FAIRCHILD

PNEUMATIC VOLUME BOOSTER

Model 200

FAIRCHILD®

FAIRCHILD

INDUSTRIAL PRODUCTS COMPANY

CROSS SECTION

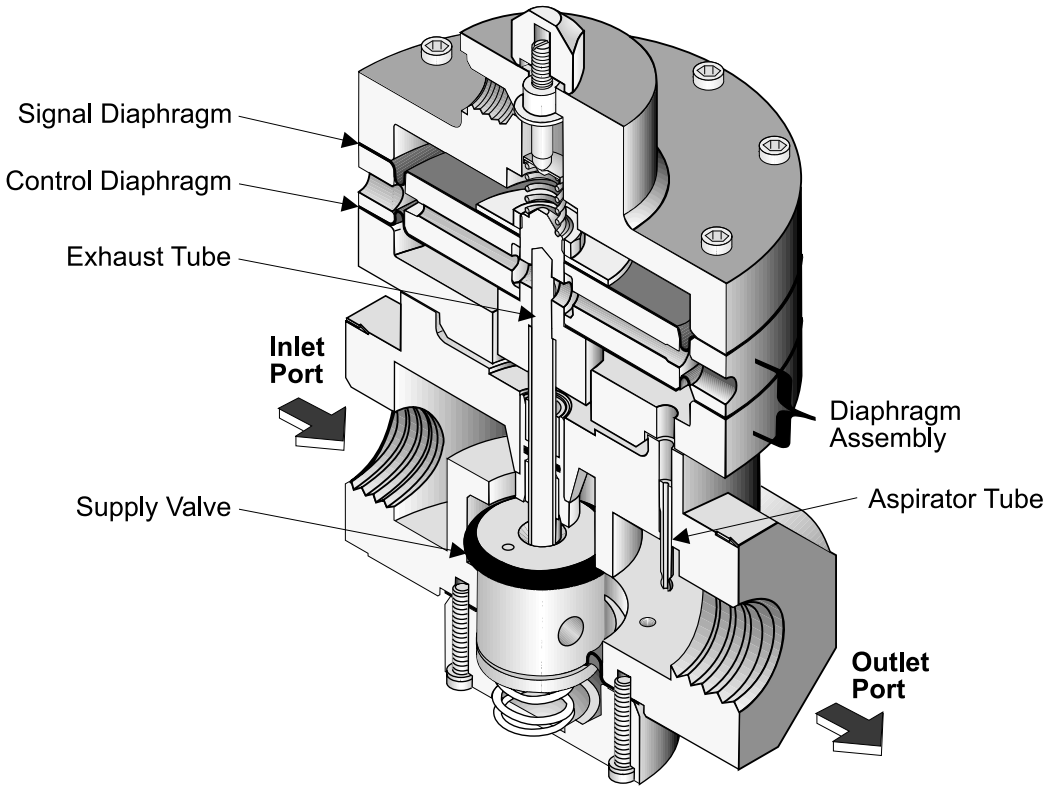

Figure 1. *Model 200 Detail Drawing shown with Increased Sensitivity Option (L).*

GENERAL INFORMATION

The Model 200 Pneumatic Volume Booster reproduces a pneumatic signal in a 1:1 ratio. It is ideally suited for systems that require input isolation or increased forward flow capacity.

The Model 200 has the following features:

- Control sensitivity to 1" water column variation.
- Large Supply and Exhaust Valves provide high forward and exhaust flows.
- A balanced Supply Valve minimizes the effect of supply pressure variation.
- An Aspirator Tube minimizes downstream pressure droop under flow conditions.
- A separate Control Chamber isolates the diaphragm from the main flow to eliminate hunting and buzzing.
- Optional Increased Sensitivity configuration with larger Control Diaphragm for more precision control at low setpoints.
- Unit construction lets you service the Model 200 without removing it from the line.
- A Mounting Bracket is available.

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 downward force of the signal pressure that acts on the top of the Signal Diaphragm balances with the upward force of the output pressure that acts on the bottom of the Control Diaphragm.

When the output pressure increases above the signal pressure, the Diaphragm Assembly moves upward to close the Supply Valve and open the Exhaust Valve. Excess output pressure exhausts through the Vents in the side of the unit until it reaches the setpoint. For more information, see Figure 1.

