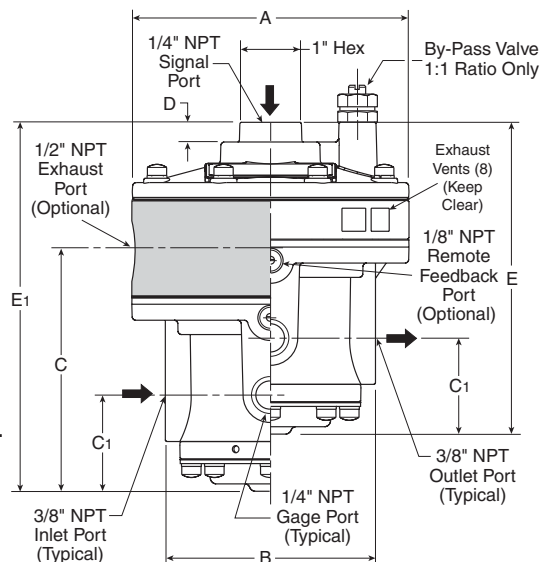


P3BA45 Pneumatic Input Signal Amplifier – Precision

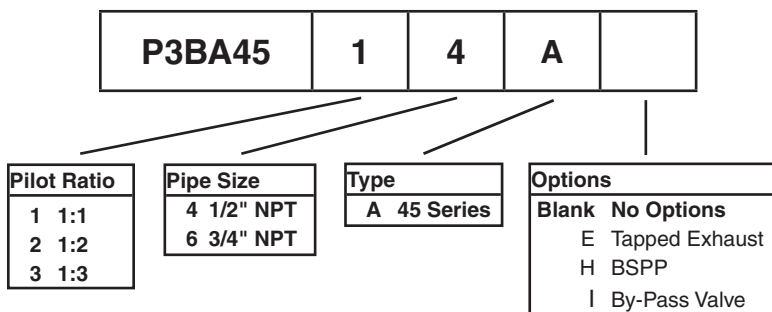
Features

- Five signal to output ratios meet most control element requirements.
- Control sensitivity of water column allows use in precision applications.
- Large Supply and Exhaust Valves provide high forward and exhaust flows.
- Soft Supply and Exhaust Valve seats minimize air consumption.
- A balanced Supply Valve minimizes the effect of supply pressure variation.
- An Aspirator Tube compensates downstream pressure drop under flow conditions.
- A separate Control Chamber isolates the diaphragm from the main flow to eliminate hunting and buzzing.
- Optional remote feedback port minimizes pressure drop at final control element under flow conditions.
- Unit construction lets you service the P3BA45 without removing it from the line.



P3BA45 Regulator Dimensions		
A	B	C
4.50 (114.3)	3.41 (86.5)	3.86 (98)
C ₁	D	E
1.56 (39.6)	.31 (7.9)	5.07 (128.8)
E ₁		
5.83 (148.2)		

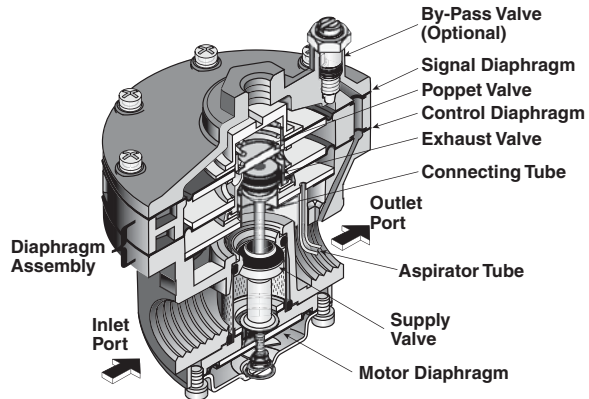
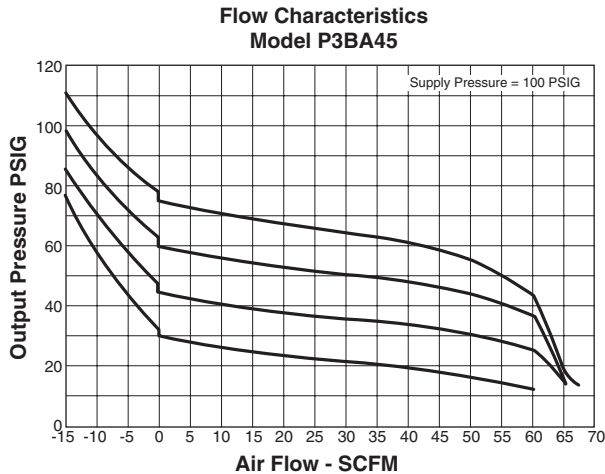
Inches (mm)



Note: Other Spring Ranges, Port Sizes, and Options Available.
Please Consult Factory

BOLD ITEMS ARE MOST POPULAR.

Technical Information



Operating Principles

When signal pressure on the top of the Signal Diaphragm creates a downward force on the Diaphragm Assembly, the Supply Valve opens. Output pressure flows through the Outlet Port and the Aspirator Tube to the Control Chamber to create an upward force on the bottom of the Control Diaphragm. When the setpoint is reached, the force of the signal pressure that acts on the top of the Signal Diaphragm balances with the force of the output pressure that acts on the bottom of the Control Diaphragm to close the Supply Valve.

When the output pressure increases above the signal pressure, the Diaphragm Assembly moves upward to close the Supply Valve and open the Exhaust Valve. Because the Poppet Valve is closed, pressure flows down the Connecting Tube to the bottom of the Motor Diaphragm. This pressure keeps the Supply Valve tightly closed while in the exhaust mode. The Poppet Valve opens and excess output pressure exhausts through the vent in the side of the unit until it reaches the setpoint.

Materials of Construction

Body and Housing Aluminum
Diaphragm Nitrile on Dacron Fabric
Trim Zinc Plated Steel, Brass

Specifications

Ratio	Signal:Output		
	1:1	1:2	1:3
Maximum Output Pressure, PSIG (bar)	150 (10.0)	150 (10.0)	150 (10.0)
Maximum Supply Pressure, PSIG (bar)	250 (17.0)	250 (17.0)	250 (17.0)
Flow Capacity SCFM, (m ³ /HR) 100 PSIG, (7.0 bar) Supply, 20 PSIG, (1.5 bar) Output	150 (255)	150 (255)	150 (255)
Exhaust Capacity SCFM, (m ³ /HR) Downstream Pressure 5 PSIG, (.35 bar) Above 20 PSIG, (1.5 bar) Setpoint	40 (62.5)	40 (62.5)	40 (62.5)
Sensitivity (water column)	1.0" (2.54 cm)	2.0" (5.08 cm)	3.0" (7.62 cm)
Ratio Accuracy % of 100 PSIG, (7.0 bar) Output Span	3.0	3.0	3.0
% of Output Span with 100 PSIG (7.0 bar) Input Span	—	—	—
Supply Pressure Effect, PSIG (bar) for change of 100 PSIG, [7.0 bar], (700 kPa).	0.10 (.007)	0.20 (.014)	0.30 (.021)
Ambient Temperature, °F (°C)	-40 to +200 (-40 to +93)		
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.		

P3BA45 Kits and Accessories

Service Kits

1:1 Ratio PS19549-1
1:1 Ratio w/ Tapped Exhaust..... PS19549-1E
1:3 Ratio PS19549-3
1:2 Ratio PS19549-2
1:1 w/ Tapped Exhaust, I Option PS19549-20E