

# Models ABPB, ABPS

## Back Pressure, Adjustable Regulators

These metal diaphragm, high purity back pressure regulators are specially designed to control inlet pressure. Unlike pressure reducing regulators, these devices control inlet pressure rather than outlet or downstream pressure. They operate like highly sensitive, adjustable relief valves. The inlet (system) pressure is controlled by relieving pressure through the regulator from the system to maintain pressure at or below a desired level.

Back pressure regulators are commonly used to prevent overpressurization of storage vessels, fluid sampling systems, compressor and pumping systems. Model ABPB is manufactured from brass bar stock and is designed for noncorrosive gases; Model ABPS, which is constructed from Type 316L SS bar stock, is suitable for use with corrosive gases.



ABPS Regulator

### Standard Features

- Convoluted 316 SS diaphragm provides excellent accuracy, high sensitivity, and close tolerances on crack-reseat pressure relationships.
- Metal to Metal Diaphragm to Body Seal (without back-up o-ring) assures maximum diffusion resistance.
- High Purity Regulator Design permits vacuum purging of regulator.
- Threaded Holes in Rear of Regulator permit front panel mounting.

### Optional Features

- Captured Venting Configuration provides 1/16" NPTF vent port and stem packing allowing for complete capturing of bonnet when connected to a vent line or disposal system.
- Mounting Ring permits regulator to be panel mounted.
- Regulator mounting plate allows for easy mounting of regulator to wall or panel.
- Internal (Inboard) Helium Leak Test and Test Report determines inboard leak rate; test report certifies leak rate of less than  $2 \times 10^{-8}$  sccs air equivalent.
- External (Outboard) Helium Leak Test and Test Report determines leak rate of gas from regulator to atmosphere; test report certifies leak rate of less than  $5 \times 10^{-7}$  sccs air equivalent.

### Specifications

Maximum Rated Pressure: 250 psig  
 Design Proof Pressure:  
 150% of maximum rated pressure  
 Relief Pressure Range: See Table I  
 Operating Temp. Range: -40°F to 165°F  
 Flow Coefficient:  $C_v = 0.08$   
 Inlet and Outlet Connections:  
 1/4" NPT female  
 H.P. (inlet) Plugged Access Port: 1/4" NPTF  
 Approximate Weight: 2 lbs

### Materials of Construction

Body:  
 ABPB: Brass Bar Stock  
 ABPS: Type 316L SS Bar Stock  
 Bonnet:  
 ABPB: Brass  
 ABPS: 300 Series Stainless Steel  
 Other Metal Parts Exposed to Gas:  
 ABPB: Brass and Stainless Steel  
 ABPS: Type 316 Stainless Steel  
 Seat: PCTFE  
 Diaphragm: Type 316 Stainless Steel

Table I

Part Number		Relief Pressure Range (psig)
Brass	Stainless Steel	
ABPB-30	ABPS-30	5-30
ABPB-50	ABPS-50	5-50
ABPB-100	ABPS-100	10-100
ABPB-250	ABPS-250	20-250

### Optional Equipment

Equipment	Part No.
Panel Mounting Ring*	PM3803
Regulator Mounting Plate and Hardware*	RP1
Inboard Helium Leak Test and Test Report	HT1000
Outboard Helium Leak Test and Test Report	HT1001
Captured Venting Configuration	
Models ABPB	SG5651
Models ABPS	SG5650

\* If selected, these items are not installed on the regulator. They are shipped as separate items.