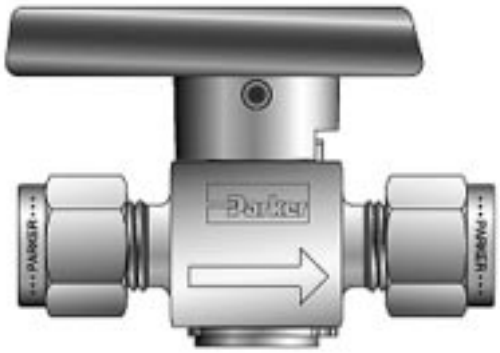
Maintenance Instructions

MI-130 Revision -

PR Series Rotary Plug Valve



MAXIMUM WORKING PRESSURE AND TEMPERATURE

Seal Material	Maximum Pressure Rating	Maximum Pressure @ Maximum Temperature
Fluorocarbon	3000 psig at 70 °F 20.7 MPa at 21 °C	2000 psig at 450 °F 13.8 MPa at 232 °C
EPR	3000 psig at 70 °F 20.7 MPa at 21 °C	2500 psig at 275 °F 17.2 MPa at 204 °C
Buna-N	3000 psig at 70 °F 20.7 MPa at 21 °C	2600 psig at 225 °F 17.9 MPa at 107 °C

* For flow in the opposite direction of the normal flow or the By-Pass option, the Maximum Pressure Rating is 250 psig (1.7 MPa).

Always consult your authorized Parker representative if questions arise. The arrow on the Valve Handle indicates the normal direction of flow.

Parker Hannifin Corporation
Instrumentation Valve Division
Jacksonville, Alabama

Figure 1: PR Series Rotary Plug Valve Cross Sectional View

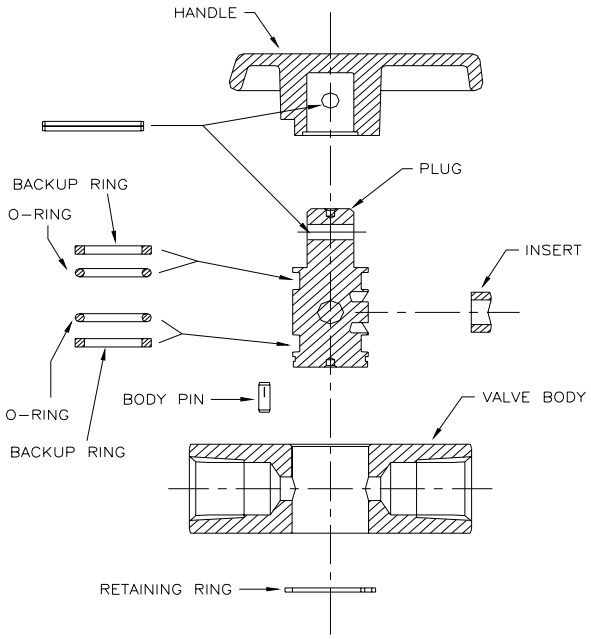


Figure 2: PR Series Rotating Plug Valve Exploded View

DISASSEMBLY

WARNING: MAKE CERTAIN THE SYSTEM IN WHICH THE VALVE IS INSTALLED IS DRAINED AND/OR EXHAUSTED OF ALL PRESSURE BEFORE STARTING VALVE REMOVAL OR DISASSEMBLY. FAILURE TO DO SO CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

1. Check that the PR Series Plug Valve Maintenance Kit being used is appropriate for the Valve's handle type, the Plug Insert material, the O-Ring and Backup ring configuration, and service requirements.
2. Remove the Retaining Ring using Industrial Retaining Ring Pliers or equivalent.
   Size 4 Valve Pliers # P-120
   Size 6 Valve Pliers # P-340
3. Turn the valve to the open position.
4. Gently remove the Plug assembly by grasping the handle and sliding the Plug assembly out the top of the Valve Body.
5. Preferable, wipe the Valve Body's internal areas to remove any contamination. The valve's interior must be completely dry before reassembly.
6. For Seals Only Kits: remove the O-Rings, Backup Rings and Insert from the Plug and discard.

REASSEMBLY

Assembled Plug Kits

1. Refer to Figure 2. Place flat side of the molded Insert into the Plug's insert cavity. Assure the contour of the Insert matches the cylindrical surface of the Plug.
2. Apply a generous amount of lubricant to the Plug, Insert, O-Ring and Backup Rings.
3. With the Plug turned in the open position carefully insert the Plug assembly into the Valve Body until the handle contacts the body.
4. Place the Retaining Ring into the groove on the Plug at the underside of the body.
5. Cycle the valve open and closed to assure the Plug is properly in place.

