FINE CONTROLS (UK) LTD

Fine Controls have been supplying process controls & instrumentation equipment since 1994, & now serves an ever expanding customer base, both in the UK & globally.

We offer a full range of valve & instrumentation products & services, with our product rangerepresenting leading technologies & brands:

Flow: Flow Meters & Transmitters, Flow Switches, Flow Control Valves & Batch Control Systems

Temperature: Temperature Probes & Thermowells, Temperature ransmitters,Temperature Regulators & Temperature Displays

Level: Level Transmitters & Switches

Pressure: Pressure Gauges &Transmitters, Precision & High Pressure Regulators & I-P Converters, Volume boosters.

Precision Pneumatics: Pressure Regulators, I-P Converters, Volume Boosters, Vacuum Regulators

Valves: Solenoid & Pneumatic Valves, Control Valves & Positioners, Actuated Ball, Globe or Diaphragm Valves & Isolation Valves

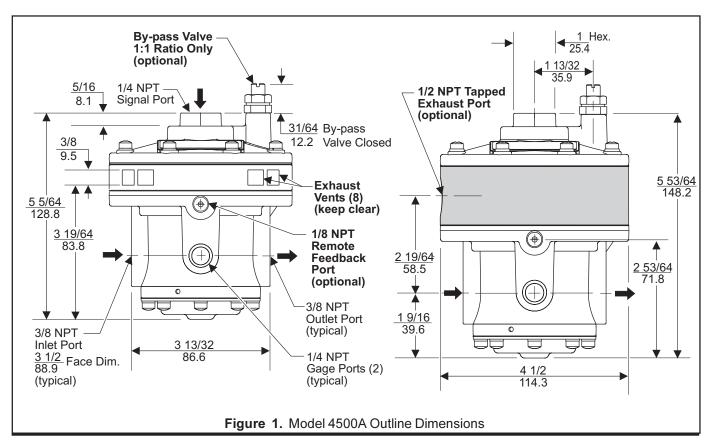**Services:** Repair, Calibration, Panel Build, System Design & Commissioning

FAIRCHILD MODEL 4500A
PNEUMATIC VOLUME BOOSTER
Installation, Operation and Maintenance Instructions

Figure 1. Model 4500A Outline Dimensions

─── INSTALLATION ───

You can mount the booster in any position without affecting its operation.

Clean all pipelines to remove dirt and scale before installation.

Apply a minimum amount of pipe compound to the male threads of the fitting only. **Do Not use teflon tape as a sealant.** Start with the third thread back and work away from the end of the fitting to avoid contaminating the booster. Install the booster in the air line.

The Inlet and Outlet ports are labeled "In" and "Out". Tighten all connections securely. Avoid undersized fittings that will limit the flow through the booster. For more information, see Figure 1.

─── OPERATION ───

The Model 4500A reproduces a pneumatic signal in a 1:1 ratio or in multiplying or dividing ratios.
($Po = Ps \times R$); where Po is output pressure, Ps is signal pressure, R is ratio.

NOTES: Oil free air must be applied to the booster. Use a filter to remove dirt and entrained liquid in the air line ahead of the booster. If an air line lubricator is used, it MUST be located downstream of the booster to avoid interference with performance.

To clean the Model 4500A, use the following steps:

1. Shut off system pressure to the booster to prevent air from escaping. It is not necessary to remove the booster from the air line.

2. Remove the four Screws and Washers (between ports) from the bottom of the unit. For more information, see Figure 2.

3. Remove the Inner Valve Assembly. For more information, see Figure 2.

4. Wash the Inner Valve Assembly with a solvent. Exercise care to prevent damage to diaphragms and valve facings. **Avoid solvents such as acetone, carbon tetrachloride and trichlorethylene.**

5. Replace the assembly carefully. Ensure that the Vent in the exterior part of the Inner Valve Assembly and the Exhaust vents in the Spacer Ring are clear. For more information, see Figure 2.
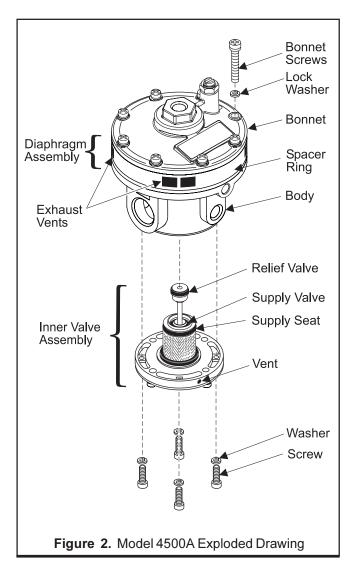
Troubleshooting

Problem	Source	Solution
Leakage	Bonnet Screws	Tighten the Bonnet Screws.
High Bleed	• Relief Valve • Supply Valve • Supply Seat	• If contaminated, clean the source and Body.
	• Diaphragm Assembly	• If damaged, install the service kit.

NOTE: **If the standard maintenance procedure does not correct the problem, install the appropriate service kit.**

Standard	Tapped Exhaust	Ratio
• 19549-1	• 19549-1E	• 1:1 & By-pass Option (I)
• 19549-2	• 19549-2E	• 1:2
• 19549-3	• 19549-3E	• 1:3
• 19549-4	• 19549-4E	• 2:1
• 19549-5	• 19549-5E	• 3:1

Figure 2. Model 4500A Exploded Drawing

FAIRCHILD
precision pneumatic & motion control

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