

# CONOFLOW AIRPAK® FILTER REGULATORS GFH60/65 Series



Conoflow's GFH Series Airpak® Filter-Regulators are widely used to provide clean, regulated air pressure to instruments and controls, automatic machinery and other pneumatic devices.

The GFH60 Series units are constructed of aluminum and have a maximum supply pressure rating of 300 PSI (2068 kPa). These units come standard with a 35 micron filter (10 and 40 micron filters optional) and are available in three regulated pressure ranges of 0-25, 0-60 and 0-125 PSI (0-172, 0-414 and 0-862 kPa). An easily adjustable wrench knob is standard with handwheel and tamperproof and preset versions available.

The GFH60 incorporates four 1/4" NPT connections. The additional porting allows for installation of a gauge for monitoring output pressure. Line mounting is standard with an optional bracket available for wall mounting.

These Airpaks® are designed for reliability with an absolute minimum of maintenance. The characteristics are a result of Conoflow's high standard of manufacturing and years of experience as a leading producer of pneumatic instrumentation.

## OPTIONS:

### PRESSURE GAUGES:

2" Diameter - Steel, Brass or Stainless Steel Case  
Ranges: 0-30, 0-60 and 0-160 PSI (0-207, 0-414, and 0-1103 kPa)

### MOUNTING:

Line - All Variations  
Wall - Bracket Required (Optional)  
Panel - All Variations

### ADJUSTMENT:

Knob - Standard  
Handwheel - Optional  
Preset - Factory output setting CAN be field adjusted  
Tamperproof - Factory output setting CANNOT be field adjusted

## DIMENSIONAL DATA - ADVERTISING DRAWING:

A17-14.

# PRINCIPLE OF OPERATION

The filter-regulators shown in Figures 1 through 3 all operate in the same manner. Turning the knob changes the force exerted by the range spring on the diaphragm assembly. In equilibrium, the force exerted by the range spring is balanced by the force from the output pressure acting underneath the diaphragm assembly.

An unbalance between the output pressure and the range spring force causes a corresponding reaction in the diaphragm and nozzle assemblies. If the output pressure rises above the set pressure, the diaphragm seat is lifted from the plug, venting the excess pressure to atmosphere until equilibrium is reached. If the output pressure drops below the set pressure, the unbalanced force from the range spring acts through the diaphragm assembly unseating the nozzle plug. This allows supply pressure to flow through the nozzle to the downstream port increasing the output pressure. The output pressure increases until it balances the force on the diaphragm assembly by the range spring. At equilibrium, the plug assumes a position which supplies the required flow while maintaining the output pressure at the set pressure.

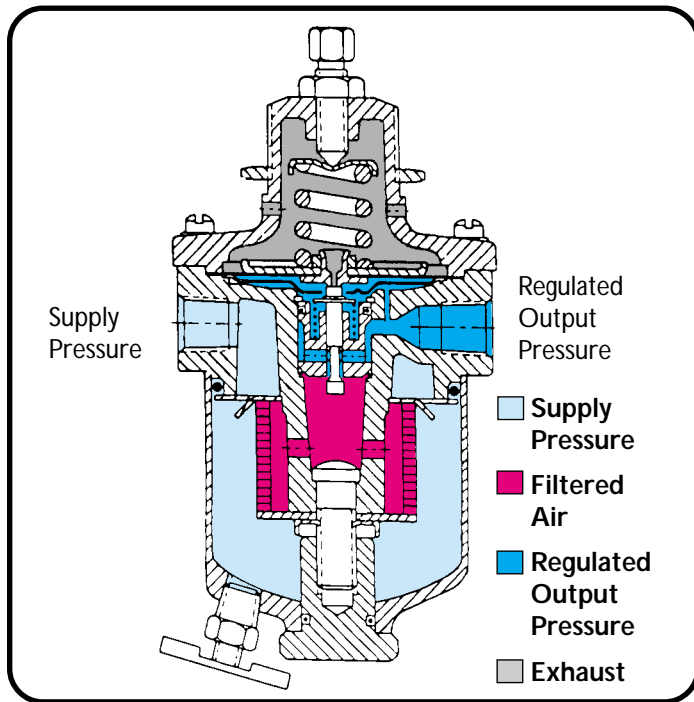


Figure 1. GFH60 Relief — No Bleed Metal Seat Nozzle.

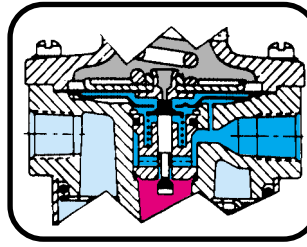


Figure 2. GFH65 Relief - No Bleed/Soft Seat Nozzle

For applications where positive shutoff and minimum air consumption are required, molded rubber seats on the top and bottom of the nozzle plug are available.

