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**INSTRUCTIONS SHEET
MODEL PRH09i-300FLG**

**300# FLG PRESSURE
REDUCING REGULATOR**

Model PRH09i-300FLG

Pressure Reducing Regulator

Applications

This is a direct-acting pressure-reducing regulator with an adjustable spring operating against a modulating piston that is subjected to the reduced outlet pressure of the valve.

This valve can be used for water, air, gases, chemicals, solvents, and other fluids. For optimal operation, only clean, filtered, or strained liquids and gases should be used. A strainer or filter, depending on the degree of contamination, should be installed before the inlet of the valve. Strainers and filters can be purchased from Stra-Val to provide some degree of protection. Unlike unbalanced pressure-reducing valves, this valves feature a balanced inlet design. It performs well in applications where the inlet pressure fluctuates widely, having minimal effect on the outlet pressure.

This valve should not be used as a shutoff valve. If the valve is expected to be dead ended (i.e., no flow passing through the valve) for prolonged periods, the inlet pressure should be shut off, or a relief valve should be installed on the outlet side of the valve to prevent excessive pressure buildup.

Options

You can customize your valve by selecting the valve size, spring range, and material options in the ordering section indicated in the dropdown menu. Soft seats are available for improved shutoff, especially for air or gas applications. Once these selections are made, a price quote can be generated and printed directly to your computer or emailed to you. If you wish to order the valve in exotic materials, you can request this directly through the website or send an email, and we will generate a customized quote for you.

Principle of Operation

This valve operates by balancing the spring force, set by the user, against the outlet pressure acting under the piston. There is an internal pressure-balancing port that subjects the outlet pressure directly to the underside of the large piston. When the outlet pressure falls below the set pressure required by the system, the spring force overcomes the force balance under the top piston. This causes the entire piston assembly to move down, opening the valve and allowing higher pressure from the valve's inlet to pass through. When the outlet pressure rises to the desired level, the force balance is restored against the spring, and the valve moves toward the closed position.

The valve is fully self-regulating, and the piston constantly moves in response to pressure changes on the outlet side. The only time the piston closes completely is when the outlet pressure has reached its set point. If the valve can shut off properly without solids or other materials building up in the seat, or due to seat wear, the valve will maintain the outlet pressure and prevent it from rising above the set pressure.

If the valve is set with no flow passing through the system initially, there will be some droop (a drop in outlet pressure) caused by the relaxation of the spring when the valve first opens. This is typical for all direct-spring operated valves and can be compensated by making a slight adjustment to the set pressure once the desired capacity has been achieved.

Maintenance and Repair

Annual maintenance is recommended, especially when the valve is subjected to heavy cycling or chemical applications that may wear out or dry up the seals. At the time of order, you can purchase an additional set of seals for routine maintenance or emergencies. Otherwise, seals can be ordered from us at any time.

To disassemble and service the valve, it is not necessary to remove the valve from the piping, although it may be more convenient to work on the valve at a bench with a vise.

1. Decompress the spring force by turning the set screw counterclockwise.
2. Unscrew the spring chamber and the bottom plug.
3. To disassemble the two pistons, for a metal seated valve, secure the valve, hold the top piston in a vice, then unscrew the bottom piston using a flathead screwdriver on the center flat. When the pistons are separated, replace the dynamic seals on each piston accordingly. The bottom plug's seal is static, but it can also be replaced as part of a full refurbishment.
4. If the metal seat is damaged, lap it against the body seat using lapping compound.
5. For soft-seated valves, special assembly is required. We recommend sending the valve back for service to prevent hardware damage.

When reassembling, inspect the top piston for any scoring. If visible, clean with a Scotch-Brite pad before installing new seals. Ensure proper lubrication with a lubricant that is compatible with the used elastomers. Reassemble in reverse order.

Schematics:

