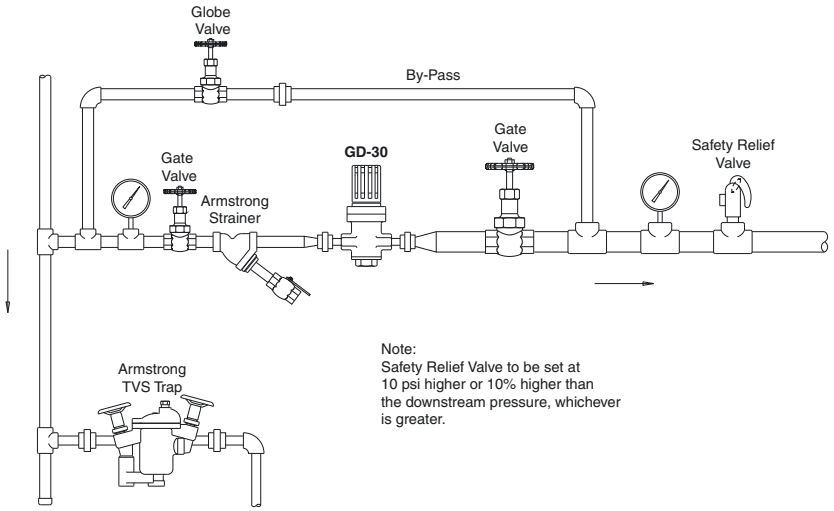
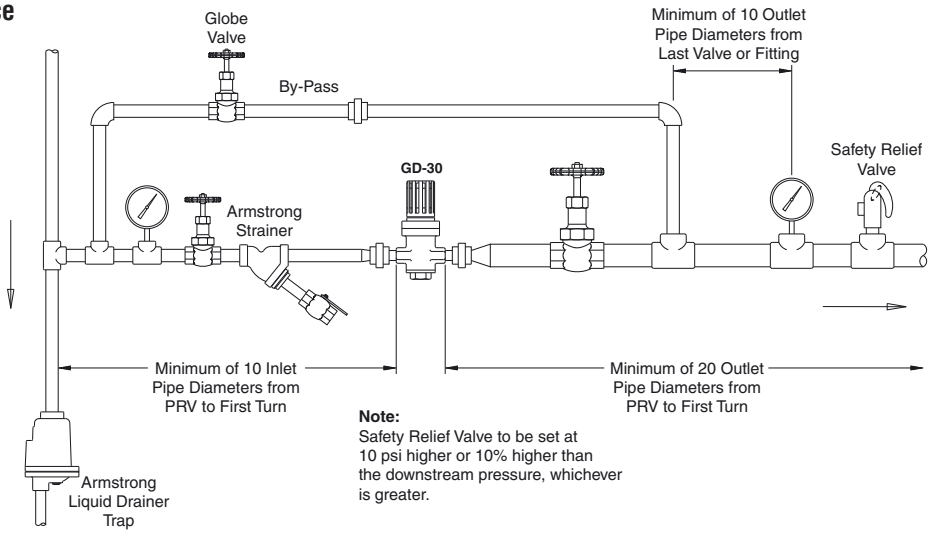
Model GD-30, GD-30S
Pressure Reducing Valve
Installation and Maintenance Instructions

Installation for Steam Service



Installation for Air Service



This bulletin should be used by experienced personnel as a guide to the installation of the Model GD-30 and GD-30S Pressure Reducing 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. An Armstrong Inverted Bucket Steam Trap is recommended to drain condensate at the inlet of the Pressure Reducing Valve (PRV). A Liquid Drainer is recommended for air service.
2. An Armstrong Y-Strainer (20-100 mesh, depending on system dirt) should be installed before the PRV to reduce the chance of dirt fouling.
3. Pressure gauges should be installed before and after the PRV.
4. If system cannot be turned off to service PRV then piping a by-pass line with a high quality globe valve around the PRV will allow manual system operation while the PRV is being serviced.
5. Do not install quick opening or closing valves downstream of the PRV.
6. Install the PRV with the flow in the direction of the arrow on the body.

Start-Up and Adjustment Procedures

Improper adjustment of the pressure reducing valve may cause hunting, scale problems, water hammer, etc., and damage to the valve itself. Damaged pressure gauges, leakage or opening of a bypass valve, or clogging of an inlet strainer may cause problems similar to that of a malfunctioning reducing valve.

Adjust the valve as follows:

1. Close the gate valves before and after the pressure reducing valve. Open the globe valve slowly in the bypass line and blow down the inlet piping. Adjust the opening of the bypass valve so the safety valve does not blow. After blowing the system down, close the bypass valve.
2. Slowly open the inlet side gate valve to the fully open position, and partially open the outlet valve so only a small amount of steam or air can pass.
3. To increase the downstream pressure, place your hand on the top of the adjusting handle and pull vertically up. When in the fully up position turn the handle clockwise until the desired pressure is obtained on the downstream pressure gauge.
4. Release the handle and it will automatically retract which will lock the adjusting handle in place.
5. Slowly open the outlet valve to the fully open position.

