OPERATING INSTRUCTIONS

MODEL PRS-05 THD

PRESSURE REDUCING VALVE

PRINCIPLE OF OPERATION

Steam or other fluid passing through the valve enters through the inlet port, through the valve seat formed by main valve and seat and finally through the outlet port. Outlet pressure is sensed by the underside of the diaphragm through a vertical port, which connects with the outlet port. Pressure regulation is achieved when a force balance is maintained between the pressure acting on the underside of the diaphragm and the spring force, which is adjusted to hold a particular outlet pressure. If the outlet pressure is below the set point as preset bye the adjusting spring the spring force overcomes the pressure force acting on the underside of the diaphragm, which causes the main valve to open thereby admitting higher inlet pressure fluid to raise the outlet pressure until the force balance is restored. As soon as the outlet pressure is restored, the main valve begins to close to limit the amount of higher inlet pressure fluid passing through the valve.

OPERATING INSTRUCTIONS

If the valve has not been ordered preset to a specific outlet pressure, simply adjust the spring compression by loosening the lock nut and turn the adjusting screw

clockwise to increase the spring compression. This will increase the outlet pressure. Similarly, turning the screw counterclockwise will reduce the spring compression and correspondingly reduce the outlet pressure.

DISASSEMBLY/ASSEMBLY INSTRUCTIONS:

If the regulator fails to maintain the proper outlet pressure, there could be a number of probable causes as follows: internal clogging of foreign objects or material, sediment, rust, etc. In the valve seat area, sensing port, diaphragm cavity and valve spring cavity which houses spring. If this condition appears frequently a strainer installed at the inlet side of the valve is recommended.

If disassembly is required make sure the valve piping is not under pressure and sufficiently cooled of for operating personnel to handle. To disassemble the valve, it is not necessary to remove the valve from the piping, although it may be more convenient to work on the valve on a bench with a vise. Unscrew the spring chamber with a wrench.

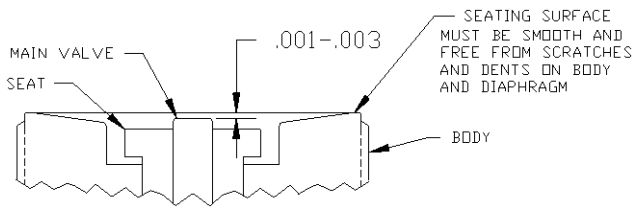
Inspect the diaphragm 12), replace if corroded or deformed. Sealing area of the diaphragm should be free from nicks or other indentations otherwise external leakage could occur. No gasket is otherwise required in this area. If excessive permanent deformation exists in the diaphragm, this could be an indication that the outlet pressure is too high for the rated pressure of the diaphragm. A thicker diaphragm may be required for the particular service used. Another reason could be that the valve seat or the static seal between the seat (8) and the body (10) is not effective. This could be from corrosion, or simply that the seat has not been screwed in tight enough for a metal seal to occur.

Examine the main valve and seat for excessive wear particularly in the valve seat area. If excessive replace with new parts, otherwise parts may be restored by re-machining and re-lapping with a fine lapping compound such as 600 or 800 grit. Replace internal valve spring if corroded.

Reassemble valve in the same sequence, as disassembled, making sure the seat has been screwed in very tight. Before reassembling the spring chamber and related parts, check for the proper protrusion of the main valve above the seat as shown in the illustration below.

The proper gap between the underside of the diaphragm and top of the valve stem should be as indicated in the diagram. This can be checked with an accurate straight edge and a feeler gauge. If the valve stem protrudes too far above, remove the excess by ringing or filing until the proper gap is achieved.

NOTE: When the outlet pressure must be maintained at a specific value where excessive pressure may damage equipment, a relief valve must be installed on the outlet side of the regulator.

