

### Back Pressure Regulating with PBP Back-Pressure Pilot

Pilot-Operated REGULATORS

Back Pressure Pilot	<b>PBP</b>
Pilot Body Material	<b>Ductile Iron</b>
Max Inlet Pressure	<b>300 PSIG</b>
Reduced Outlet Pressure Range	<b>10-200 PSIG</b>
Inlet Pressure Range (when used with <b>HD</b> Standard main valve)	<b>15-300 PSIG</b>
Inlet Pressure Range (when used with <b>HD-LP</b> Low-Pressure main valve)	<b>5-20 PSIG</b>

Minimum Differential Pressure:

**10 PSI** (Standard Main Valve)

**3 PSI** (Low Pressure Main Valve)

#### Typical Applications

The **PBP-Back Pressure Pilot**, used with the **HD** regulator, maintains upstream pressure in steam systems. These regulators are commonly used to supply flash steam to low pressure mains.

#### Features

- The PBP-Pilot can maintain upstream pressure to  $\pm 1$  PSIG
- Choices of three overlapping pressure ranges
- Pilot is easily installed using four bolts. No tubing connection required
- Full port strainer and blowdown valve on pilot adapter for protection of pilot from dirt and scale
- Solid floating (no penetration hole) pilot diaphragm resists failure
- Watson McDaniel's pilots can be used with other manufacturers' regulators

#### Option

- Can be used with solenoid pilot for on/off control



Reduced Pressure Range PSI	Model Code	Spring Color	Weight lbs
10-25	<b>PBP-Y</b>	Yellow	10
20-100	<b>PBP-B</b>	Blue	10
80-200	<b>PBP-R</b>	Red	10

#### OPERATING PRESSURES

Inlet Pressure Range:

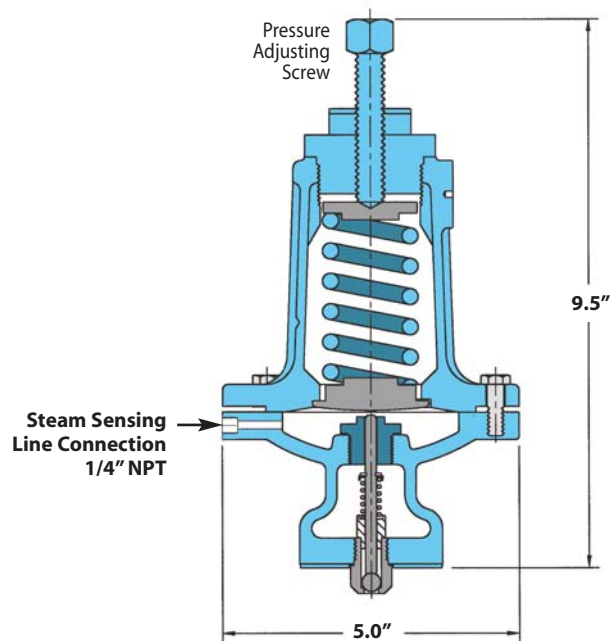
**15-300 PSIG** (Standard Main Valve)

**5-20 PSIG** (Low Pressure Main Valve)

Minimum Differential Pressure:

**10 PSI** (Standard Main Valve)

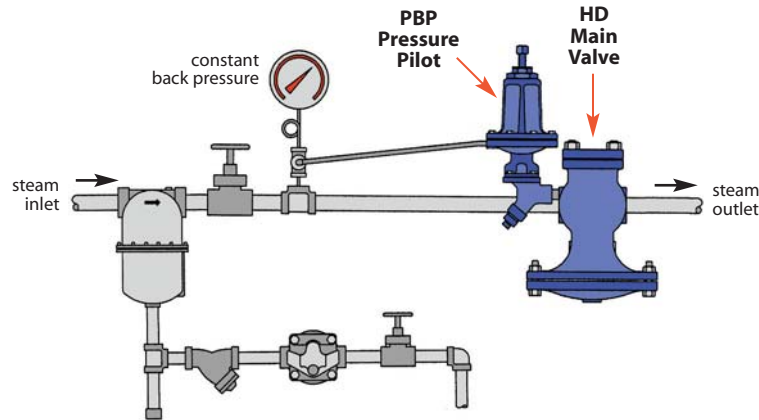
**3 PSI** (Low Pressure Main Valve)



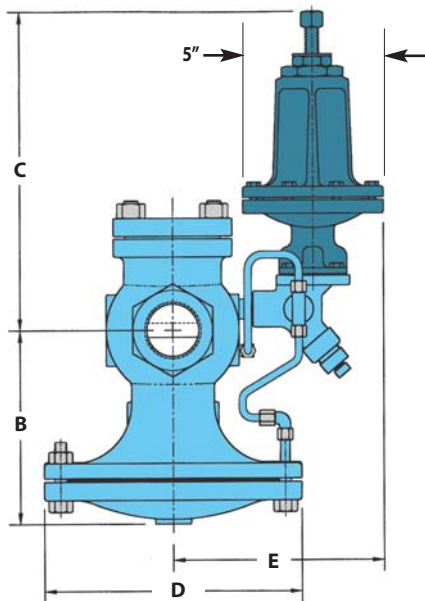
### Back Pressure Regulating with PBP Back-Pressure Pilot

#### Back Pressure

The **PBP** Back-Pressure Pilots are used with HD Regulators to maintain upstream pressures in steam systems. When the upstream pressure reaches the pilot set point, the regulator opens. The HD Regulator with a PBP Back-Pressure Pilot is commonly used to supply steam to low-pressure mains. The PBP Back-Pressure Pilot maintains a constant back-pressure on the inlet side of the regulator. Should not be used in place of a safety relief valve.



Pilot-Operated REGULATORS



#### DIMENSIONS HD-Series – inches

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

#### MATERIALS for PBP Back-Pressure Pilot

Pilot Body & Cover	Cast Steel
Head & Seat Gasket	302 SS
Diaphragm	Phosphor Bronze
Head & Seat Assembly	Hardened SST (55 Rc)

#### MATERIALS for HD Main Valve

Body	Ductile Iron
Cover	Ductile Iron
Gasket	Grafoil/Garlock
Cover Screws	Steel
Pilot Adapter	Ductile Iron/Cast Steel
Screen	Stainless Steel
Tubing	Copper
Valve Seat	Hardened SST (55 Rc)
Valve Disc	Hardened SST (55 Rc)
Diaphragm	Phosphor Bronze

#### HD Main Valve with PBP-Pressure Pilot



Model Code for Main Valve: **HD-17-F150**  
(2" HD Series Valve with 150# Flanges)

Model Code for Pilot: **PBP-B**  
(Back-Pressure Pilot with 20-100 PSIG Range)