Seals Only Kits

1. Refer to Figure 2. Assemble one O-Ring into the O-Ring groove at the bottom of the Plug, and push it toward the top of the Plug.
2. Place one Backup ring into the same groove as the previous O-Ring. The Backup ring must be between the O-Ring and the bottom of the Plug.
3. Place the second Backup ring into the O-Ring groove next to the handle, and push toward the top of the Plug.
4. Assemble the second O-Ring into the same groove as the previous Backup ring. The backup ring should be between the O-Ring and the top of the Plug.
5. Place the flat side of the molded Insert into the Plug's insert cavity. Assure the contour of the insert matches the cylinder surface of the Plug.
6. Apply a generous amount of lubricant to the Plug, Insert, O-Ring and Back-up rings. Always consult your authorized Parker representative if questions arise.
7. With the Plug turned in the open position, carefully insert the Plug assembly into the Valve Body until the Handle contacts the body.
8. Place the Retaining ring into the groove on the Plug at the underside of the body.
9. Cycle the valve open and closed to assure the Plug is proper in place

VALVE CONNECTOR MAKE-UP INSTRUCTIONS

MALE AND FEMALE PIPE PORTS

Wrench flats are provided on the Valve Body. It is recommended a smooth- jawed wrench or vise be used to grip the Valve Body.

1. On the male threaded part of the connection, apply a high quality pipe joint compound or PTFE tape made for this purpose. When PTFE tape is used, it is recommended two full turns of tape be applied. PTFE tape should not be overhanging or covering the first thread
2. Engage the Valve and the other component part together, until hand-tight.
3. With a proper wrench, holding both the Valve and the component part, continue to tighten to achieve a leak-tight joint.

ULTRASEAL CONNECTIONS

1. Insert the proper O-Ring into the UltraSeal fitting's O-Ring groove. Position the UltraSeal gland sealing face against the O-Ring, and then advance the Nut to a finger-tight position.
2. A positive seal is obtained by advancing the Nut no less than 1/4 turn from the finger-tight position. Proper UltraSeal make-up is achieved when a sharp rise in required application torque occurs, which indicates proper seal face contact and O-Ring seal compression into the UltraSeal groove.

VACUSEAL CONNECTIONS

1. A positive seal is obtained by advancing the Nut 1/8 turn from the finger-tight position.
2. A new gasket should be installed upon each fitting re-make to insure system pressure integrity.

TUBE FITTING CONNECTIONS

1. Insert the tube into the Valve port until the tube bottoms out in the Valve Body. Care should be exercised to insure the tube is properly aligned with the Valve Body and port.
2. Normal make-up for US Customary port sizes 1 thru 3 (1/16 thru 3/16 inch) and SI port sizes 2 thru 4 (2 thru 4 mm) is 3/4 turn from finger tight. Normal make-up for US Customary port sizes 4 thru 16 (1/4 thru 1 inch) and SI port sizes 5 thru 25 (5 thru 25 mm) is 1 1/4 turn from finger tight. For larger port sizes consult Parker Ferrule Presetting Tool Instructions.

PLEASE FOLLOW THE ABOVE DIRECTIONS FOR COUNTING THE NUMBER OF TURNS FOR PROPER FITTING MAKE-UP. DO NOT MAKE-UP TUBE FITTINGS BY TORQUE OR "FEEL". VARIABLES SUCH AS TUBING AND FITTING TOLERANCES, TUBE WALL THICKNESS, AND THE LUBRICITY OF NUT LUBRICANTS CAN RESULT IN AN IMPROPERLY ASSEMBLED TUBE FITTING CONNECTION.

A -Two ferrule A-LOK® compression port

Z -Single ferrule CPI™ compression port

F -ANSI/ASME B1.20.1 Internal pipe threads

V -VacuSeal face seal port

Q -UltraSeal face seal port

M -ANSI/ASME B1.20.1 External pipe threads

WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

ALL PARKER VALVES MUST PASS A RIGID OPERATIONAL AND LEAKAGE TEST BEFORE LEAVING THE FACTORY. IT IS RECOMMENDED AFTER ANY REASSEMBLY, THE VALVE SHOULD BE TESTED BY THE USER FOR OPERATION AND LEAKAGE. IF THESE INSTRUCTIONS ARE NOT FULLY COMPLIED WITH, THE REPAIRED PRODUCT MAY FAIL AND CAUSE DAMAGE TO PROPERTY OR INJURY TO PERSONS. PARKER HANNIFIN CANNOT ASSUME RESPONSIBILITY FOR PERFORMANCE OF A CUSTOMER SERVICED VALVE.

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