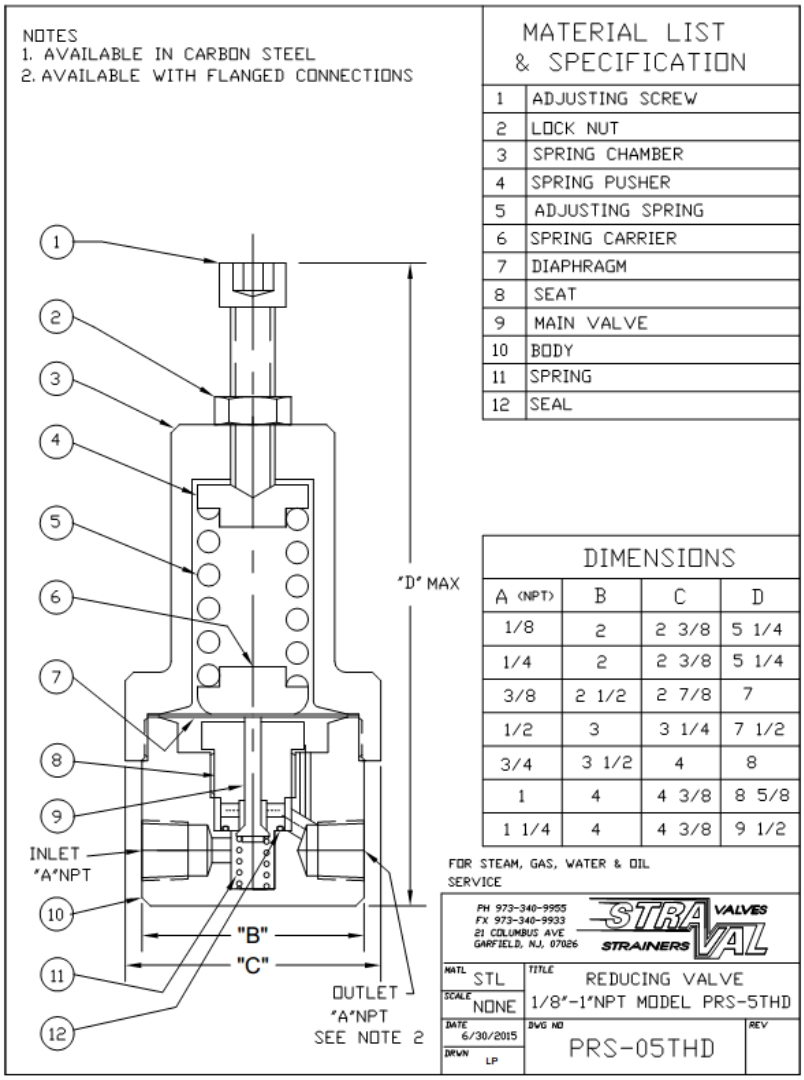


Phone: 973-340-9955 Fax: 973-340-9933
http://www.straval.com Email: sales@straval.com

OPERATING INSTRUCTIONS
MODEL PRS-05 THD
PRESSURE REDUCING VALVE

Reassemble the spring chamber making sure the diaphragm is properly located in its counterbore diameter in the spring chamber, otherwise proper sealing is not achieved. One technique to make sure the diaphragm stays seated in the spring chamber counterbore during assembly is to place the spring chamber upside down with gravity keeping the spring hardware in place. The body also in the upside down position can now be carefully screwed into the spring chamber with the diaphragm properly located. The spring chamber must be tightened with an adequate sized wrench and tightened securely to achieve an adequate metal seal. If leakage occurs, retighten the spring chamber until the leakage stops. If leakage still persists and the diaphragm is properly seated, the only possibility left is a damaged seating surface on the body such as scratches or nicks, or scratches or defects in the diaphragm seating surface area.

After the valve is properly assembled, reset the adjusting screw until the desired outlet pressure is achieved at the flow rage the valve will be operating, then tighten the adjusting screw lock nut. Note that some valves depending on the droop characteristic may require readjustment of the spring setting for wide ranges in flows, or where large changes in inlet pressure occur. Consult factory for application assistance if a different valve is required.



Phone: 973-340-9955 Fax: 973-340-9933
http://www.straval.com Email: sales@straval.com