OUTLINE DIMENSIONS

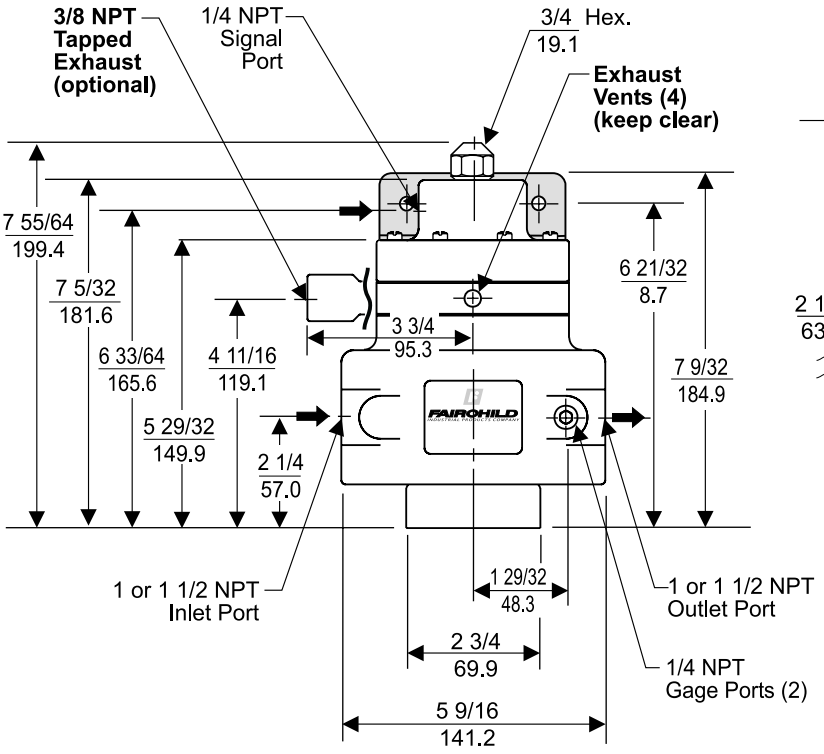

Figure 2. *Model 200 Outline Dimensions*

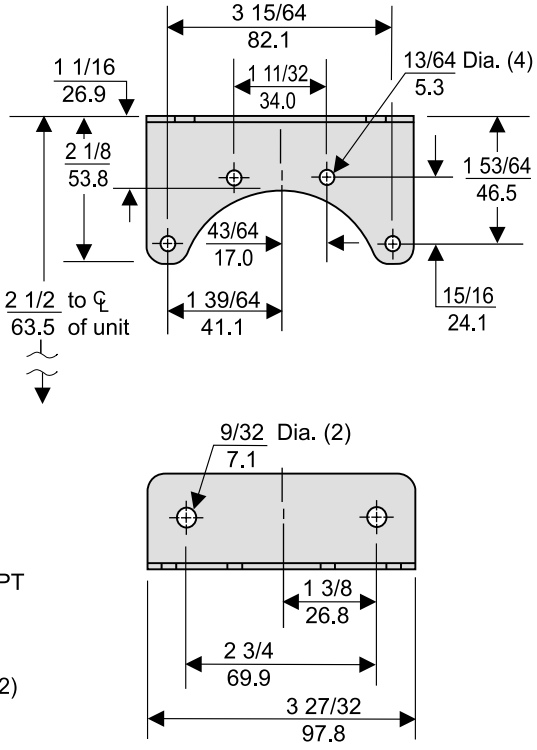

Figure 3. *Mounting Bracket EB-10311* ***(Sold Separately)***

SPECIFICATIONS

FUNCTIONAL SPECIFICATIONS

Supply Pressure	250 psig, [17.0 BAR], (1700 kPa) Maximum
Signal or Output Pressure	150 psig, [10.0 BAR], (1000 kPa) Maximum
Flow Capacity (SCFM)	830 (1400 m^3/HR) @ 100 psig, [7.0 BAR], (700 kPa) supply & 20 psig, [1.5 BAR], (150 kPa) setpoint.

