

"DP" Pilot

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Differential Pressure Pilot for HD Regulating Valves

Differential Pressure Pilot



PILOT-OPERATED
REGULATING VALVES

- Max Inlet Pressure: 300 PSIG
- Reduced Outlet Pressure Range: 3-200 PSIG
- Min Inlet Pressures: 15 PSIG standard main valve
5 PSIG low pressure main valve
- DP-Pilot ± 2 PSIG accuracy

PRESSURE-ADJUSTING SPRING RANGES

"DP" Pressure Range	Identifying Colors
3-25 PSIG	yellow
20-100 PSIG	blue
80-200 PSIG	red

TYPICAL APPLICATIONS

The "DP" Differential Pressure Pilot is used with the HD Regulator to maintain steam pressure at a balanced differential pressure above another media source. This is typical on an oil burner where steam used for atomization is injected into the oil burner at a set pressure above the incoming oil supply. Therefore, as oil pressure fluctuates based on demand, the steam pressure will be maintained at a differential pressure above the oil pressure.

FEATURES

- The "DP" Differential Pressure Pilot is used to maintain downstream steam pressure to a set differential pressure above loading pressure
- Accuracy to within ±2 PSIG
- 3 overlapping spring ranges to choose from
- Pilot is installed using only four bolts
- Full port strainer and blowdown valve on pilot adapter for ultimate protection from dirt and scale
- Solid floating diaphragm
- Watson McDaniel's pilots can be used with other manufacturers' regulators

OPTIONS

- Solenoid pilot can be added for remote on/off control of regulator

MINIMUM OPERATING PRESSURES

Minimum Inlet Pressure:

- 15 PSIG (Standard Main Valve)
- 5 PSIG (Low Pressure Main Valve)

Minimum Differential Pressure:

- 10 PSI (Standard Main Valve)
- 3 PSI (Low Pressure Main Valve)

MATERIALS

Pilot Body & Cover	Ductile Iron & Cast Steel
Gasket	Grafoil
Diaphragm	Phosphor Bronze
Head & Seat Assembly	Hardened SST (55 Rc)

HOW TO ORDER

"DP" DIFFERENTIAL PRESSURE PILOT

Specify: • Reduced pressure range –

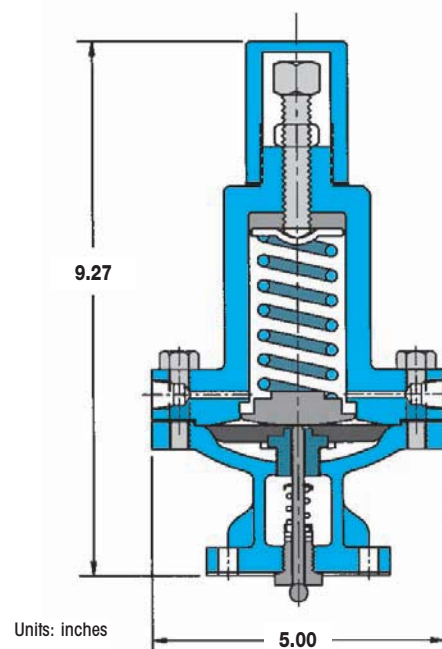
Example: "DP" Pilot at 3-25 PSIG, yellow

REGULATOR BODY

Specify: • HD regulator body

• Regulator size or capacity

• End connections (threaded, 150/300# flanged)

