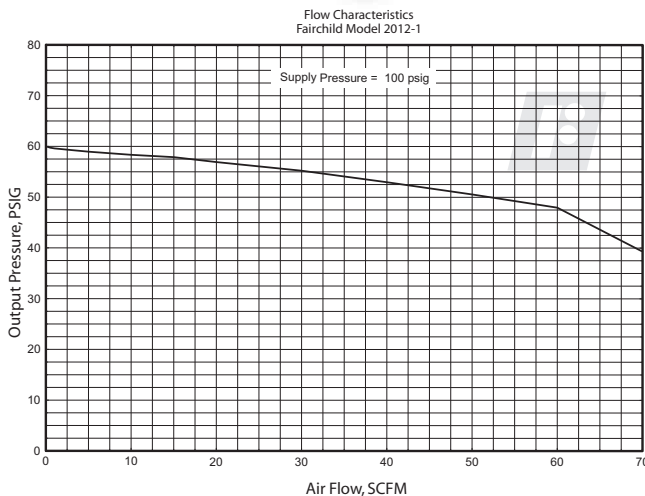


Model 2000

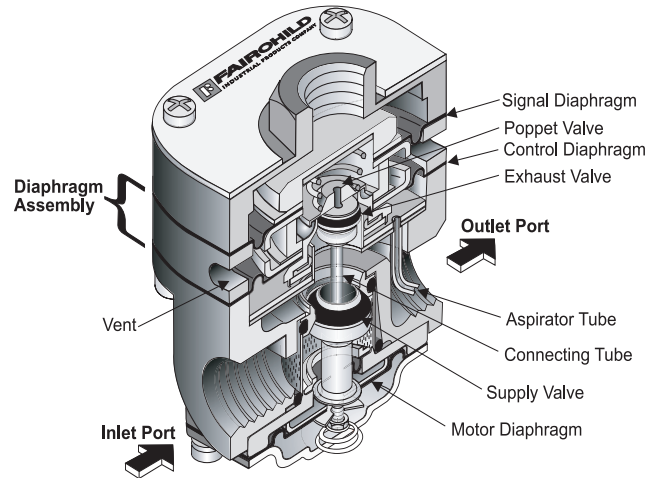
Pneumatic Volume Booster



General Information

The Model 2000 Pneumatic Volume Booster converts a low flow signal to a high flow output. It is ideally suited for a variety of applications including the operation of air systems that require rapid valve or cylinder action.

- A balanced Supply Valve minimizes the effect of supply pressure variation.
- An Aspirator Tube minimizes downstream pressure droop under flow conditions.
- Large Supply and Exhaust Valves provide high forward and exhaust flows.
- Soft Supply and Exhaust Valve Seats minimize air consumption.
- Small signal volume assures rapid response to pressure variation.
- A separate Control Chamber isolates the Diaphragm from the main flow to eliminate hunting and buzzing.
- Unit construction lets you service the unit without removing it from the line.



Cross Section

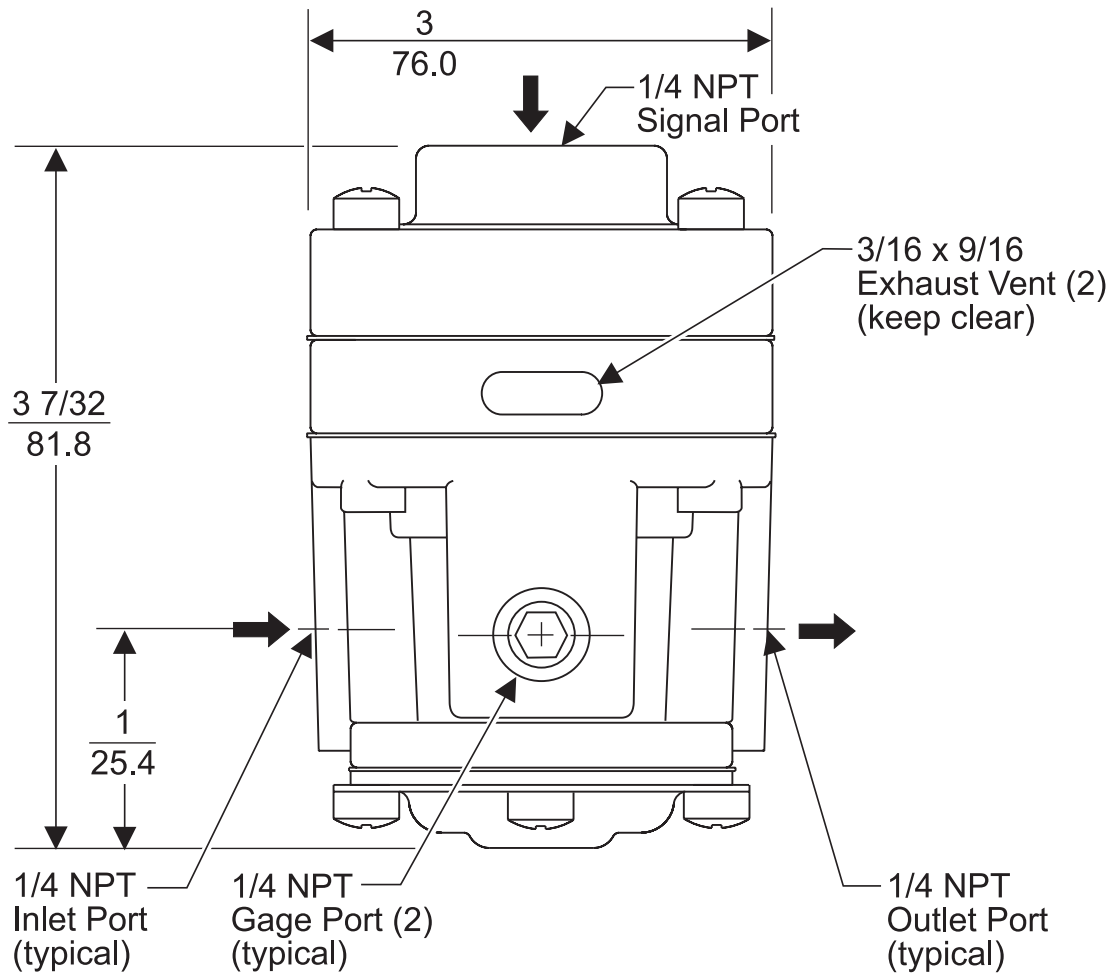
Model 2000 Pneumatic Volume Booster Detail Drawing