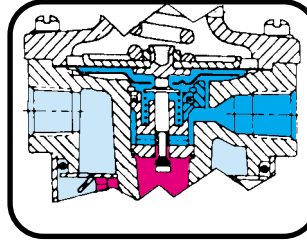


Figure 3. GFH65 No Bleed - No Relief/Soft Seat Nozzle

A no bleed/no relief diaphragm assembly is used to prevent the process medium from exhausting to atmosphere. This option is typically used with liquids and toxic gases. The principle of operation is the same as above except that excess output pressure is not vented to atmosphere. Instead, as the diaphragm seat lifts off of the plug and the nozzle closes, the excess pressure is relieved downstream.

A molded rubber seat on the nozzle plug is available for applications where positive shutoff is required.

### Flow Graph

Consult the Factory for Flow Performance on This Regulator									

# SPECIFICATIONS

## OPERATING CHARACTERISTICS

**Regulated Output Pressure Ranges:**

0-25, 60 and 125 PSI (0-172, 414 and 862 kPa)

**Maximum Supply Pressure:**

300 PSI (2068 kPa) (all variations)

**Flow Capacity [100 PSI (690 kPa) Supply]:**

19 SCFM (0.538 m<sup>3</sup>/min) (See formula)

**Sensitivity:** 0.05 PSI (0.345 kPa)

**Supply Pressure Effect:**

For 25 PSI (172 kPa) change in supply

Range:	GFH60	GFH65
0-25 PSI	0.25 PSI	0.75 PSI
0-60 PSI	0.25 PSI	0.75 PSI
0-125 PSI	0.50 PSI	1.50 PSI

**Ambient Temperature Range:**

-20°F to +150°F (-29°C to +66°C) (w/Buna "N" Diaphragm)

