

REGULATOR/PILOT COMBINATIONS

HDA

Air Pilot-Operated Regulating Valve

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HD Regulating Valve with "A" Air Pilot

- **Pressure Control Range:**
3-200 PSIG
- **Temperature Range: 0°-350°F**
when used with PTR or PTL
Pneumatic Controller
- **Inlet Pressure Max:**
300 PSIG



REGULATORS

TYPICAL APPLICATIONS

The HD or D Regulator with the "A" Air Pilot is used for reducing steam pressure on steam mains and process equipment. The "A" Air Pilot can also be used in conjunction with the PTR and PTL Pneumatic Controller for controlling temperature in process applications. The significant advantage of the "A" Air Pilot over standard spring-loaded pilots is that pressure adjustments to the regulator can be made from a remote location. A regulator placed in a difficult to reach or inaccessible location can now be adjusted by a control panel board placed in a convenient location.

FEATURES

- Air Pilot can be used with PTR or PTL Pneumatic Temperature Controller.
- Pressure adjustments of the regulator can be done from a remote location.
- Air-operated pilot insures instant response and very accurate control.
- Full port strainer and blow-down valve on pilot adapter to eliminate failure caused by contaminated steam systems
- Control pressure settings within ± 1 PSIG.

OPTIONS

- Solenoid can be added for electrical on/off operation of the regulator.

RECOMMENDED PRESSURE

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

PRESSURE-ADJUSTING RANGES

| Model | Reduced Pressure Range | Description |
|-------|------------------------|---|
| A1 | 3-35 PSIG | 1:1 ratio of steam pressure to control air pressure Example: With the A1 air pilot 10 PSIG of air pressure maintains 10 PSIG of steam pressure |
| A4 | 3-100 PSIG | 4:1 ratio of steam pressure to control air pressure Example: With the A4 air pilot 10 PSIG of air pressure maintains 40 PSIG of steam pressure |
| A6 | 20-200 PSIG | 6:1 ratio of steam pressure to control air pressure Example: With the A6 air pilot 10 PSIG of air pressure maintains 60 PSIG of steam pressure |

MATERIALS

| | D-SERIES | HD-SERIES |
|---------------|---------------------|---------------------|
| Body | Cast Iron | Ductile Iron |
| Cover | Cast Iron | Ductile Iron |
| Gasket | Garlock 3400 | Garlock 3400 |
| 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 |

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

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

*Add 2-1/2" to "C" dimension when using the A4 or A6 Air Pilots on 2" through 4" valves.
 **Add 1-1/2" to "E" dimension for A4, and 2-1/4" for A6.

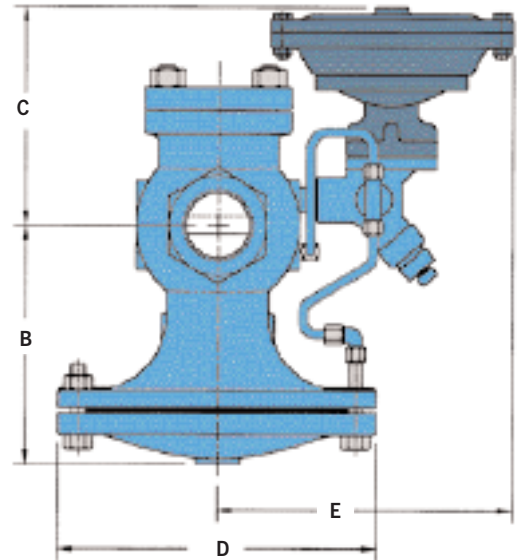
HOW TO ORDER

"A" AIR PILOT

- Specify:
- Air Pilot **A1**, **A4**, or **A6**
 - Remote Control Panel Board: **PL1**, **PL2**, or **PL3**

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).



REGULATORS

HOW IT WORKS

When air pressure is applied to the upper chamber of the air pilot it exerts a downward force on the air pilot's diaphragm. The lower chamber of the air pilot is connected to the outlet side of the regulator using a sensing line. The purpose of the sensing line is to sense the pressure on the outlet side of the regulator. When the intended set pressure is reached the pilot valve closes which then closes off the flow path of steam to the underside of the diaphragm chamber in the regulator body. The regulator modulates maintaining the desired downstream pressure regardless of the amount of steam being used.

