JOCCOS MRHQ16D-90S

JOCCOS MRHQ16D-90S Pneumatic Rotating Clamping Finger Cylinder User Manual

Model: MRHQ16D-90S | Brand: JOCCOS

1. Introduction

This manual provides essential information for the safe and efficient operation, installation, and maintenance of the JOCCOS MRHQ16D-90S Pneumatic Rotating Clamping Finger Cylinder. Please read this manual thoroughly before using the product and retain it for future reference.
The MRHQ16D-90S is a single-action pneumatic cylinder designed for clamping and rotating applications, featuring a pneumatic buffer and magnetic sensing capabilities. It is part of the MRHQ series of rotating claw type clamping fingers.

2. Safety Information

WARNING: Failure to follow these safety instructions may result in serious injury or equipment damage.

- Ensure all pneumatic connections are secure and free from leaks before applying pressure.
- Always depressurize the system before performing any maintenance or adjustments.
- Do not exceed the maximum operating pressure specified for the cylinder.
- Wear appropriate personal protective equipment (PPE) during installation, operation, and maintenance.
- Keep hands and other body parts clear of moving parts during operation.
- Only qualified personnel should install, operate, and maintain this equipment.

3. Product Overview

The JOCCOS MRHQ16D-90S is a compact and robust pneumatic rotating clamping finger cylinder. It is designed for precise gripping and rotational movements in automated systems.

Figure 3.1: Front view of the MRHQ16D-90S cylinder, showing the clamping fingers and rotational mechanism.

