllers from Rexroth (other manufacturers on request) Ready-made cable sets in various lengths
Scope of delivery
Centering sleeves, assembly and operating manual with manufacturer’s declaration
Warranty
24 months
Function

1. **Housing**
   - Anodized, double-sided mating flange surface with centering rings

2. **Rotary table**
   - With centering collar

3. **Input rotary transmission leadthrough**
   - (4x) electrical and (2x) pneumatic

4. **Motorplug**

5. **Connection incremental optical rotary encoder**

6. **Output rotary transmission leadthrough**
   - (4x) electrically pluggable and (2x) pneumatic

**Function description**

The unit is driven by a 3-phase brushless synchronous motor with permanent magnet. Mechanical transmission elements such as gears can be completely eliminated. The high positioning accuracy is achieved by means of an incremental, optical shaft encoder with reference mark.

**Options and special information**

An electric and pneumatic rotary feed-through is integrated as special equipment.
Repeat accuracy is defined as the spread of the target position after 100 consecutive positioning cycles. The target position remains unchanged during these cycles, and is always approached from the same direction.

For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the „Accessories“ catalog section.

General information on the series

Repeat accuracy
Repeat accuracy is defined as the spread of the target position after 100 consecutive positioning cycles. The target position remains unchanged during these cycles, and is always approached from the same direction.