HDP

Pilot-Operated Pressure Regulating Valve

HD Regulating Valve with "P" Pressure Pilot

- Reduced Outlet Pressure Range: 3-200 PSIG
- Inlet Pressure Max: 300 PSIG
  Inlet Pressure Min: 15 PSIG

The HD-Series is the upgraded model for the D-Series Regulator. HD & D internal components and pilots are interchangeable.

TYPICAL APPLICATIONS

The **HD** or **D** Regulator with the **"P" Pressure Pilot** is used for reducing steam pressure in piping mains and process applications. Pilot-operated regulators will maintain constant downstream pressure even when the inlet pressure to the regulator fluctuates or steam usage varies.

FEATURES

- **The "P" Pilot can maintain downstream pressure to ±1 PSIG**
- **Optional "P5" pilot can maintain pressure to ±0.5 PSIG**
- **Choices of three overlapping pressure ranges**
- **Pressure adjusting spring can be changed with regulator in-line**
- **Pilot is installed using four bolts**
- **Full port strainer and blow-down valve on pilot adapter to eliminate failure caused by contaminated steam systems**
- **Watson McDaniel's pilots can be used with other manufacturer's regulators**

OPTIONS

- Pressure and temperature pilots can be combined on the same regulator
- Solenoid pilot can be added for electrical on/off control of the regulator
- Can be used with solenoid and temperature pilots

PRESSURE-ADJUSTING SPRING RANGES "P"

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

PRESSURE-ADJUSTING SPRING RANGES "P5"

1-10 PSIG	yellow
10-25 PSIG	blue

MATERIALS

	D-SERIES	HD-SERIES
Body	Cast Iron	**Ductile Iron**
Cover	Cast Iron	**Ductile Iron**
Gasket	Grafoil	Grafoil
Cover Screws	Steel	Steel
Pilot Adapter	Cast Iron	**Ductile Iron**
Screen	Stainless Steel	Stainless Steel
Tubing	Copper	Copper
Valve Seat	Hardened SST (55Rc)	Hardened SST (55Rc)
Valve Disc	Hardened SST (55Rc)	Hardened SST (55Rc)
Diaphragm	Phosphor Bronze	Phosphor Bronze

RECOMMENDED PRESSURE

Differential Pressure: 10 PSIG minimum
Minimum Inlet Pressure: 15 PSIG*

**Minimum Inlet Pressure for Temperature Regulator: 5 PSIG*

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Pilot-Operated Pressure Regulating Valve

DIMENSIONS D-Series – *inches / pounds*

Size	Face-To-Face NPT	125#	250#	B	C*	D	E**	Weight (lbs) NPT	FLG
1/2"	5 1/8			5 1/8	11	5 7/8	7	18	
3/4"	5 1/2			5 1/2	11	6 1/2	7 1/4	21	
1"	6 1/8			6 1/8	11	7	7 1/2	25	
1 1/4"	8 1/2			7	11 7/8	8 3/4	8	45	
1 1/2"	9 1/2			7 1/8	11 7/8	8 3/4	8 1/2	55	
2"	9 3/4	9 1/2	9 5/8	7 1/8	11 7/8	10 7/8	9	90	105
2 1/2"		10	10 5/8	8 3/4	11 7/8	11 3/4	9 1/2		135
3"		11	11 3/4	9 1/8	11 7/8	13 1/4	10		180

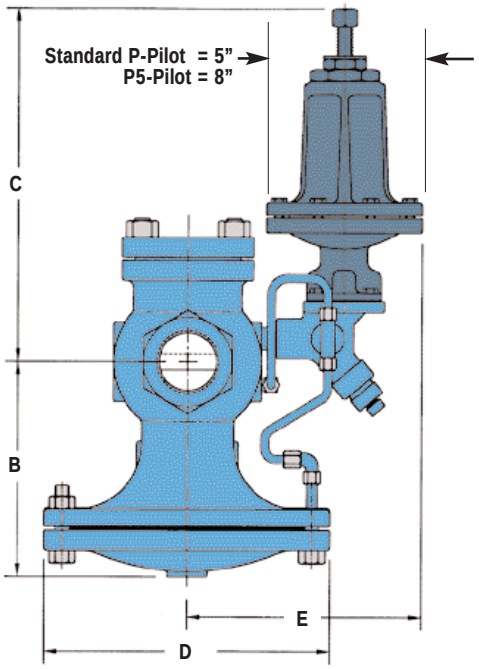
DIMENSIONS HD-Series – *inches / pounds*