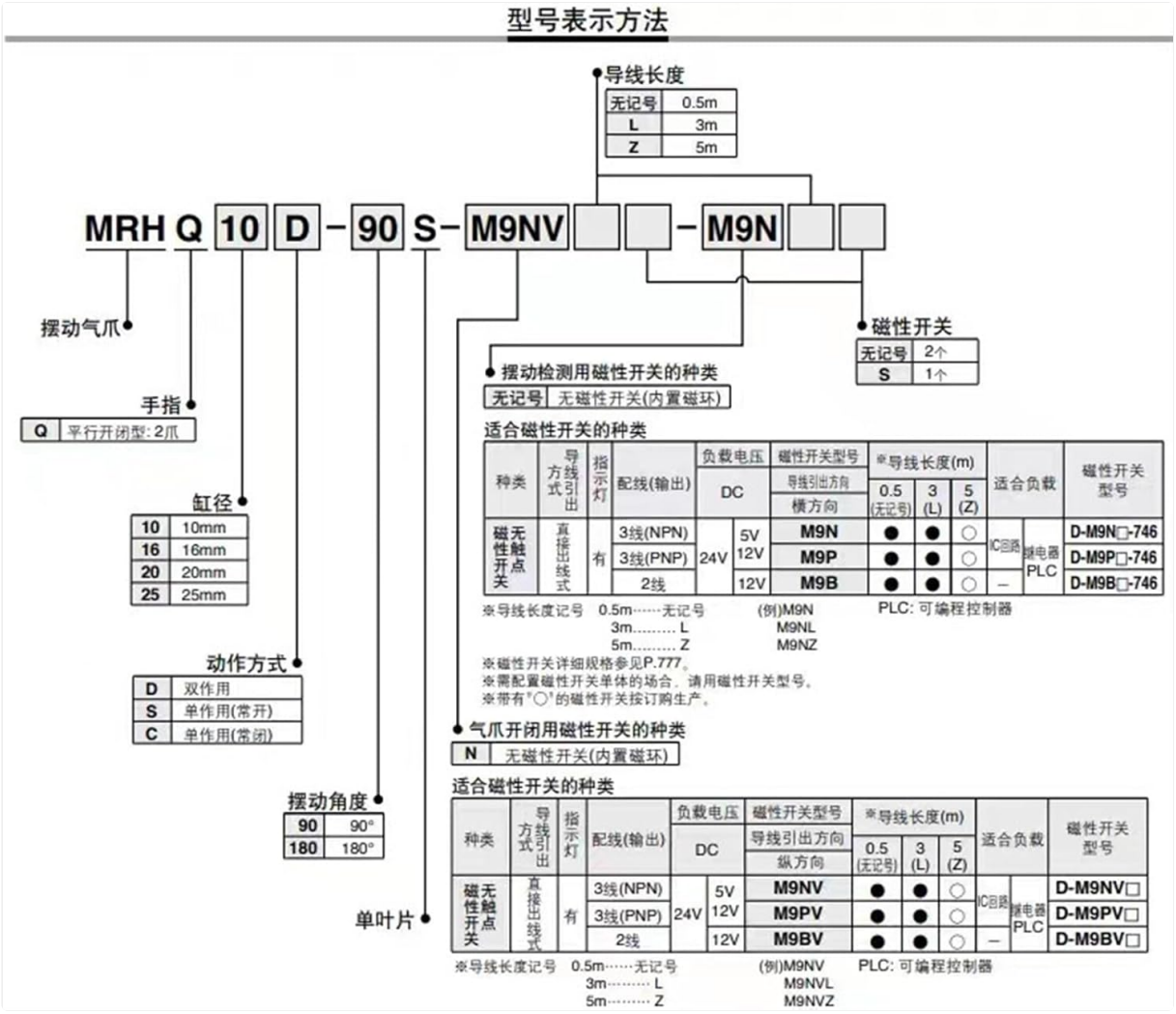

Figure 3.2: Diagram illustrating the model numbering system for the MRHQ series, including details on bore size, action type, rotation angle, and magnetic switch options. This diagram provides a comprehensive breakdown of how different model variations are designated based on their features.

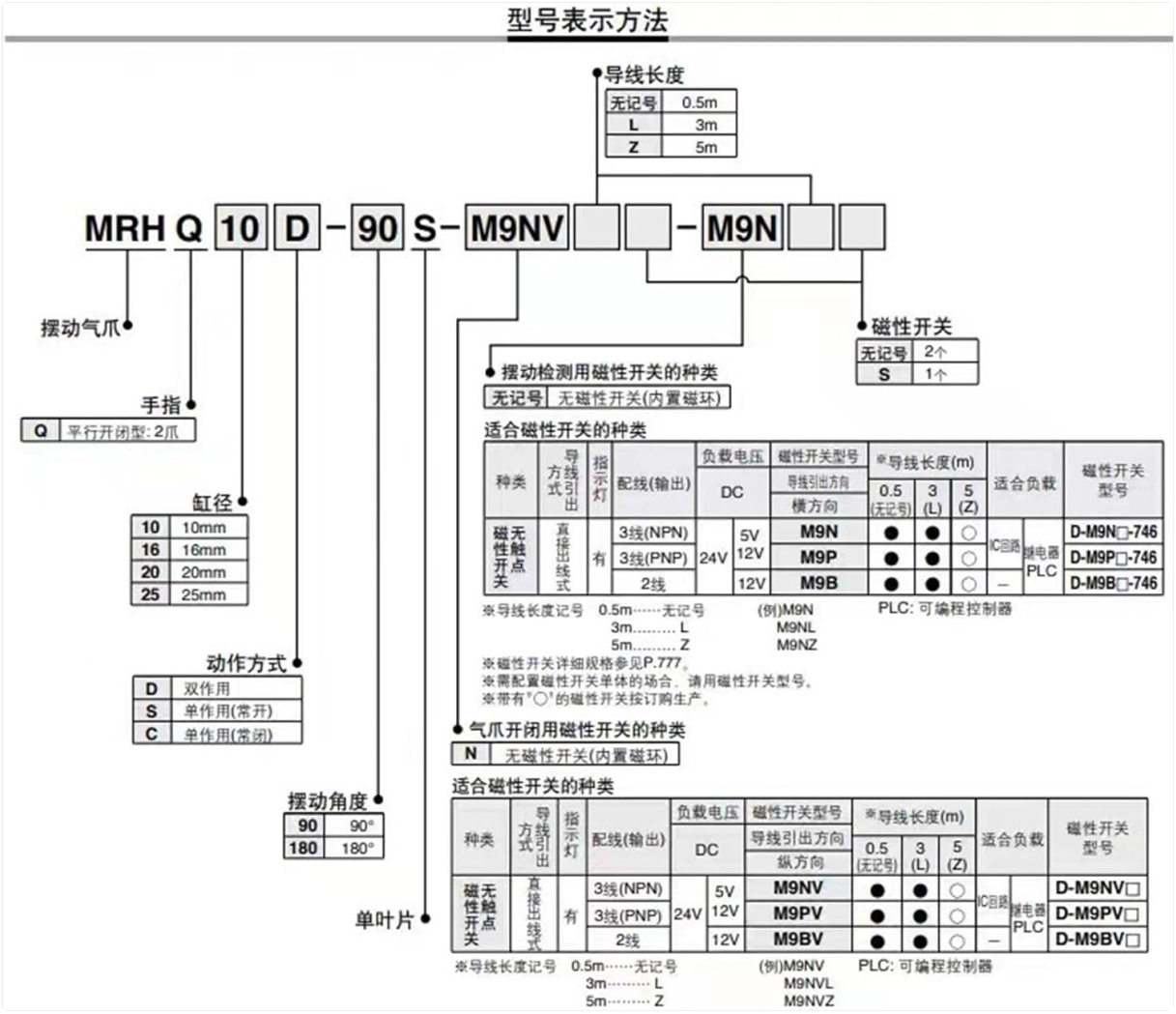

Figure 3.3: Side view of the MRHQ16D-90S cylinder, highlighting the pneumatic ports and mounting points.

