

A8 Pressure Regulator

Features and Benefits

- Dual range spring for flexibility in application
- Highest capacity commercial regulator in the industry
- Molded Class H coil construction
- Internally pilot operated
- Manual opening stem
- Interchangeable capacity cartridges
- Inlet, outlet or differential control capability
- Solder in place without disassembly
- Inlet access fitting as standard
- Electric shut-off and electric wide open variations
- Excellent regulation at light loads
- DIN coil assemblies available

Specifications

- Control range: 10" Hg to 400 psig (250mm Hg to 27.6 bar)
- Minimum fluid temperature: -40°F (-40°C)
- Design Pressure (M.R.P.): 450 psig (31.0 bar)
- UL listed (except 50 Hz versions), file SA5473
- CSA certified, file LR20991-14

Standard Voltages

- 120V/60Hz, 110V/50Hz
- 240V/60Hz, 220V/50Hz
- 280V/60Hz
- 240V/60Hz, 220V/50Hz (DIN)
- 240V/50Hz (DIN)



Nomenclature (Example)

A8	A	BL	7/8"	1-1/8"
Valve Family	Body Size	Optional Variation (see chart)	Port Size in Inches	Connection Size in Inches

Valve Types: A8A, A81, A82. All are inlet pressure regulators. Optional adaptor functions are as follows:

"S" Suffix	Inlet Regulator with Electric Shut-Off
"B" Suffix	Inlet Regulator with Electric Bypass Feature
"L" Suffix	Differential Pressure Regulator
"BL" Suffix	Differential Regulator with Electric Bypass Feature
"OE" Suffix	Outlet Pressure Regulator
"OES" Suffix	Outlet Pressure Regulator with Electric Shut-Off

A8 Port/Connection Size Combinations

Type	Port Size		Connection Sizes Available
	Inches	mm	
A8A	3/8	9	5/8"/15mm, 7/8"/22mm, 1-1/8"/28mm
	5/8	15	5/8"/15mm, 7/8"/22mm, 1-1/8"/28mm
	7/8	22	7/8"/22mm, 1-1/8"/28mm
A81	5/8	15	1-1/8"/28mm, 1-3/8"/35mm
	7/8	22	1-1/8"/28mm, 1-3/8"/35mm, 1-5/8"/42mm, 2-1/8"/54mm
	1-1/8	28	1-1/8"/28mm, 1-3/8"/35mm, 1-5/8"/42mm, 2-1/8"/54mm
	1-3/8	35	1-1/8"/28mm, 1-3/8"/35mm, 1-5/8"/42mm, 2-1/8"/54mm
A82	1-5/8	42	1-5/8"/42mm, 2-1/8"/54mm, 2-5/8"/66mm
	2-1/8	54	1-5/8"/42mm, 2-1/8"/54mm, 2-5/8"/66mm
	2-5/8	66	1-5/8"/42mm, 2-1/8"/54mm, 2-5/8"/66mm

Technical Information

Description/Variations: A8 Pressure regulators can conveniently be identified by three primary types: inlet, outlet, and differential regulator versions. Inlet pressure regulators open on a rise in inlet pressure above the valve's set point, and close when the inlet pressure drops below the valve's set point.

Outlet pressure regulators maintain a constant outlet or downstream pressure. Outlet regulators will open when outlet pressure falls below the valves set point and close when the outlet pressure is above it's set point.

Differential pressure regulators will open when the pressure difference across the regulator is greater than the valves set point. Conversely, they will close when the pressure difference across the valve is below the valve's set point.

In addition, these three categories of valves, inlet, outlet, and differential, can also have optional variations added to the basic regulator, such as an electric shut-off feature, or bypass (electric wide opening) feature. Please refer to the inside back cover of this condensed catalog for a complete listing of all A8 regulator variations and their typical applications.

Pressure Ranges: All A8 series inlet and outlet pressure regulators feature a wide pressure range, 10" Hg to 400 psig (250mm Hg to 27.6 bar), thus allowing flexibility in application. Differential pressure regulators offer a single range spring capable of being set within a range of 0 to 120 psig (0 to 8.3 bar). Since it is the pressure difference across the valve which is being controlled with any differential regulator version (not inlet pressure), this range is appropriate for any application, whether applied on the low side or high side of the system. For example, discharge regulators will certainly be exposed to pressures exceeding 120 psig under normal operation. However, they are most typically set to control at about a 25 psi

differential for hot gas supply purposes for defrost. Since this 25 psi set point easily falls within the range of this regulator, it is an appropriate pressure range for the application.

Installation: For those A8 regulators having an integral pilot solenoid feature, the solenoid operators utilize a spring loaded solenoid plunger design, which assists the plunger in closing off tightly against the solenoid pilot seat regardless of position or orientation. The regulator can therefore be installed in either a horizontal or vertical pipe line regardless of valve variation. Those A8 regulators that have no pilot solenoid can also be installed in a similar manner.

When brazing in line, typically a wet cloth wrapped around the valve body is recommended to dissipate heat. **If a valve is disassembled prior to installation, always have the correct gasket/ O-ring kit available for reassembly.** The internal cartridge-to-body O-ring will need to be replaced prior to reassembly.

Adjustment: Adjustment of a regulator's set point requires that the pressure being controlled be monitored by an accurate pressure gauge. Turning the valve's adjusting screw clockwise (into the bonnet) compresses the range spring and subsequently raises the valves set point. Conversely, turning the adjusting stem counter-clockwise will decrease the valve's set point. Adjusting the set point of an A8AS, A81S, or A82S regulator must be made with the solenoid energized, and the manual opening stem turned in. The adjustment of an A8AB, A81B, or A82B must be made with the solenoid de-energized, and the manual opening stem turned in.

Electrical: All A8 regulator versions utilize a molded water resistant class "H" solenoid coil with a "general purpose" coil housing as standard. A class "H" DIN coil is also available with certain voltages. Coils are designed to

operate with line voltage from 85% to 110% of rated coil voltage. Operating with a coil voltage above or below these limits may result in coil burnout. Also, operating with a coil voltage below this limit will result in lowering the valves' maximum opening pressure differential, or MOPD.

Ordering Guide: Specify valve type, port and connection size, and voltage, if applicable.

Note: For A8 valve suction capacity tables, please reference pages 7-14 of this catalog.