

"A" Pilot

Air Pilot for HD Regulating Valves **Controls Pressure & Temperature**

PILOT-OPERATED REGULATING VALVES

Air Pilot

- **Max Inlet Pressure: 300 PSIG**
- **Reduced Outlet Pressure Range: 3-200 PSIG**
- **Minimum Inlet Pressures:**
 - 15 PSIG when used with standard main valve
 - 5 PSIG when used with low pressure main valve



Note: Temperature Range: 0-350°F when used with PTL & PTR temperature controllers

TYPICAL APPLICATIONS

The "A" Air Pilot is used with the HD Regulator to control steam pressure on steam mains and process equipment. The "A" Air Pilot can also be used in conjunction with the PTL or PTR pneumatic temperature controllers for controlling temperature in process applications. The principal advantage 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 that is placed in a difficult to reach or inaccessible location can be adjusted by a remote control panel board placed in an accessible location.

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. This force controls the outlet pressure of the steam through the regulating valve. The control process is similar to a spring loaded pressure pilot except that the air pressure takes the place of the spring. There are three separate models of air pilots that make up the complete range depending on the steam pressure that needs to be controlled and the control air pressure available. See Pressure Adjusting Ranges chart.

FEATURES

- Pressure adjustments to the regulator can be done from a remote location using an air signal
- Air-operated pilot ensures instant response and extremely accurate control
- Full port strainer and blowdown valve on pilot adapter for ultimate protection from dirt and scale
- Controls pressure settings within ±1 PSIG

DIMENSIONS – inches

Model	A	B
A1	5 1/4	5
A4	5 1/4	7 7/8
A6	5 1/4	9 1/2

MAXIMUM CONTROL AIR PRESSURE ON AIR PILOT IS 125 PSIG

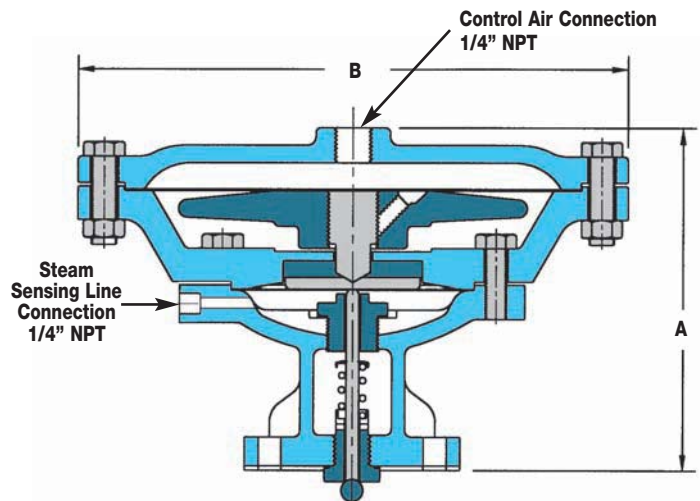
PRESSURE ADJUSTING RANGES

Model	Pressure Ranges	Description
A1	3-125 PSIG	1:1 ratio of steam pressure to control air pressure
A4	3-200 PSIG	4:1 ratio of steam pressure to control air pressure
A6	20-200 PSIG	6:1 ratio of steam pressure to control air pressure

The larger Diaphragm area of the "A4" & "A6" Air Pilots allow the use of lower control air pressure to regulate higher pressure steam.

MATERIALS

Pilot Body & Cover	Ductile Iron
Gasket	Grafoil
Cover Screws	Steel, GR5
Head & Seat Assembly	Hardened SST (55 Rc)



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REMOTE CONTROL PANEL BOARDS

Three different options of remote control panel boards can be used along with the "A" Air Pilots. Supply air is fed directly through the control panel board to the air pilot. You can choose one of the three options of control panel boards when using the air piloted regulators. Minimum 5 PSIG air supply pressure is required.



PL1

PL1

The **PL1** is made up of an air pressure regulator with adjustment knob and pressure gauge that measures the amount of air pressure going to the pilot (air signal). Steam pressure of the system is controlled by adjusting the air pressure regulator.



PL2

PL2

The **PL2** is the same as the PL1 with the addition of an extra air pressure gauge for measuring the air supply pressure to the control panel board.



PL3

PL3

The **PL3** is the same as the PL2 with the addition of a Steam Pressure Gauge for measuring steam pressure on the outlet side of the regulating valve.

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** regulator body
- Regulator size or capacity and pressure range of steam required
- End connections (threaded, 150/300# flanged)

MINIMUM OPERATING PRESSURES

Minimum Inlet Pressure:

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

Minimum Differential Pressure:

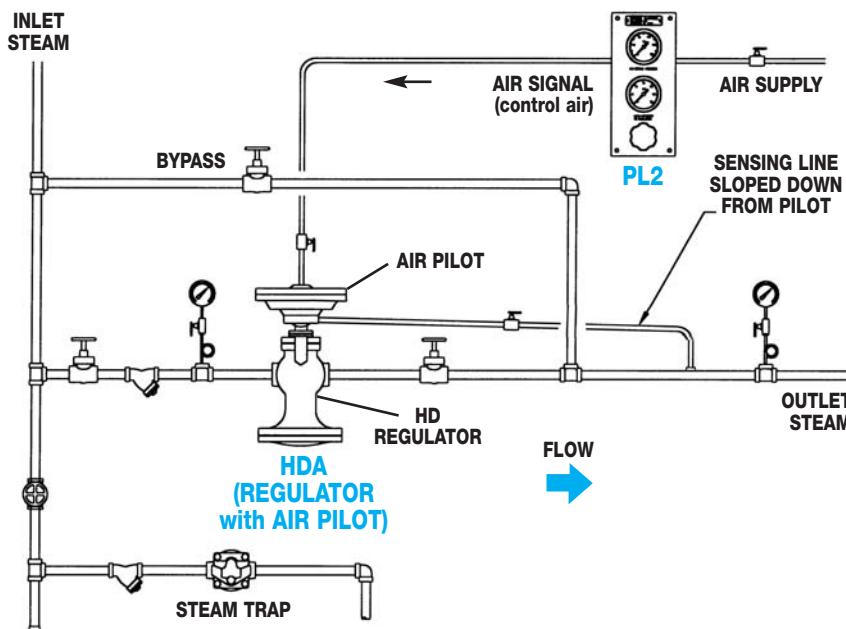
- 10 PSI** (Standard Main Valve)
- 3 PSI** (Low Pressure Main Valve)

CONTROL AIR PRESSURE RANGE

A-Pilot Control Pressure:

- 3-125 PSIG** (depending on pilot selected and desired outlet pressure)

Pressure Reducing Station Using HD Regulator with an Air Pilot



DESCRIPTION OF OPERATION

The "A" Air Pilot is being used in conjunction with the **PL2 Control Panel Board** to regulate steam pressure. A small air regulator on the panel board can be adjusted to control the air pressure to the pilot. One gauge on the panel board measures air line pressure to the panel board and the other gauge shows the air pressure being sent to the pilot. Steam pressure at the outlet of the regulator is controlled by the air pressure signal to the pilot. Depending on the air pilot model chosen (**A1**, **A4**, **A6**), there will be a 1:1, 4:1, or 6:1 ratio of outlet steam pressure to air pressure.