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. For more information, see cross sectional diagram.

Outline Dimensions



Specifications

Sensitivity

less than 1" (2.54 cm) Water Column

Supply Pressure Effect

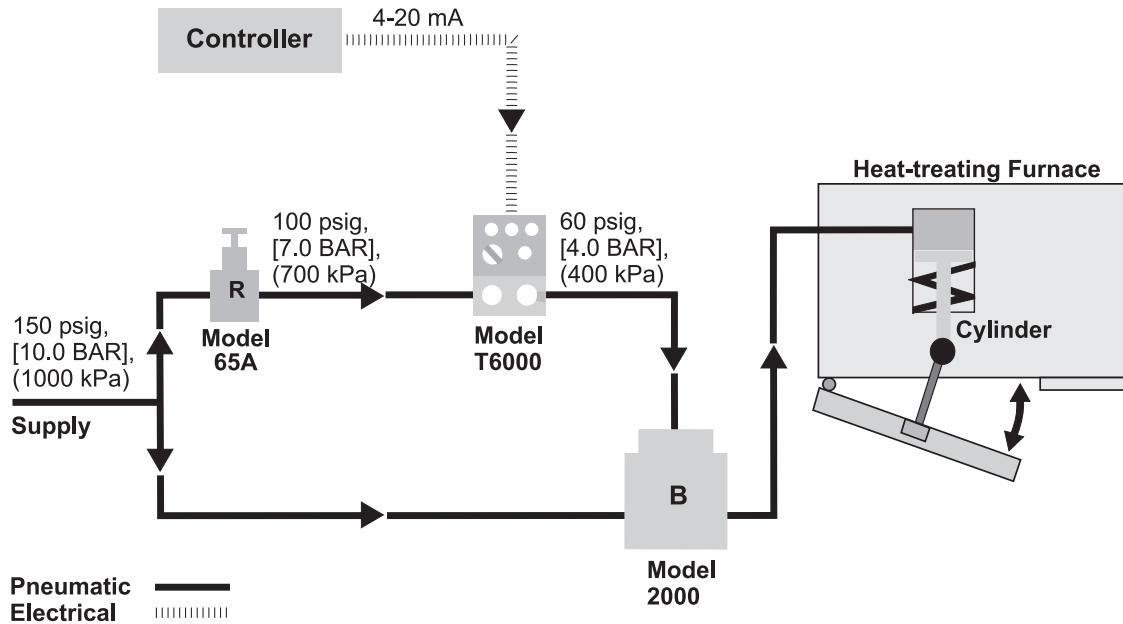
less than 0.1 psig, [.007 BAR], (.7 kPa) for 100 psig, [7.0 BAR], (700 kPa) change in supply pressure

Materials of Construction

Body and HousingZinc
DiaphragmsNitrile on Dacron

Typical Application

The Model 2000 operates a cylinder that opens and closes the door on a heat-treating furnace. An electronic controller transmits a 4-20 mA signal to the T6000 I/P transducer. A 150 psig air supply is piped directly to the Model 2000 booster. The Model 65A regulator reduces the air supply to 100 psig to the Model T6000 transducer. The transducer sends an output signal to the Model 2000 booster. The booster provides output pressure that extends the arm on the cylinder to open the furnace door when the heat-treating cycle is completed.



Specifications

	RATIO 1:1	RATIO 1:1.6
Maximum Supply Pressure	250 psig [17.0 BAR] (1700 kPa)	250 psig [17.0 BAR] (1700 kPa)
Maximum Signal or Output Pressure	150 psig [10.0 BAR] (1000 kPa)	150 psig [10.0 BAR] (1000 kPa)
Flow Capacity (SCFM)	40 (68 m ³ /HR) @ 100 psig, [7.0 BAR], (700 kPa) supply & 20 psig, [1.5 BAR], (150 kPa) setpoint	
Exhaust Capacity (SCFM)	16 (27.2 m ³ /HR) where downstream pressure is 5 psig, [.35 BAR], (35 kPa) above 20 psig, [1.5 BAR], (150 kPa) setpoint	
Ambient Temperature	-40° F to +200° F (-40° C to +93° C)	

Catalog Information

Catalog Number	2 0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ratio				
1:1	1			
1:1.6	0			
Pipe Size				
1/4"	2			
3/8"	3			
Option				
BSPT (Tapered)				U

Installation

For installation instructions, see the *Fairchild Model 2000 Pneumatic Volume Booster Installation, Operation and Maintenance Instructions*, IS-20002000.



ISO 9001:2000
FM NO. 25571

ISO 9001:2000
Certified



precision pneumatic & motion control

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