Figure 3.4: Rear view of the MRHQ16D-90S cylinder, showing additional mounting features and structural details.

Figure 3.5: Top view of the MRHQ16D-90S cylinder, illustrating the clamping finger mechanism and rotation scale.

Figure 3.6: Bottom view of the MRHQ16D-90S cylinder, showing the base and additional connection points.

4. Specifications

Feature	Detail
Model	MRHQ16D-90S
Type	Pneumatic Rotating Clamping Finger Cylinder
Action Mode	Single Action
Rotation Direction	Left and Right Rotation
Buffer Form	Pneumatic Buffer
Magnetism	Yes
Connection Form	1
Package Dimensions	1.18 x 0.79 x 0.39 inches
Item Weight	1.76 ounces
Manufacturer	JOCCOS

5. Setup and Installation

Proper installation is crucial for the optimal performance and longevity of the cylinder. Follow these steps carefully:

1. **Mounting:** Securely mount the cylinder to a stable surface using appropriate fasteners. Ensure the mounting surface is flat and rigid to prevent misalignment or stress on the cylinder. Refer to the product diagram for mounting hole locations.
2. **Pneumatic Connections:** Connect the air supply lines to the designated pneumatic ports. Ensure all connections are tight and sealed to prevent air leakage. Use appropriate thread sealant if necessary.
3. **Air Quality:** Ensure the compressed air supply is clean, dry, and filtered to prevent contamination and damage to internal components. An air filter, regulator, and lubricator (FRL unit) are recommended upstream of the cylinder.
4. **Magnetic Switch Installation (Optional):** If using magnetic switches for position sensing, install them according to the manufacturer's instructions. Ensure they are correctly positioned to detect the desired stroke endpoints.
5. **Initial Check:** Before applying full operating pressure, perform a low-pressure test to check for leaks and proper movement of the clamping fingers and rotation.

6. Operating Instructions

The MRHQ16D-90S cylinder operates by pneumatic pressure to achieve clamping and rotational movements. As a single-action cylinder, it typically uses air pressure for one direction of movement (e.g., clamping or rotating) and a spring return or external force for the other.

- **Air Pressure:** Apply regulated air pressure to the appropriate port to actuate the cylinder. The operating pressure range should be within the cylinder's specifications.
- **Clamping Action:** When air is supplied, the clamping fingers will move to grip the workpiece. Ensure the workpiece is correctly positioned before clamping.
- **Rotational Action:** The cylinder provides left and right rotational movement. The specific port for

rotation control will determine the direction.

- **Speed Adjustment:** If equipped with speed control valves, adjust them gradually to achieve the desired clamping and rotational speed. Avoid excessively fast movements that could cause impact damage.
- **Emergency Stop:** Familiarize yourself with the system's emergency stop procedures to quickly de-energize the pneumatic supply in case of malfunction or hazard.

7. Maintenance

Regular maintenance ensures the longevity and reliable performance of your pneumatic cylinder.

- **Daily Checks:**
  - Inspect for air leaks at connections and seals.
  - Check for smooth operation of the clamping fingers and rotation.
  - Verify that mounting bolts are secure.
- **Weekly Checks:**
  - Clean the exterior of the cylinder to prevent accumulation of dust and debris.
  - Check for any signs of wear or damage on the cylinder body or fingers.
- **Periodic Lubrication:** If the system includes a lubricator, ensure it is adequately filled with the recommended pneumatic oil. If not, consult the system designer for appropriate lubrication intervals and methods.
- **Seal Replacement:** Over time, seals may wear out. If excessive leakage or reduced performance is observed, seals may need replacement. This should be performed by qualified personnel.
- **Storage:** If storing the cylinder for an extended period, ensure it is clean, depressurized, and stored in a dry, dust-free environment.

8. Troubleshooting

This section addresses common issues you might encounter with the MRHQ16D-90S cylinder.

Problem	Possible Cause	Solution
Cylinder does not move or moves slowly.	• Insufficient air pressure. • Air leaks in the system. • Blocked air lines or ports. • Internal friction or damage.	• Check and adjust air supply pressure. • Inspect all connections for leaks and tighten. • Check air lines and ports for obstructions. • Inspect cylinder for damage; contact support if necessary.
Air leakage from cylinder.	• Loose pneumatic fittings. • Worn or damaged seals.	• Tighten all pneumatic connections. • Replace worn seals (requires disassembly by qualified personnel).
Inconsistent or jerky movement.	• Irregular air supply. • Lack of lubrication. • Misalignment or binding.	• Ensure stable air pressure and flow. • Check lubricator level or apply appropriate lubrication. • Verify mounting and alignment; correct if necessary.

9. Warranty and Support

For warranty information or technical support, please contact your supplier or the manufacturer, JOCCOS. Keep your purchase receipt and product model number (MRHQ16D-90S) readily available when seeking assistance.
Manufacturer: JOCCOS