Exhaust Capacity (SCFM)	65 (110.5 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)

OUTLINE DIMENSIONS

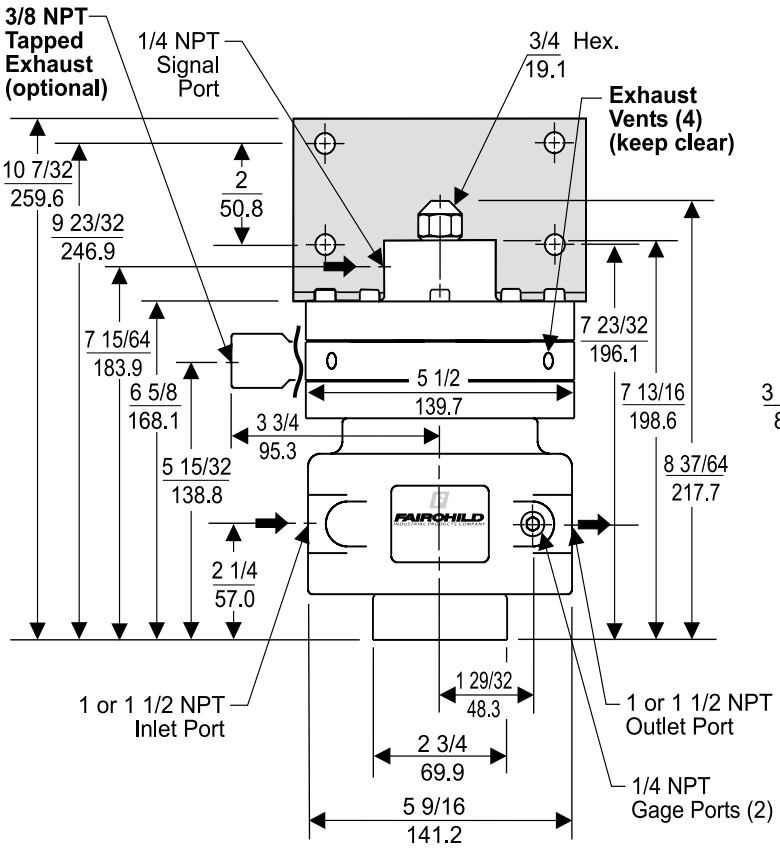

Figure 4. *Model 200 Outline Dimensions shown with Increased Sensitivity Option (L)*

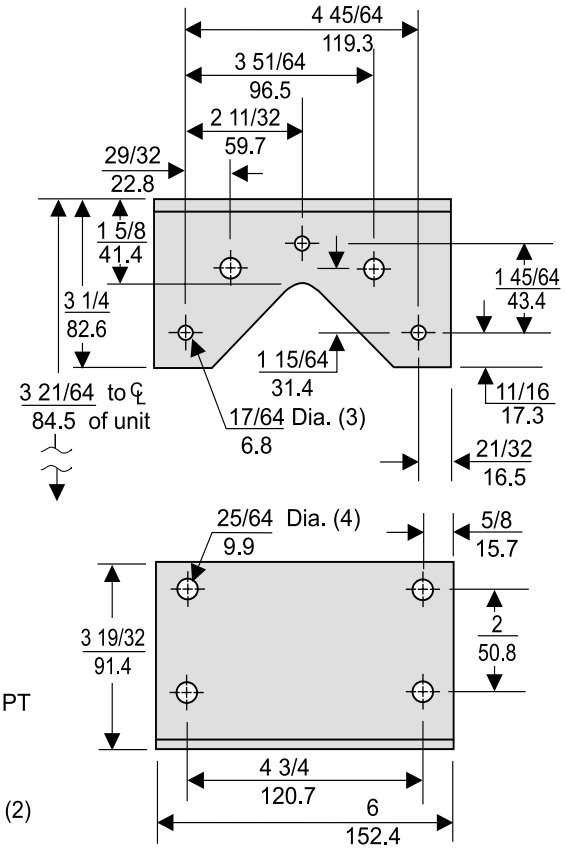

Figure 5. *Mounting Bracket EB-19682-1* ***(Sold Separately)***

SPECIFICATIONS

PERFORMANCE SPECIFICATIONS

Sensitivity	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 Housing . . . . . Aluminum

