

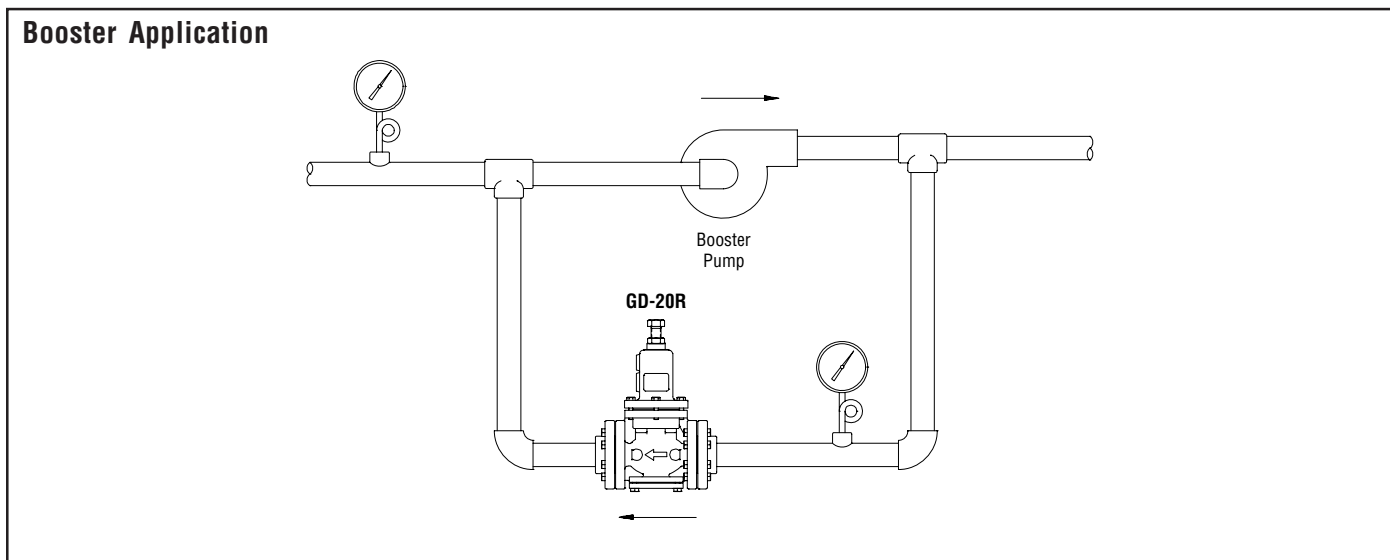
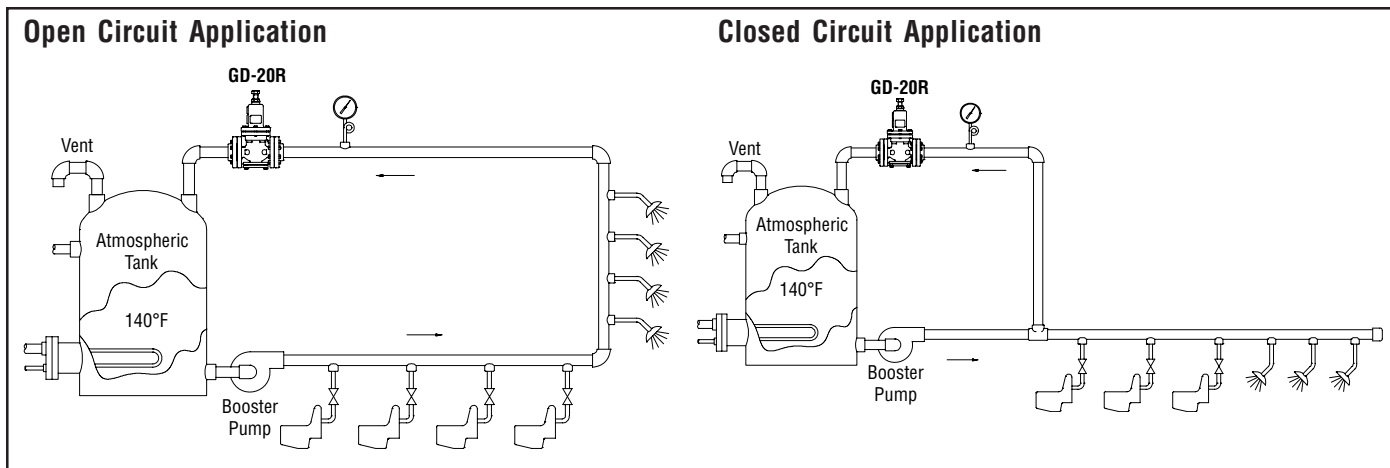


Model GD-20R

Back Pressure Valve for Liquid Service

Installation and Maintenance Instructions

Typical Installations:



This bulletin should be used by experienced personnel as a guide to the installation of the Model GD-20R Back Pressure Valve. Selection or installation of equipment should always be accompanied by competent technical assistance. You are encouraged to contact Armstrong International, Inc. or its local representative for additional information.

Installation Instructions

1. A basket strainer is recommended before the back-pressure valve to reduce the chance of contamination or dirt fouling.
2. Before installing the back-pressure regulating valve, be sure to blow out the pipe line, removing all dirt, pipe scale, chips, etc.
3. Pressure gauges should be installed before the back-pressure valve. Note: pressure gauges should be installed before and after the back-pressure valve on a booster application.
4. Install tight closing valves before and after the back-pressure valve to isolate valve when needed.
5. To prevent air troubles, be sure to install an air vent at air pockets.
6. Piping a by-pass line with a globe valve around the back-pressure valve will allow system operation while the back-pressure valve is being serviced.

Adjustment Procedures

1. Close the isolation valves before and after the back-pressure valve and remove all foreign matter and contaminant via the by-pass line or other path to drain before operation.
2. When adjusting pressure, loosen the lock nut and slowly turn the adjusting screw to prevent hunting, water-hammer, etc., resulting in damage to the valve and other equipment.
3. Regulation should be made while there is flow.
4. To increase initial setting pressure, loosen the lock nut and turn the adjusting screw clock-wise. To decrease the setting pressure, turn the adjusting screw counter-clockwise.
5. For larger sizes, 2 1/2" - 6", adjust the opening of the needle valve on the conductor pipe to prevent fluctuation in the secondary pressure due to an air obstruction.
6. After adjustment, tighten the lock nut to assure a stable set point.

Troubleshooting Guide

Problem	Causes	Solutions
Pressure before the valve fluctuates	The setting is wrong	Check the setting pressure
	The valve size is wrong	Check the size selection
	The strainer is clogged	Disassemble and clean the strainer
	The pressure gauge is out of order	Replace the defective pressure gauge
Leakage is evident	The valve (disc) and the valve seat are contaminated by foreign matter or have defect	Disassemble and clean the valve body and valve seat. If flaw is evident--replace.
	The diaphragm or the O-ring(s) have a flaw	Replace the diaphragm, or the O-ring(s) as needed
Abnormal noise is heard	Air trouble	Install an air vent at air pocket
	Valve is oversized	Change the size to the correct size

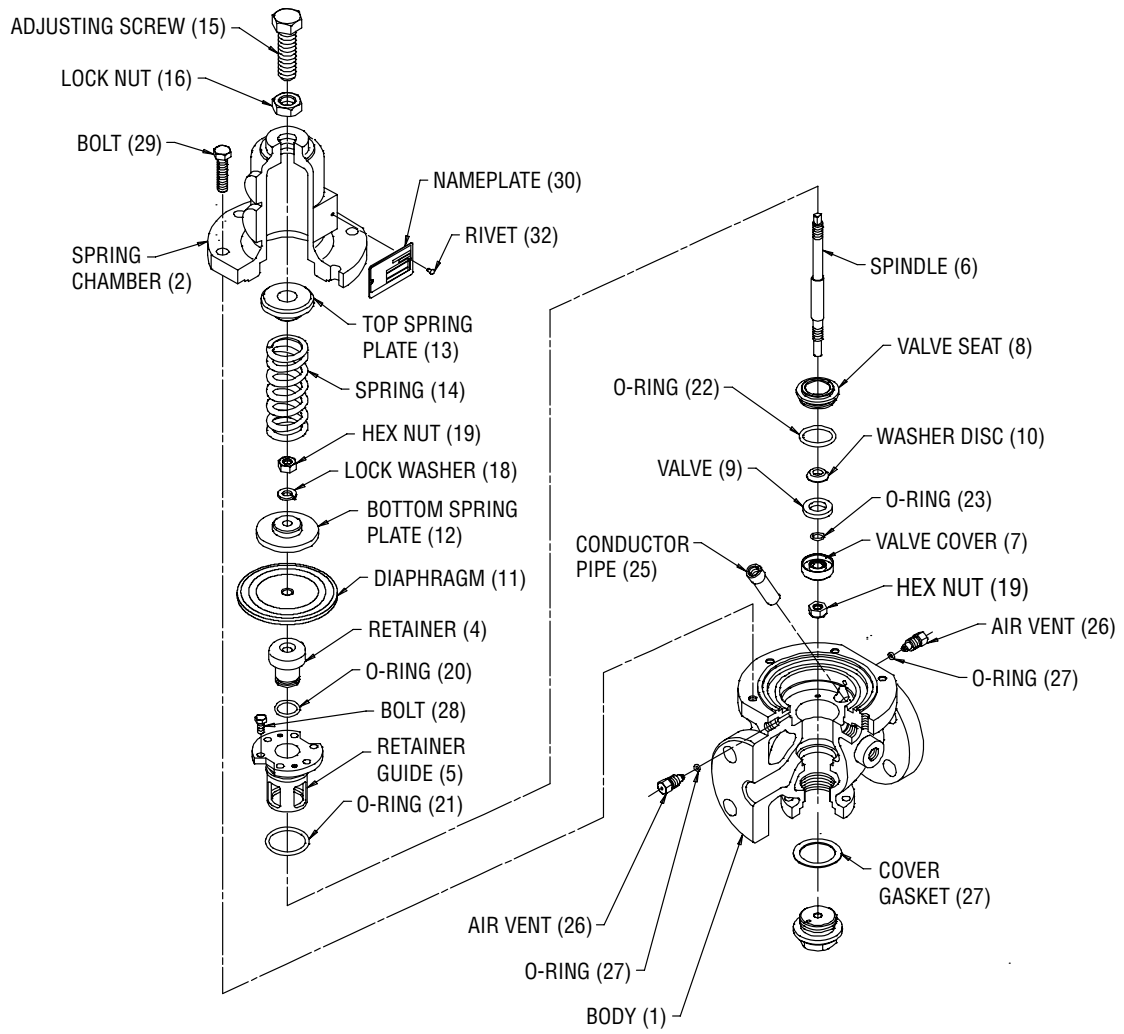
Disassembly

1. Relieve the pipe pressure completely and make sure there is zero pressure.
2. To remove the spring housing, loosen the lock nut and turn the adjusting screw counterclockwise until the load of the adjusting spring is relaxed. (Unload the spring)
3. To remove the diaphragm, hold the spindle and remove the hex nut.
4. To remove the valve, disc and the spindle, loosen and remove the retainer guide clamping bolt and pull the retainer guide.

