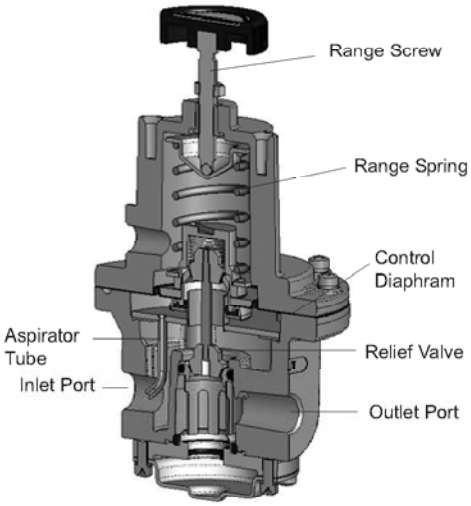
Model 4000ABP Back Pressure Regulator



The Model 4000ABP Pneumatic Precision Back Pressure Regulator is a no bleed design regulator that precisely controls system back pressure.

Features

- Control sensitivity of 1/2" water column allows use in precision applications.
- Large Relief Valve provides high exhaust flows.
- An Aspirator Tube compensates upstream pressure build up under flow conditions.
- A separate Control Chamber isolates the diaphragm from the main flow to eliminate hunting and buzzing.
- Unit construction lets you service the Model 4000ABP without removing it from the line.

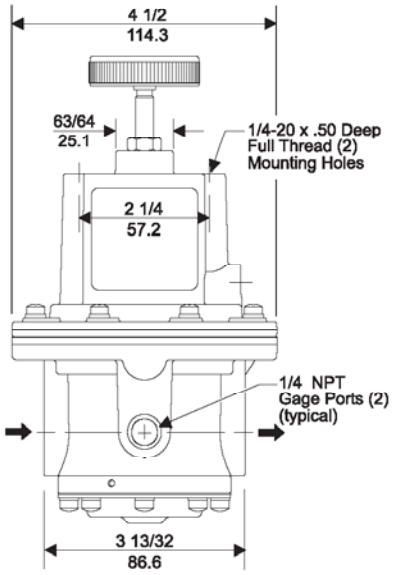


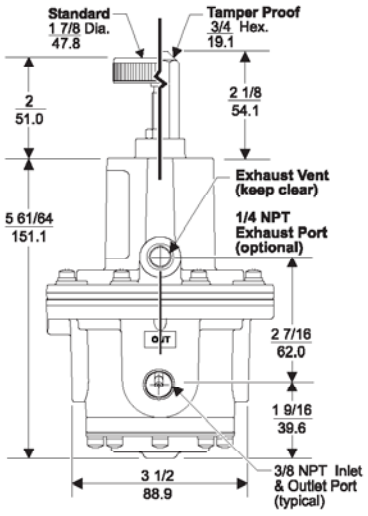
Operating Principles

The Model 4000ABP Regulator uses the force balance principle to open the Relief Valve and vent system pressure when the set point is exceeded.

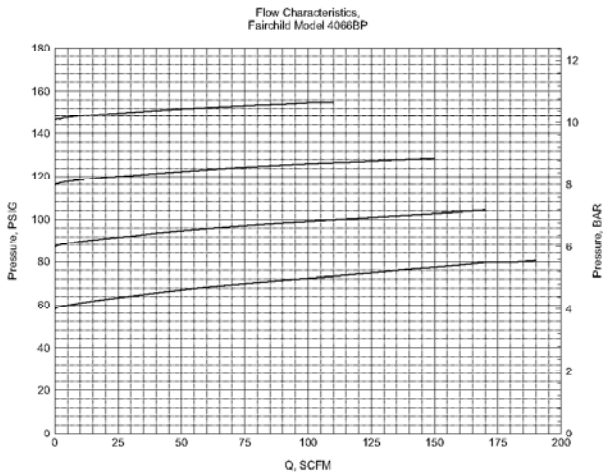
Upstream pressure is transmitted through the Aspirator Tube to the bottom of the Diaphragm Assembly. When you adjust the range screw for a specific set point, the Range Spring compresses and exerts a force on the top of the Diaphragm Assembly. As long as the pressure acting on the bottom of the Diaphragm Assembly produces a force less than the spring force acting on the top of the Diaphragm Assembly, the Relief Valve remains closed. When system pressure increases, the force on the bottom of the Diaphragm Assembly increases until it reaches the set point. When system pressure increases beyond the set point, the assembly moves upward, lifting the Relief Valve from its seat and vents the downstream air.

If downstream pressure decreases below the set point, the assembly moves downward closing the Relief Valve.





Technical Information



Specifications

Maximum Inlet Pressure (Psig)
250 [17 BAR], (1700 kPa)

Flow Capacity
150 (255m³/Hr) at 90 Psig [6 BAR], (600 kPa) setpoint.

Sensitivity
1/2" (1.27 cm) Water Column

Ambient Temperature
-40°F to +200°F, (-40°C to +93°C)

Hazardous Locations
Acceptable for use in Zones 1 and 2 for gas atmosphere; Groups IIA and IIB and Zones 21 and 22 for dust atmospheres

Materials of Construction

Body and Housing	Aluminum
Diaphragms and seals	Nitrile
Trim	Zinc Plated Steel, Brass

Catalog Information

Model 4000ABP

Catalog Number 40 [ ] [ ] ABP [ ] [ ]

Pressure Range

psig	[BAR]	(kPa)	
0.5-10	[0.03-0.7]	(3.0-70)	2
0.5-30	[0.03-2]	(3.0-200)	3
1-60	[0.1-4]	(10-400)	4
2-150	[0.15-10]	(15-1000)	6

Port Size

3/8" NPT	3
1/2" NPT	4
3/4" NPT	6

Port Th'd

NPT	
BSPP[1]	H
BSPT	U

Elastomer

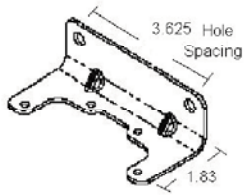
Nitrile	N
Fluorocarbon	J

[1] *BSPP Threads in Inlet & Outlet Ports Only. Others BSPT.*

[1] *Viton Available on Ranges through 2-150 psig Only.*

Installation

For installations instructions, refer to the *Fairchild Model 4000A Pneumatic Precision Regulator Instruction, Operation and Maintenance Instructions, IS-1004000ABP.*



20555-1

Model 4000ABP Mounting Bracket Kit
P/N 20555-1 zinc plated (sold separately)