Trim . . . . . Aluminum, Stainless Steel, Brass, Zinc Plated Steel

Diaphragms . . . . . Nitrile on Dacron

TYPICAL APPLICATION

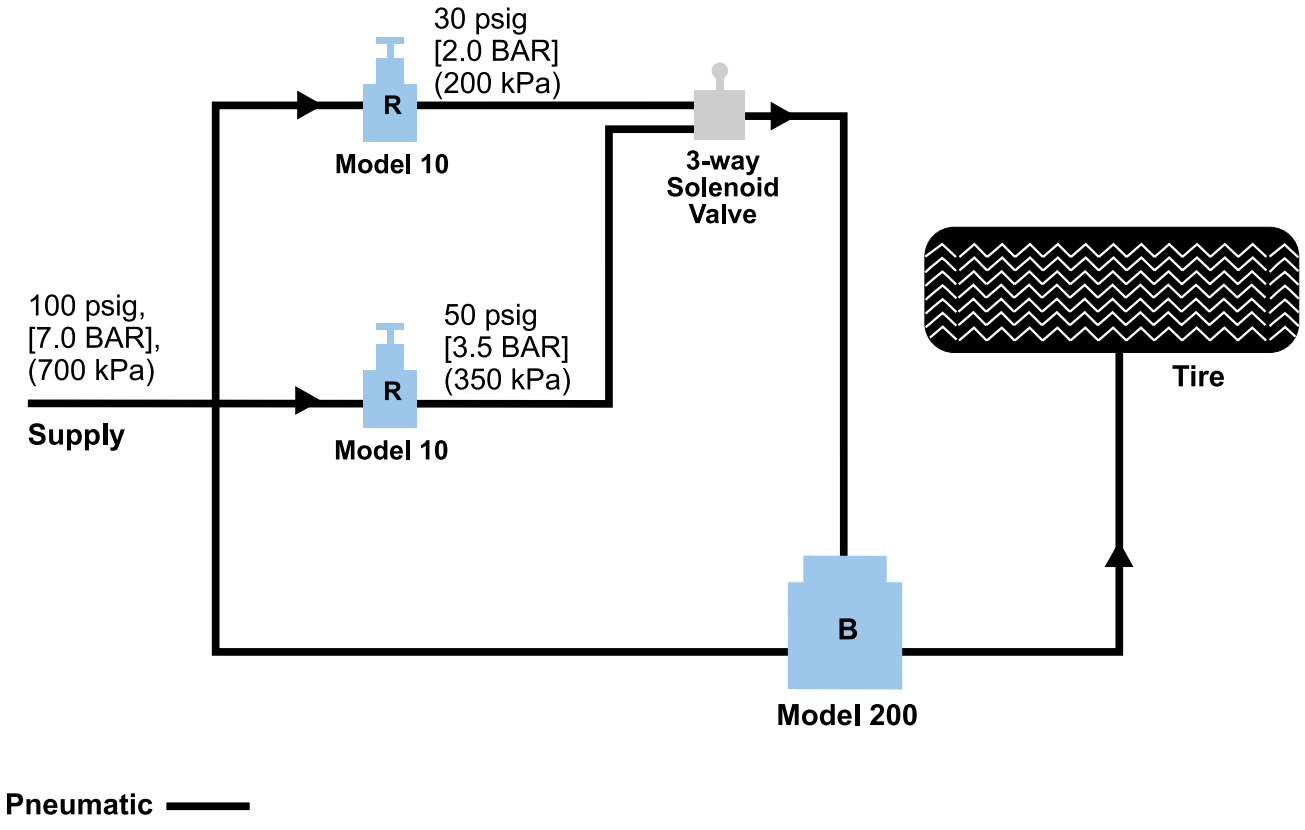

Figure 6. *Model 200 Test Pressure Application*

TYPICAL APPLICATION

In a truck and off-highway tire testing system, the Model 200 provides high volume forward and reverse flows needed for rapid cycle response times. The preset test pressures are selected with the 3-way Solenoid Valve. The high pressure sets the tire bead on the machine. The low pressure is maintained in the tire during the testing process. For more information, see Figure 6.

INSTALLATION

For installation instructions, see the *Model 200 Pneumatic Volume Booster IOM,* **IS-20000200.**

ORDERING INFORMATION

Catalog Number **2001** ☐ ☐

Pipe Size

1"	NPT	**(08)**
1 1/2"	NPT	**(12)**

Options

Tapped Exhaust	**(E)**
Non-relieving	**(N)**
Increased Sensitivity (For more precision control at low setpoints)	**(L)**

ISO 9002
Certified

FAIRCHILD
INDUSTRIAL PRODUCTS COMPANY

3920 WEST POINT BLVD. WINSTON-SALEM, NC 27103-6708
TEL 336-659-3400 FAX 336-659-9323

www.fairchildproducts.com

BSI
REGISTERED FIRM
FM NO. 25571

CS-20000200
Litho in USA
Rev. Q 10/00