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Conoflow

CONOFLOW AIRPAK® FILTER-REGULATOR FR95 Series



Conoflow's FR95 Series Airpak®, Filter-Regulator is used to provide clean, accurate air to instruments, valves, positioners, transducers and other pneumatic control devices. This units design provides high flow capability, durable materials of construction and bubble tight shut-off.

The FR95 Regulator has a maximum supply pressure capability of 250 PSIG (1724 kPa) with control output settings of 0-25, 0-60 and 0-125 PSIG (0-172, 0-414 and 0-862 kPa). This light-weight unit boasts a high flow delivery rate, excellent droop characteristic and bubble tight shut-off.

This regulator is offered with ¼" NPT inlet and outlet ports, two outlet gauges ports, all aluminum construction and has a black anodized exterior for superior corrosion resistance. A wrench knob adjustment is standard with a handwheel version optional.

The FR95 Airpak® is designed for reliability with an absolute minimum of maintenance. The performance characteristics are a result of Conoflow's high standard of manufacturing and years of experience as a leading producer of pneumatic instrumentation.

FEATURE SUMMARY

- Stable Output
- High Flow Capability
- Excellent Droop Characteristics
- Bubble Tight Shut-Off
- Low Air Consumption
- Black Anodized Corrosion Resistant Exterior.

APPLICATIONS

- Valve Actuators
- Pneumatic Positioner
- Transducers
- Transmitters
- Other Pneumatic Control Device

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

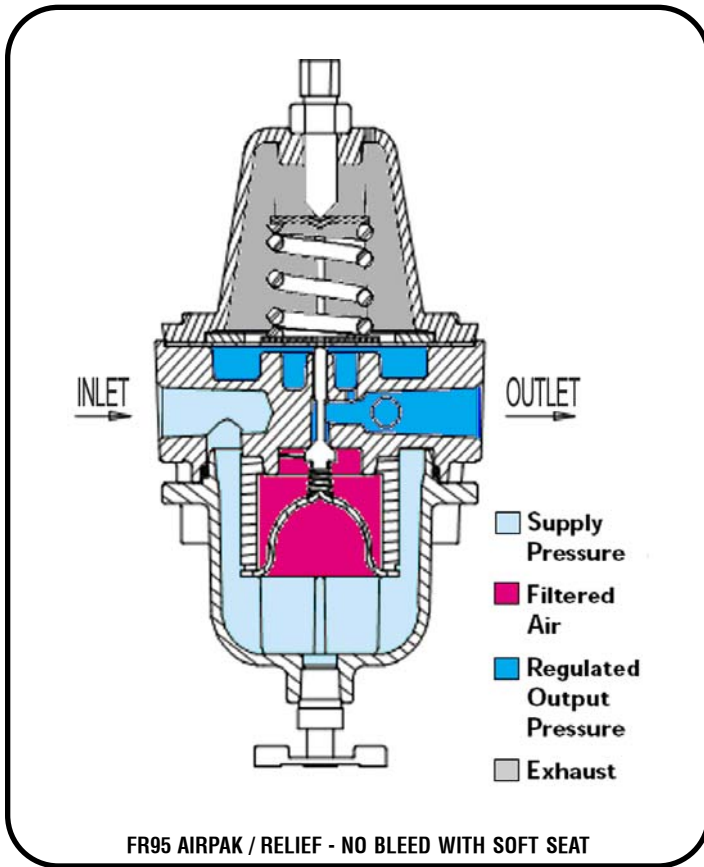
ADJUSTMENT:

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

DIMENSIONAL DATA - ADVERTISING DRAWING:

A17-130

Engineered for life



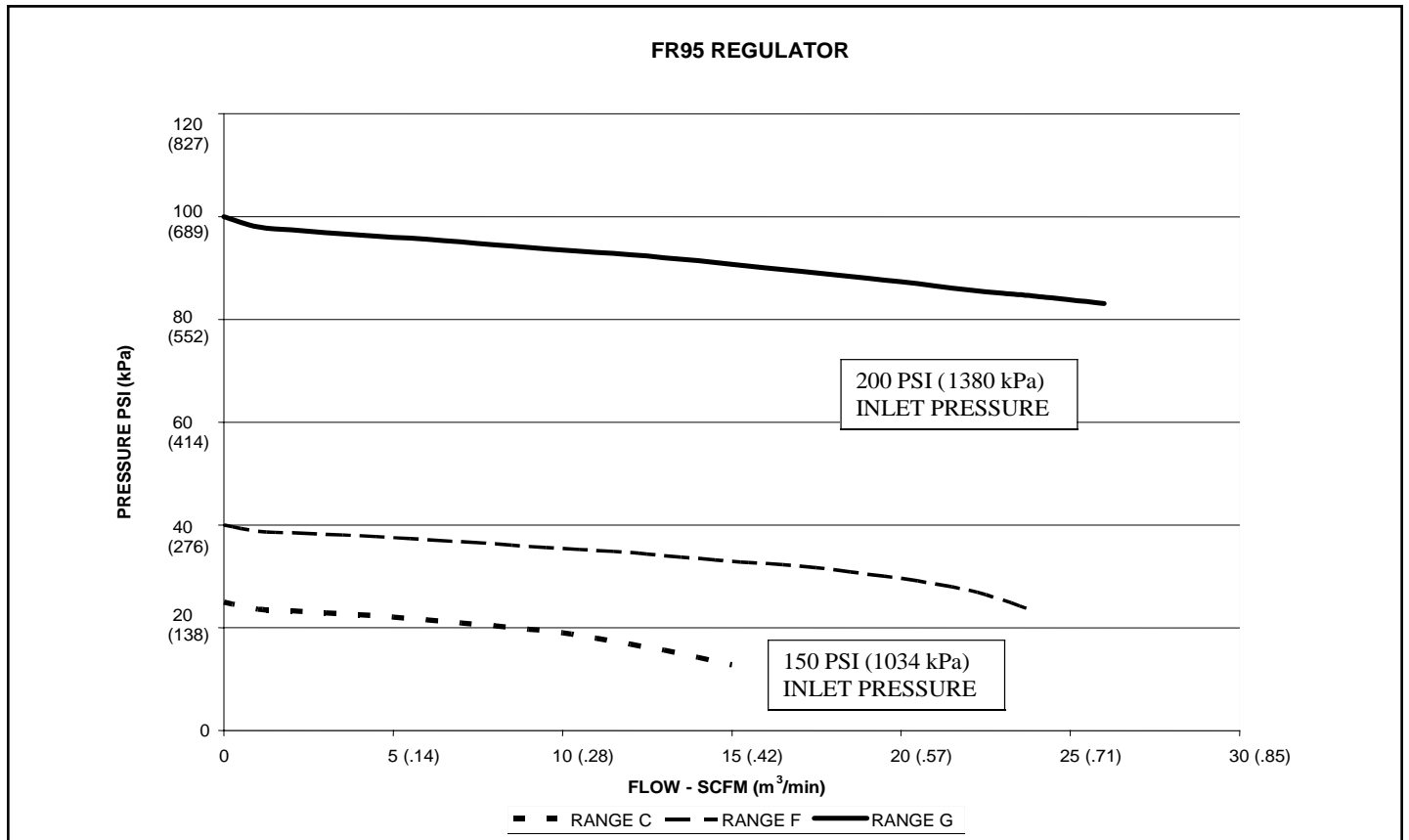
PRINCIPLE OF OPERATION

Turning the adjusting screw (wrench knob or handwheel) 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 (set pressure) 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.

A no bleed / no relief diaphragm is used to prevent the process medium from exhausting to atmosphere. This option is typically used with hazardous gases, or other circumstances where the standard self relieving operation is not desired. The principle of operation is the same except that excess output pressure is not vented to atmosphere. Instead, as the diaphragm seat lifts off of the plug the nozzle closes, the excess pressure must be relieved downstream. **Caution:** Refer to Materials of Construction prior to selecting this product for use with media other than compressed air.

TYPICAL AIR FLOW PERFORMANCE



OPERATING CHARACTERISTICS

Regulated Control Output Settings:

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

Maximum Supply Pressure:

250 PSIG (1724 kPa) - All Variations

Flow Capacity (Supply Pressure Noted):

25 SCFM (0-125 @200 psi inlet pressure) / Cv 0.5

Exhaust Capacity:

Cv = 0.03

Air Consumption:

0 SCFM (<20 ccm)

Sensitivity:

0.1 PSI (0.7 kPa)

Supply Pressure Effect:

0.6 PSIG (4.0 kPa) for 25 PSIG (172 kPa) change in supply pressure (Evaluated @ 2.0 SCFM air flow)

Ambient Temperature Range:

-20F to +150F (-29C to +66C)

Filter Rating:

35 Micron Polypropylene - Standard

10 Micron Cellulose / 40 Micron Stainless Steel Optional

Connection:

1/4" NPT Inlet and Outlet Ports

2 - 1/4" NPT Gauge Port (90 Degrees from Outlet Port)

Approximate Shipping Weight:

1.6 lbs. (0.73 kg)

