

 **WARNING**

To avoid unpredictable system behavior that can cause personal injury and property damage:

- Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
- Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.
- Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.
- Medium must be moisture-free if ambient temperature is below freezing.
- Service according to procedures listed in these instructions.
- Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.
- Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.

 **CAUTION**

Polycarbonate bowls, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to direct sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls should not be exposed to chlorinated hydrocarbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids such as phosphate ester and diester types.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents, but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY!
DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

 **WARNING**

To avoid polycarbonate bowl rupture that can cause personal injury or property damage, do not exceed bowl pressure or temperature ratings. Polycarbonate bowls have a 150 PSIG pressure rating and a maximum temperature rating of 125°F.

 **WARNING**

Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.

Safety Guide

For more complete information on recommended application guidelines, see the Safety Guide section of Pneumatic Division catalogs or you can download the **Pneumatic Division Safety Guide** at: www.fairchildproducts.com/documents.php

Installation

1. Refer to the above WARNING before installing filter/regulator.
2. Make sure that system piping and filter/regulator are the same pipe size. Avoid using fittings, couplings, etc. that restrict airflow.
3. Install unit as near as possible to filtered/regulated air application.
4. Position unit so air flows in direction indicated by arrow on the top of filter/regulator body.
5. Install filter/regulator in a vertical position with bowl side down.
6. To install a drain line, use the following procedure:
 - a. On units with the MANUAL DRAIN, attach flexible tubing having an I.D. of 5/32" (4 mm) to drain stem.
 - b. On units with the AUTOMATIC PISTON DRAIN attach flexible tubing having an I.D. of 1/4" (6 mm).
7. To install using L-Type (wall mount) bracket, fit bonnet threads into bracket hole. Replace panel nut and tighten.

Operation

1. **Maximum pressure rating is 150 psig (10.3 bar) for transparent plastic bowls, and 250 psig (17.2 bar) for metal bowls. Temperature range is 32°F to 125°F (0°C to 52°C) for transparent plastic bowls, and 32°F to 150°F (0°C to 65.5°C) for metal bowls.**
2. To adjust filter/regulator pull up on adjusting knob.
3. Before turning on supply air pressure, turn the adjusting knob counterclockwise until there is no load on the regulating main spring.
4. To set the downstream pressure turn on the supply air pressure and then turn the adjusting knob clockwise until the desired secondary pressure is reached. Push the adjusting knob down to lock knob in place.
5. When making a change in pressure setting, always approach the desired pressure from a lower pressure. When reducing from a higher to a lower setting first reduce to some pressure point less than that desired and then increase to the desired pressure.

Maintenance

1. Given normal operating conditions this unit will be trouble-free. For long service life, occasionally disassemble and clean body, diaphragm, valve and valve seat. Service unit at least every 6 months.
2. **TO REPLACE OR SERVICE VALVE ASSEMBLY:**
 - a. Depressurize unit.
 - b. Turn adjusting knob counterclockwise to relieve compression on spring.

 **WARNING**

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from The Company, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure and review the information concerning the product or systems in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by The Company and its subsidiaries at any time without notice.

EXTRA COPIES OF THESE INSTRUCTIONS ARE AVAILABLE FOR INCLUSION IN EQUIPMENT / MAINTENANCE MANUALS THAT UTILIZE THESE PRODUCTS. CONTACT YOUR LOCAL REPRESENTATIVE.

- c. Remove bowl and bowl guard assembly by turning counterclockwise.
- d. Unscrew baffle by turning counterclockwise.
- e. Remove filter element.
- f. Unscrew deflector by turning counterclockwise.
- g. Valve assembly can now be removed for cleaning or replacement. When replacing valve assembly lightly lubricate valve O-ring with teflon based grease.
- h. Reinsert valve assembly.
- i. Reassemble in reverse order. Torque deflector to 8-10 lb in. (0.90-1.1 N-m) and baffle to 8-10 lb in. (0.90-1.1 N-m).
- j. Before returning to service, insure that all seals have been reinstalled or replaced.
- k. Reinstall bowl and bowl guard assembly and rotate bowl guard clockwise to securely lock in place. Align arrow on bowl guard with arrow on filter/regulator body.

3. TO REPLACE OR SERVICE DIAPHRAGM ASSEMBLY:

- a. Depressurize unit.
- b. Turn adjusting knob counterclockwise to relieve compression on spring.
- c. Remove bonnet from body by turning counterclockwise.
- d. Remove main spring.
- e. Remove diaphragm assembly to clean or replace.
- f. Reinstall diaphragm assembly with spring rest in the up position.
- g. Place main spring on spring rest.
- h. Align bonnet assembly into body. Turn bonnet clockwise and tighten to 5 lb/ft (6-8 N-m).
- i. Slowly pressurize unit to assume proper seating of all components.

4. IF UNIT WILL NOT REGULATE TO DESIRED PRESSURE OR IF DOWNSTREAM PRESSURE BECOMES EXCESSIVE, disassemble, clean and check valve O-ring, valve stem and valve seat for wear or damage. Replace worn or damaged parts with original manufacturer's service parts.

5. TO CLEAN OR REPLACE BOWL ASSEMBLY:

- a. Depressurize unit.
- b. Remove bowl and bowl guard assembly by turning counterclockwise.
- c. Inspect bowl for damage or deteriorated seals. Replace with original manufacturer's approved seals and bowls.
- d. If bowl becomes dirty, replace it or clean it by wiping the bowl with a soft dry cloth or mild detergent.
- e. Before returning to service, insure that all seals have been reinstalled or replaced.
- f. Reinstall bowl and bowl guard assembly and rotate bowl guard clockwise to securely lock in place. Align arrow on bowl guard with arrow on filter/regulator body.

6. TO REPLACE FILTER ELEMENT:

- a. Depressurize unit.
- b. Remove bowl and bowl guard assembly by turning counterclockwise.
- c. Unscrew baffle by turning counterclockwise.
- d. Remove filter element and discard.
- e. Install new filter element and reassemble in reverse order. Torque baffle to 8-10 in. lbs (0.90-1.1 N-m).
- f. Before returning to service, insure that all seals have been reinstalled or replaced.
- g. Reinstall bowl and bowl guard assembly and rotate bowl guard clockwise to securely lock in place. Align arrow on bowl guard with arrow on filter/regulator body.

7. Filter element should be replaced when pressure drop across the unit exceeds 10 psi (0.7 bar) differential pressure.

8. DRAIN BOWL DAILY to remove liquid water, oil and solid particulates that have accumulated in the bowl reservoir.

Service Kits Available

The following service kits contain the appropriate seals and parts necessary for ordinary field service.

Description	C20 Filter / Regulator
5 Micron Element Kit	21519-1
Polycarbonate Bowl, Bowl Guard, Manual Drain	21571-1
Metal Bowl w/o Sight Glass, Manual Drain	21571-3
Polycarbonate Bowl, Bowl Guard, Automatic Drain	21571-4
0-30 PSI Gauge	21575-3
0-60 PSI Gauge	21575-2
0-150 PSI Gauge	21575-1