**Filter Rating:** 35 micron (Polypropylene)(See Note1)

**Connections:** 1/4" NPT (Four Port)

**Approx. Shipping Weight:** 1-3/4 lbs. (0.79 Kg)

**NOTE:**

- Optional Filters: 10 micron - Cellulose  
40 micron - Stainless Steel

## MATERIALS OF CONSTRUCTION

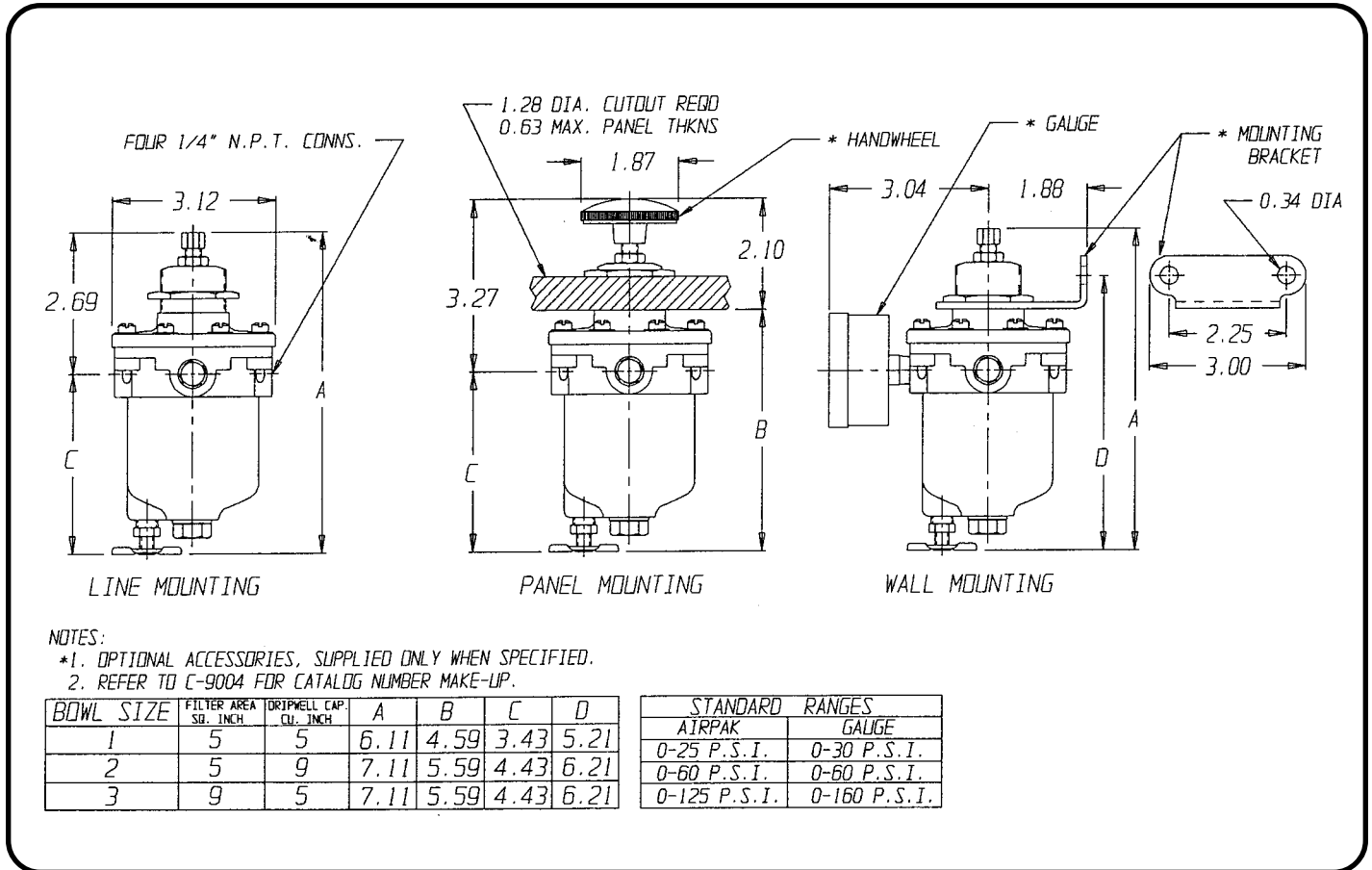
**Body:** Aluminum

**Bonnet:** Aluminum

**Nozzle Assembly:** Brass Body w/Stainless Steel Plug

**Diaphragm Assembly:** Buna "N" nylon reinforced

**Range Spring:** Zinc Plated Carbon Steel



For Certified Dimensional Drawing, Refer to A17-14

# CONTROL ENGINEERING DATA

Control Engineering Data is intended to provide a single source from which one can determine, in detail, the full scope of the product line. In addition to materials of construction, diaphragm selection and filtering capabilities, it also provides all necessary data, regarding adjustment options and range selections. Control Engineering Data also provides a means of communicating, by way of a code number, which is fully descriptive of the product selection.

**NOTE: 1. Catalog numbers as received must contain twelve (12) characters.**

1-5 Models	GFH60 = Airpak® - Filter, Regulator Combination (Aluminum Construction) GFH65 = Airpak® - Filter, Regulator Combination (Aluminum Construction - Soft Seat Nozzle - Buna "N")		
6 Filter Options	A = Filter - Cellulose (10 Micron) (See Note 2 in Option 11) B = Filter - Stainless Steel (40 Micron - Cleaned for Oxygen Service) C = Filter - Stainless Steel (40 Micron) X = Filter - Polypropylene (335 Micron) (Standard) <b>NOTE: For non-standard filter adders, refer to price list CP-5000</b>		
7 Bonnet Type	S = Plain Bonnet T = Threaded Bonnet (Standard for GFH60 and GFH65 Series) <b>NOTE: For non-standard bonnet adders, refer to price list CP-5000</b>		
8 Adjustment Selections	H = Handwheel K = Knob (Wrench Style) (Standard) P = Preset (Factory output setting CAN be field adjusted) (See Notes 1 and 2) <b>NOTES:</b> 1. When option "P" is specified, refer to price list CP-5000 for price adder. 2. Customer must specify desired output setting, supply pressure and flow. 3. For tamperproof GFH60 order under the following catalog number. Refer to price list CP-5000 for details. GFH60XT1194 20 PSI (138 kPa) GFH60XT1195 25 PSI (172 kPa) GFH60XT1196 5-25 PSI (35-172 kPa) GFH60XT1197 5-60 PSI (35-414 kPa)		
9 Diaphragm Selections	E = Buna "N" (w/Relief, No Bleed) (Standard) M = Buna "N" (No Bleed, No Relief)		
10 Gauge Selections	A = Gauge (Brass Case) G = Gauge (Steel Case) S = Gauge (Stainless Steel Case) X = Absence of Specification - No Gauge (Standard) <b>NOTES:</b> 1. The gauge will be shown as a separate line item on the order acknowledgment. The letter will be removed from the catalog number, unless otherwise specified. 2. All gauges are supplied with brass bourdon tubes.		
11 Filter Bowl Options	<table border="0" style="width: 100%;"> <tr> <td style="border: 1px solid black; padding: 2px;">1 2 3</td> <td style="padding-left: 10px;">Filter and Dripwell Capacity</td> </tr> </table> <b>NOTES:</b> 1. For Filter Area, dripwell capacity and bowl lengths, refer to drawing A17-14. 2. When Filter Bowl option 3 is chosen a 10 Micron cellulose filter will be supplied.	1 2 3	Filter and Dripwell Capacity
1 2 3	Filter and Dripwell Capacity		
12 Range Selections	C = 0-25 PSI (0-172 kPa) F = 0-60 PSI (0-414kPa) G = 0-125 PSI (0-862 kPa)		