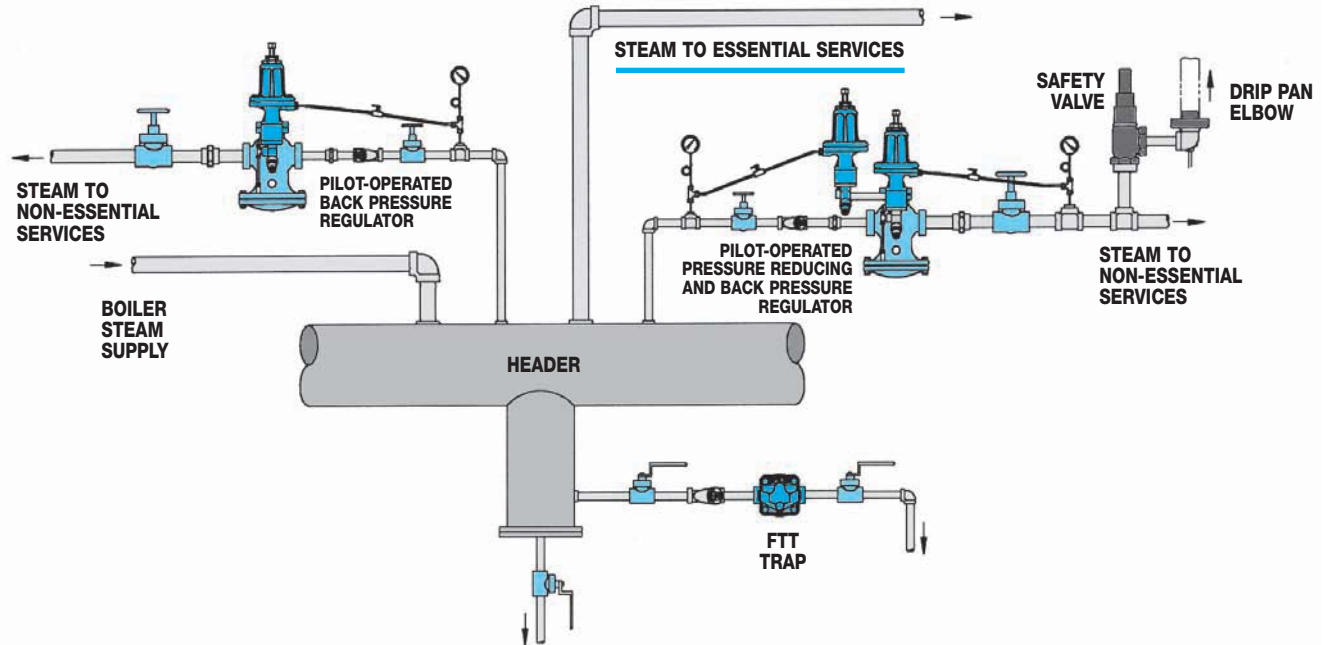


Over Pressure Protection Methods

Using "P" and "BP" Pilots

Back Pressure Regulators for Boiler Overload Protection

In steam systems with several applications of varying importance, a back pressure regulator may be used to prevent overloading of the boiler by isolating non-essential loads from critical processes in the event steam demand exceeds boiler output. When steam demand is greater than the capacity the boiler can generate, pressure in the boiler will drop, possibly upsetting the control balance in the boiler resulting in the generation of wet steam. Using back pressure regulators on the non-essential application supply lines allows isolation of these applications at times of peak demand by shutting off steam flow to areas deemed non-essential. This ensures that boiler demand is not exceeded and steam flow is maintained to critical processes until demand subsides and the boiler is able to catch up.



PILOT-OPERATED REGULATING VALVES

Pressure Override Protection of Regulator Supply Lines

On multi-stage pressure reducing applications where a rise in control pressure due to failure of the final supply regulator could result in equipment damage and/or personnel injury, a secondary pressure pilot may be added to provide override protection of a steam supply line. During normal operation, the main pressure pilot on the 1st stage regulator provides intermediate pressure control while the additional "monitor" pilot senses final control pressure and remains open due to a slightly higher setting than the final control pressure setting. Should the 2nd stage regulator fail for any reason, increasing supply pressure will begin to close the monitor pressure pilot of the 1st stage regulator, thus overriding the main control pilot preventing final supply pressure from increasing. This overpressure protection can similarly be offered on single-stage reducing valves by protecting against failure of the main control pilot.