Troubleshooting Guide

Problem	Causes	Solutions
The desired pressure cannot be obtained.	The inlet pressure is too low or high.	Change the pressure to the appropriate level.
	The sensing port of the outlet pressure is clogged with foreign matter.	Disassemble and clean the sensing port.
	The valve size is smaller than what is required.	Change the valve size to the appropriate one.
	The adjustment is not appropriate.	Readjust according to the adjustment procedure. (See start-up procedure)
	The inlet strainer is clogged by foreign substance.	Disassemble and clean the strainer.
	The pressure gauge is not functioning properly.	Replace the pressure gauge.
The outlet pressure rises higher than the specified pressure.	The valve or valve seat is contaminated by foreign substance.	Disassemble and clean the valve or the seat.
	The by-pass valve is leaking.	Repair or replace the by-pass valve.
Abnormal noise is heard.	The reducing ratio is excessively large.	Reduce pressure by staging with second PRV.
	Water hammer (for steam service).	Install a steam trap at the reducing valve inlet.
	There is a fast closing valve near the PRV.	Provide as long a distance as possible between the two valves.

Disassembly

1. Eliminate pressure from inside the valve. Make sure the valve is completely free from pressure.

2. Pull up and turn the handle (4) in the direction (counterclockwise) as shown on the nameplate of the handle to make the spring (12) free (not loaded).

3. Remove the bolts (15) and take away the spring housing (2) (the handle cannot be disassembled). Take out the spring (12), bellows (10) and valve rod (8).

4. Unscrew (counterclockwise) the cap (3) and take out the spring (13), screen (9) and valve (7) from the body (1).

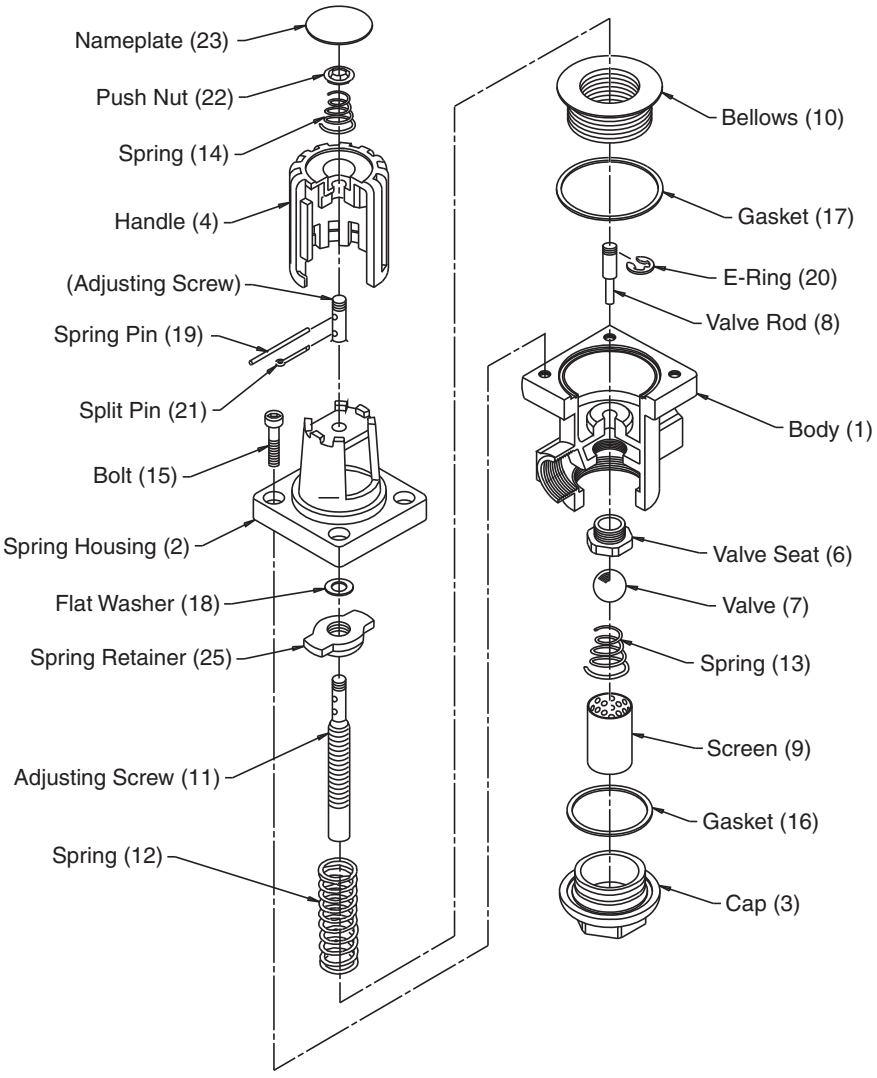
Reassembly

1. Check all parts to make sure they are in good condition before putting back together.

2. Lap valve (7) and valve seat (6) with 1000 grit lapping compound if needed to ensure no leakage.

3. Reassemble in reverse order as disassembly.

Note: Replace all gaskets where disassembly is required.



Disassembly

1. Eliminate pressure from inside the valve. Make sure the valve is completely free from pressure.

2. Pull up and turn the handle (22) in the direction (counterclockwise) as shown on the nameplate of the handle to make the adjusting spring (13) free (not loaded).

3. Remove the bolts (19) and take away the spring housing (2) (the handle cannot be disassembled. Take out the adjusting spring (13), bellows (9) and spindle (6).

4. Unscrew (counterclockwise) the cap (3) and take out the main valve spring (7), screen (8) and spindle (5) from the body (1).

Reassembly

1. Check all parts to make sure they are in good condition before putting back together.

2. Lap spindle (5) and valve seat (4) with 1000 grit lapping compound if needed to ensure no leakage.

3. Reassemble in reverse order as disassembly.

Note: Replace all gaskets where disassembly is required.