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I & M JRPHH Series

Installation & Maintenance Instructions for JRPHH Series High Pressure Piston Sensed Pressure Reducing Regulators

Warning: Low Flow Regulators must only be used, installed and repaired in accordance with these Installation & Maintenance Instructions. Observe all applicable public and company codes and regulations. In the event of leakage or other malfunction, call a qualified service person; continued operation may cause system failure or a general hazard. Before servicing any valve, disconnect, shut off, or bypass all pressurized fluid. Before disassembling a valve, be sure to release all spring tension.

Please read these instructions carefully!

Your LowFlow/Jordan product will provide you with long, trouble-free service if it is correctly installed and maintained. Spending a few minutes now reading these instructions can save hours of trouble and downtime later. When making repairs, use only genuine LowFlow Valve parts, available for immediate shipment from the factory.

General

LowFlow Valve's pressure reducing regulators are designed to take a high pressure source and supply a reduced controlled pressure to a system. A back pressure regulator will prevent over pressurization by venting off media from a system if pressure increases above a desired set pressure. A piston is utilized to sense the regulator control pressures, which can be up to 15000 psig.

Regulator Activation Methods

These activation methods are utilized to allow the operator to set the force that determines the control pressure of the regulator.

1. **Hand Knob:** the hand knob turns a screw that applies load through a spring to the piston to determine set pressure.
2. **Dome Load:** Media pressure is applied to a dome above the piston at the desired control pressure. This dome pressure is normally supplied by a second regulator called a pilot regulator.
3. **Combo Dome and Spring Load (Bias Pressure):** By adding the spring load to the dome pressure, a control pressure above dome pressure is obtained. This allows the operating pressure to be an increment above a reference pressure that is being tracked.
4. **Air Actuated (Multiplier):** Operating Pressure is controlled by a pilot pressure (0-100 psig) applied to a large diameter actuator resulting in full pressure range control of up to 15,000 psig.

Proper Component Selection

Caution! Assure that the materials of construction of regulators and all other components of the fluid handling system are compatible with the fluids used, and that entire system has proper pressure rating. Failure to do so can cause system damage, serious injury, and/or property damage.

It is the responsibility of the user to assure that system media is compatible with all materials of construction. The materials of construction, activation method, and pressure rating are controlled by the part number (engineering drawing) assigned. Information for your exact product (repair kit PNs) can be obtained directly from LowFlow Valve or your local representative. Be sure to have your complete part number available. LowFlow Valve has chosen to provide complete subassemblies in the repair kits where special tools may be required for repair.

Operation

LowFlow Valve's regulators will operate with any gaseous or liquid media compatible with the wetted materials. Some units include internal filters that are only designed to stop random particles resulting from installation. A product with a filter should only be used with gaseous media. An upstream filter is recommended for the system. Gaseous media should be free of excessive moisture to prevent icing within the regulator at high flow rates.

Caution! A regulator is not intended to be used as a shutoff device. When not in use, the inlet supply should be turned off. As a safety precaution, a pressure relief device should be installed downstream of the regulator.

Maintenance and Repair

These operations may be best performed with the regulator removed from the line. If this is not possible, some work may be done with the unit in line. Assure that media supply has been shut off all pressures vented from body and dome before loosening fittings or disassembling unit.

Disassembly

1. Clamp regulator in vise by flats (if provided) or by sides of body. Turn hand knob/adjusting screw counterclockwise (ccw) to remove spring load on piston
2. Remove upper portion of the regulator (bonnet of dome). Upper portion or regulator may include load spring, spring button, piston and housing, etc. Review drawing to ensure all parts and sequence of parts have been disassembled.
3. Remove valve module or seat retainer by turning ccw until it is free from the body. Some valve modules require special tool to disassemble, consequently LowFlow Valve has included complete subassemblies of some pistons and valve modules (refer to drawings) for ease of repair.

Reassembly

Reassemble the regulators in reverse order of disassembly referring to the drawings/instructions provided for correct sequence/placement of parts and correct torque specifications.

1. Inspect all parts for wear/damage and replace if needed.
2. All parts should be cleaned to the level required for safe operation with the media and system being used. All parts in the flow stream should be free of particulate that could prevent proper sealing of the valves and seals.
3. Apply a thin uniform coat of fluorocarbon grease to the following: indentation of spring button, threaded portion of adjusting screw, bonnet/dome to body thread, all o-rings, all threads internal to the regulator. Note: Do not apply any type of grease to the inlet/outlet/gauge port threads.
4. If valve module is disassembled, seats must be installed with chamber towards the valve stem.
5. The valve module can now be reinstalled into the body and torqued as required.
6. The piston/piston housing should now be installed. O-rings and back-up rings that are external to the piston/piston housing should be placed in the body before the piston/piston/housing is installed. O-rings should always be installed before the back-up rings.
7. The bonnet/dome can now be attached to the body. First, load all loose parts into bonnet/dome and hold in one hand. Take body in other hand and tilt at approx. 45 degrees and tip bonnet over body and thread together hand tight. Then place unit to vice to torque to correct specification. See drawing.
8. Many PRR's have a self venting feature either adjustable or fixed. All fixed venting units will be properly set with installation of repair kit parts. Units with adjustable venting are preset at factory at final test and should not require adjustment. If adjustment is needed, follow these steps after unit is installed in system.
   a.) Remove hole plug in center of hand knob to uncover vent adjusting screw.
   b.) Turn hand knob cw to obtain 20 to 30 psi on downstream side.
   c.) Turn vent adjusting screw cw until media is heard escaping through vent valve.
   d.) Turn screw ccw until media flow stops, plus one half turn. Replace hole plug.

Caution! After regulator has been reassembled, it is recommended to connect it to a pressure source of media compatible with a system and pressurize it to check for external and internal leakage and operating characteristics.

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