WETTED MATERIALS OF CONSTRUCTION

Body: Aluminum - Black Anodized Coated

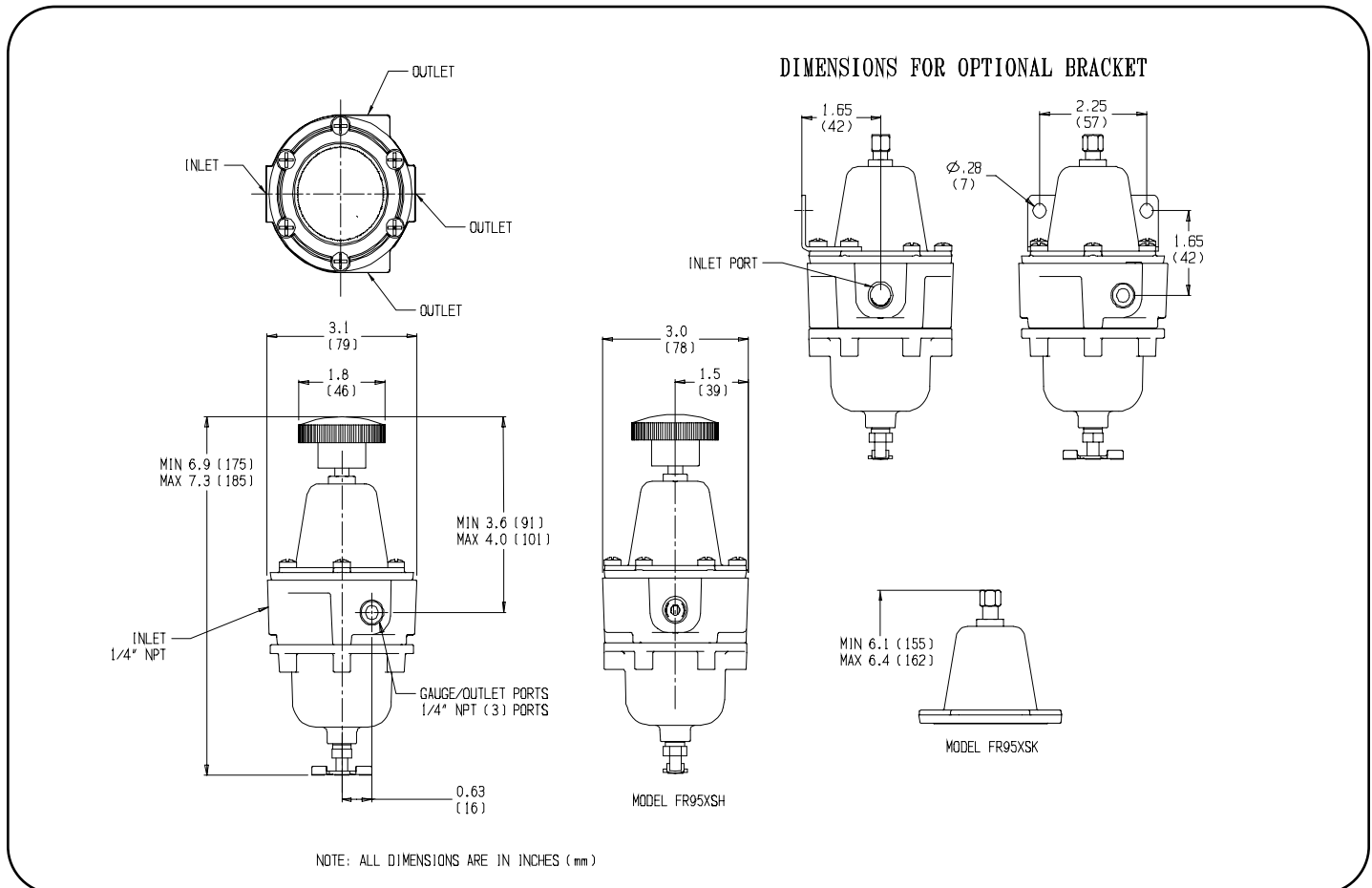
Bowl: Aluminum - Black Anodized Coated

Diaphragm Assembly: Buna N - Nylon Reinforced

Nozzle Assembly: Brass with Buna N Soft Seat

Nozzle Spring: Stainless Steel

Filter Plate: Zinc Plated Carbon Steel



FOR CERTIFIED DIMENSIONAL DRAWING, REFER TO A17-130

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, filtering capabilities, it also provides all necessary data for gauge options and control output setting ranges. 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 Number as received must contain eleven (11) characters.

1-4 Model	FR95 = Airpak® - Filter, Regulator Combination (Aluminum Construction - Soft Seat Nozzle - Buna N)
5 Filter Options	A = Filter - Cellulose (10 micron) - Optional B = Filter - Stainless Steel (40 Micron - Cleaned for Oxygen Service) - Optional C = Filter - Stainless Steel (40 Micron) - Optional X = Filter - Polypropylene (35 Micron) - Standard
6 Bonnet Type	B = Mounting Bracket (Mounted to regulator - See Advertising Drawing on Page 3) S = Plain Bonnet
7 Adjustment Selections	H = Handwheel K = Knob (Wrench Style) - Standard P = Preset (Factory Output Setting CAN be field adjusted) (See Note 1) C = Tamperproof (Factory Output Setting CANNOT be field adjusted) (See Note 1) NOTE: 1. Customer must specify OUTPUT SETTING, SUPPLY PRESSURE and FLOW.
8 Diaphragm Selections	E = Buna "N" (w/Relief, No Bleed) - Standard M = Buna "N" (No Bleed, No Relief)
9 Gauge Selections	A = Gauge (Brass Case) G = Gauge (Steel Case) S = Gauge (Stainless Steel Case) X = Absence of Specification - No Gauge - Standard NOTES: 1. The gauge will be shown as a separate line item on the order acknowledgment. 2. All gauges are supplied with brass bourdon tubes.
10 Filter Bowl Option	1 = Standard (Bowl Size)
11 Control Setting Ranges	C = 0-25 PSI (0-172 kPa) F = 0-60 PSI (0-414 kPa) G = 0-125 PSI (0-862 kPa)