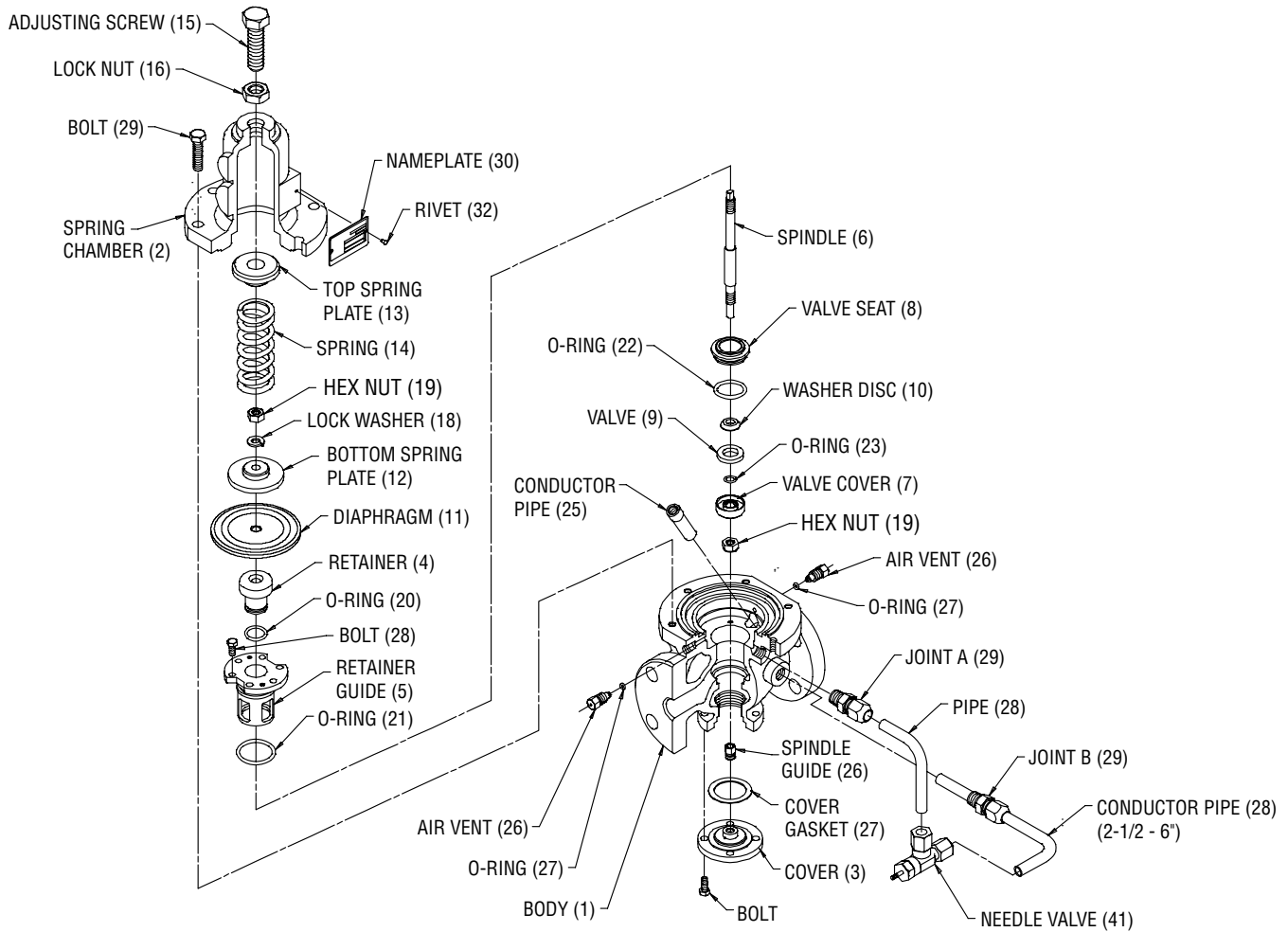
Reassembly

1. Make sure that the diaphragm, valve seat and valve have no flaws.
2. Reassemble the valve in the reverse way of disassembly. However, make sure that the O-ring(s) are installed prior to greasing.
3. After confirming there are no flaws on the O-ring(s), apply silicone grease to the O-ring(s).
4. Install the spring chamber after confirming whether the border of the diaphragm is properly fitted into the groove of the body.

GD-20R 1/2" - 2"



GD-20R 2-1/2" - 6"



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