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Level: Level Transmitters & Switches

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

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

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

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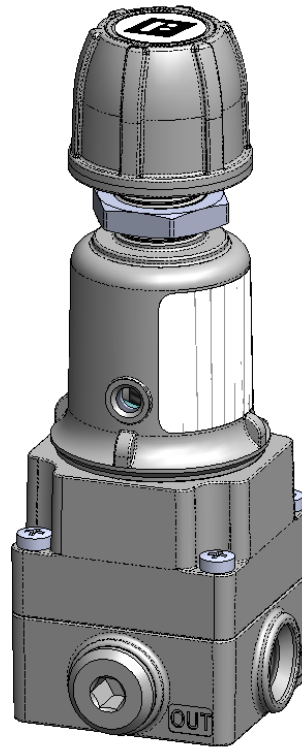
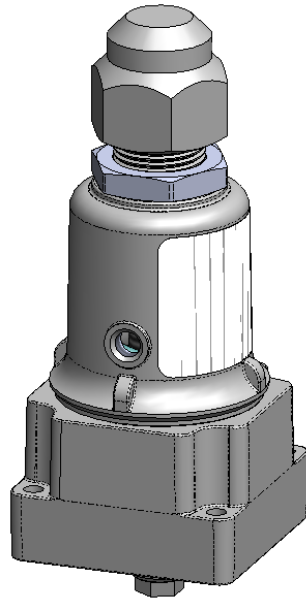
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Fine Controls (UK) LTD, Bassendale Road, Croft Business Park,
Bromborough, Wirral, CH62 3QL UK
Tel: 0151 343 9966
Email: sales@finecontrols.com

FAIRCHILD MODEL 55 Pressure Reducing Regulator Installation, Operation and Maintenance Instructions



Introduction

The Fairchild Model 55 miniature precision pressure reducing regulator is a precision engineered, diaphragm sensing, pressure regulator designed to regulate pressure of air and speciality gases. This single stage, moderate flow capacity pressure regulator will fulfill pressure control requirements in analytical, medical and laboratory instrumentation. The polymer and stainless steel construction permit the use of both non corrosive and corrosive media compatible with the materials of construction.

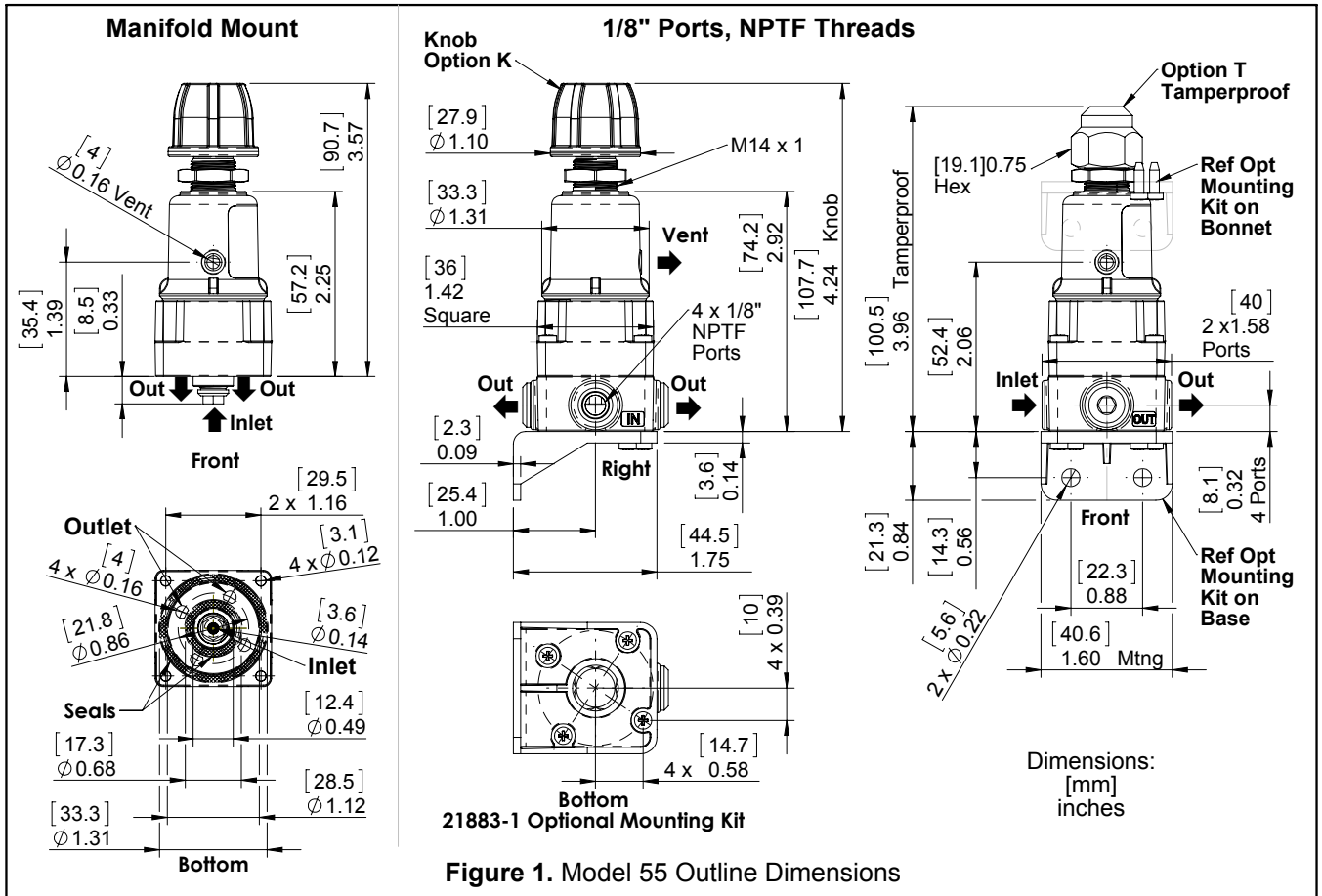
Features

- All engineered polymer and stainless steel construction materials provide media and washdown compatibility.
- High sensitivity, convoluted Nitrile/polyester diaphragm for accurate pressure control and long life.
- Four outlet pressure ranges provide optimum sensitivity
- 0.05 Cv flow coefficient
- Relieving and non relieving designs
- Tamperproof adjustment option

Table 1. Specifications & Limits

Maximum Supply Pressure	150 psig 10 Bar 1000 kPa
Output Pressure Ranges	0-10 psig 1/2-30 psig 1-60 psig 2-100 psig
Sensitivity	3 in H ₂ O (1/2-30 psig Range Unit)
Supply Pressure Effect	<0.75% of supply pressure change
Ambient Temperature Limits	-40° to +150°F -40° to +65°C
Connection	1/8" NPTF or Manifold
Flow Capacity (120 psig supply, 20 psig setpoint)	Forward Flow 10 scfm Exhaust Flow 1.2 scfm
Weight	100g Maximum

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Installation

Table 2. Material of Construction

Valve Body & Bonnet	PBT+PC
Valve	303 Stainless Steel
Seats Exhaust Supply	PBT+PC Acetal
Diaphragm	Nitrile
Seals	Nitrile
Springs	302 Stainless Steel
Fasteners	18-8 Stainless Steel

The model 55 pressure regulator can be mounted in any position without affecting its operation.

Clean all pipe fittings to remove contaminants before installation.

Fitting installation information:

This information is based on applying 3 wraps of 0.002 thick teflon thread tape to the fitting.

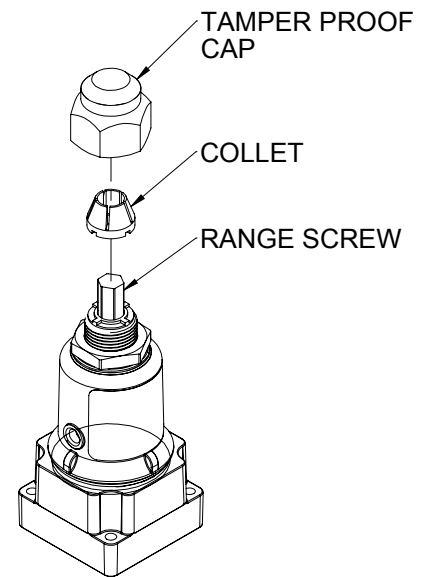
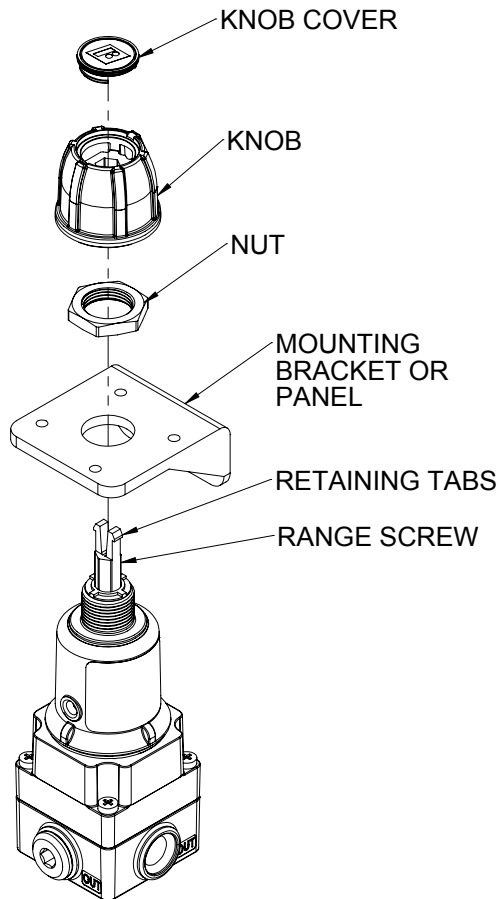
Table 3. Fitting Installation

Number of fitting turns after installing fitting finger tight	Number of turns to achieve a leak free connection	Maximum permissible number of turns
Inlet Port	1.5	3
Outlet Port	1	2.5

Caution - Do not over tighten the port fittings as this can damage the body.

CAUTION - Do not rely on the pressure regulator to limit the supply pressure from the downstream piping system. Employ properly sized pressure limiting device to protect the piping system and equipment downstream of the pressure regulator from the effects of the supply pressure in the event of a pressure regulator failure.

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Panel Installation

To mount the model 55 in a panel or bonnet mount the universal mounting bracket using the panel mount bushing and nut under the knob, the knob must be removed to get access to the bushing. To remove the knob, locate the relief in the top of the knob then use a small screwdriver to pry up and remove the knob cover. Turn the knob counter clockwise until the tabs on the range screw disengage from the knob. Pull the knob off of the range screw. Remove the nut and insert the model 55 through the hole in the panel or through the hole in the universal mounting bracket. Reinstall the nut and tighten securely. Place the knob over the range screw and turn clockwise, occasionally pushing down on the knob until the tabs on the range screw snap over the edge of the counterbore in the knob. Locate the wide space between the ribs inside the knob cover recess and align the retaining tabs of the cover with the wide space. Snap the knob cover in place to complete the installation.

Tamper Proof Adjustment

The tamper proof actuator option allows additional security to the model 55's pressure setting in that it requires tools to gain access and adjust the setpoint. To adjust the setpoint, remove the tamper proof cap and slide the collet up and off of the range screw. Make adjustments to the setpoint using a 1/4" nut driver. Place the collet over the range screw and assure the collet engages the tabs on the bonnet to prevent its rotation. Reinstall the tamper proof cap to secure the setting.

MAINTENANCE

WARNING Shutting off air supply to the pressure regulator and adjacent equipment can create dangerous system conditions.

To clean the Model 55, use the following steps:

1. Shut off system pressure to the pressure regulator and carefully relieve the pressure in all connected lines. It is not necessary to remove the pressure regulator from the air line.
2. Remove the Bonnet from the Valve Body of the unit. For more information, see Figure 4.
3. Remove the Diaphragm Assembly and Seal Plate. Remove the four screws attaching the Port Body. Remove the Port Body and unscrew the Valve Plug and remove the Valve spring. With a hollow tube, push the Seat and Pintle from the top side of the Valve Body. For more information, see Figure 4.
4. Wash the Pintle and Seat with a solvent. Exercise care to prevent damage to diaphragms and valve facings. **Avoid solvents such as acetone, carbon tetrachloride and trichloroethylene.**
5. Carefully replace the Valve Assembly, installing the Pintle Spring and Valve Plug. Lightly lubricate the o-rings and install the Port Body. Install the Seal Plate, Diaphragm Assembly, Diaphragm Ring, Range Spring. Install Bonnet and torque to 60 inlb. For more information, see Figure 4.

Trouble shooting

Problem	Source	Solution
Leakage	Body Bolts	Tighten the Body Bolts
High Bleed	<ul style="list-style-type: none"> • Relief Valve • Supply Valve • Supply Seat 	<ul style="list-style-type: none"> • If contaminated, clean the source and Body.
	<ul style="list-style-type: none"> • Diaphragm Assembly 	<ul style="list-style-type: none"> • If damaged, install the service kit.

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

- 21885-R Relieving
- 21885-N Non-Relieving



FAIRCHILD INDUSTRIAL PRODUCTS CO.
REGISTERED TO ISO 9001:2008
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Fairchild Products Company
3920 West Point Blvd. • Winston-Salem, NC 27103
phone: (336) 659-3400 • fax: (336) 659-9323
sales@fairchildproducts.com • www.fairchildproducts.com

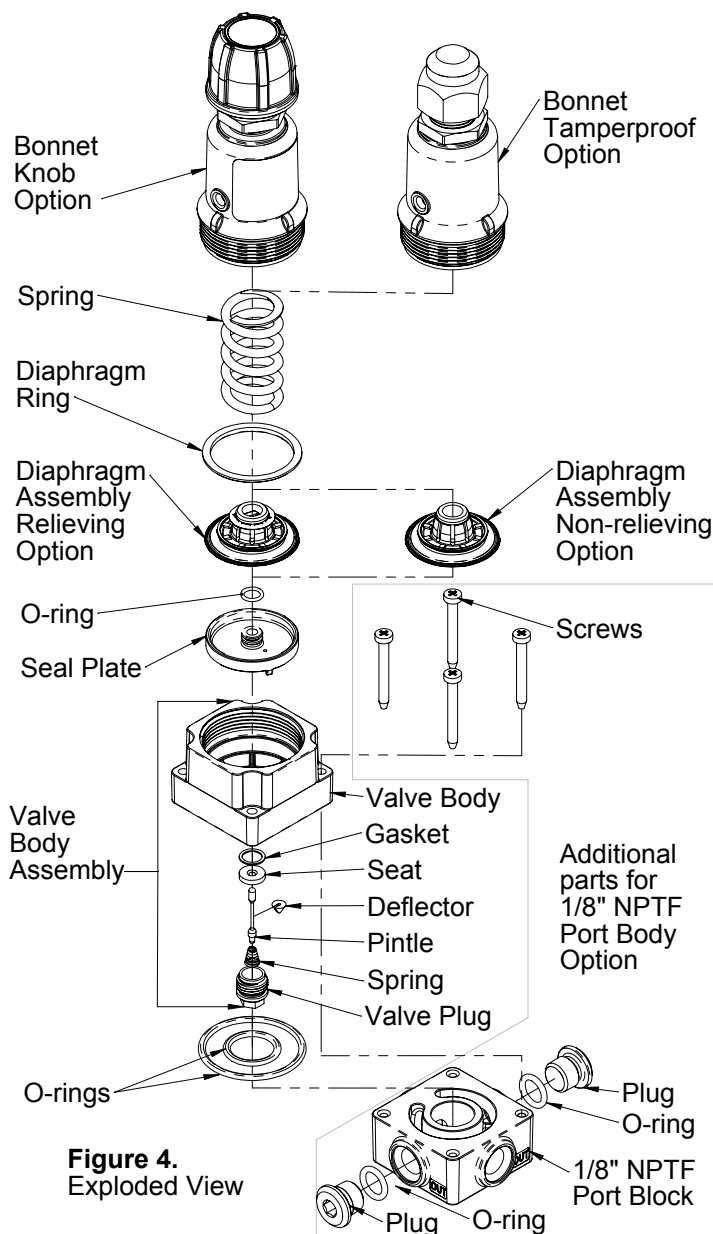


Figure 4.
Exploded View

LEGAL NOTICE:

The information set forth in the foregoing Installation, Operation and Maintenance Instructions shall not be modified or amended in any respect without prior written consent of Fairchild Industrial Products Company. In addition, the information set forth herein shall be furnished with each product sold incorporating Fairchild's unit as a component thereof.

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