Size	Face-To-Face NPT	150#	300#	B	C*	D	E**	Weight (lbs) NPT	FLG
1/2"	4 3/8			5 1/2	11 7/8	6 1/2	7 3/4	18	
3/4"	4 3/8			5 1/2	11 7/8	6 1/2	7 3/4	18	
1"	5 3/8	5 1/2	6	6 1/4	11 7/8	7	7 3/4	23	35
1 1/4"	6 1/2			7 3/8	11 7/8	8 3/4	8 1/4	43	
1 1/2"	7 1/4	6 7/8	7 3/8	7 3/8	11 7/8	8 3/4	8 1/4	43	60
2"	7 1/2	8 1/2	9	8 1/4	11 7/8	10 7/8	8 1/2	65	85
2 1/2"		9 3/8	10	9	11 7/8	11 3/4	8 1/2		105
3"		10	10 3/4	8 7/8	11 7/8	13 1/4	9 1/2		145
4"		11 7/8	12 1/2	10 7/8	11 7/8	14 3/4	10 1/2		235
6"		15 1/8	16	14 1/8	12 1/2	19 3/4	11 3/4		470

For P5 Pilot:

* *For sizes 1/2" to 1-1/2" add 2-1/2" to "C" dimension.*
For sizes 2" to 6" add 5" to "C" dimension.

** *Add 1-1/2" to "E" dimension for all sizes.*



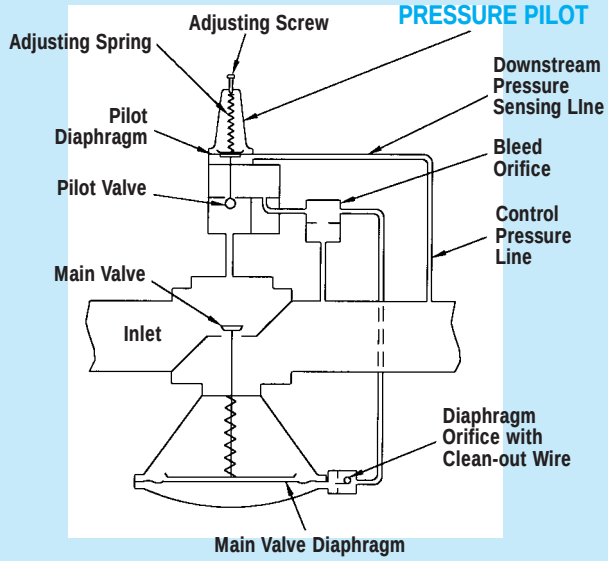
HOW TO ORDER

P or P5 PRESSURE PILOT

Specify: • Reduced pressure range.
(P5 Pilot requires a special adapter block on 3 & 4" valves)

REGULATOR BODY

Specify:
- **HD** or **D** regulator body.
- Regulator size or capacity and pressures of steam required.
- End connections (threaded, 125/150/250/300# flanged).



HOW IT WORKS

The purpose of the pressure pilot is to control the operation of the pressure regulating valve. A sensing line used to detect pressure connects the pressure pilot to the downstream side of the regulator. The pressure in the sensing line is directed under the diaphragm in the pressure pilot. When the pressure in the system reaches the adjusted spring set point it pushes the diaphragm upwards against the force of the adjusting spring and closes the pilot valve. When the pilot valve is shut, steam can no longer pass through to the underside of the regulator diaphragm and the valve main closes. When the steam pressure falls below it's set point, the pilot valve opens allowing steam to lift the main diaphragm and open up the regulating valve.