

## 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.

### PRINCIPLES 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 are 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.

### Standard Specifications

**Maximum Supply Pressure:** 250 PSIG (1742 kPa) - All Variations

**Connections:** 1/4" NPT Inlet and Outlet Ports, 2 - 1/4" NPT Gauge Port (90 Degrees from Outlet Port)

**Regulated Output Pressure Ranges:**

0-25 PSI (0-172 kPa)

0-35 PSI (0-241 kPa)

0-60 PSI (0-414 kPa)

0-125 PSI (0-862 kPa)

**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)

**Supply Pressure Effect:** 0.6 PSIG (4.0 kPa) for 25 PSIG (172 kPa) change in supply pressure (Evaluated @ 2.0 SCFM air flow)

**Sensitivity:** 0.1 PSI (0.7 kPa)

**Ambient Temperature Range:** -20°F to +150°F (-29°C to +66°C)

**Filter Rating:** 35 Micron Polypropylene Blend - Standard 10 Micron Cellulose / 40 Micron Stainless Steel Optional

**Approximate Shipping Weight:** 1.6 lbs. (0.73 kg)

### Materials of Construction

**Body:** Aluminum - Black Anodized Coated

**Bowl:** Aluminum - Black Anodized Coated

**Diaphragm Assembly:** Buna "N" - Nylon Reinforced

**Nozzle Assembly:** Brass w/Buna "N" Soft Seat

**Nozzle Spring:** Stainless Steel

**Filter Plate:** Zinc Plated Carbon Steel

**Optional Mounting Bracket:** Zinc Plated Steel

Dimensional Drawing A17-130 is available upon request.



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## PRODUCT CONFIGURATION CODING

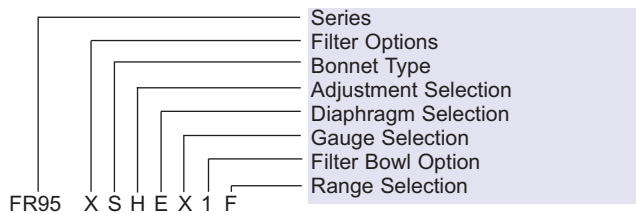
Product configuration coding is intended to provide a single source from which one can determine, in detail, the full scope of the product line. In addition to materials of construction, diaphragm selection and filtering capabilities, it also provides all necessary data, regarding adjustment options 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 eleven (11) characters.**

## Ordering Sequence — Select desired option for each category

TEXT POSITION 1 through 4	OPTION CODE FR95	DEFINITION OF CHARACTER
		AIRPAK® Filter, Regulator Combination (Aluminum Construction - Soft Seat Nozzle - Buna "N")
<b>FILTER OPTIONS</b>		
5	A	Filter - Cellulose (10 Micron) - <i>Optional</i> (Air Filtration 5 Micron Nominal)
	B	Filter - Stainless Steel (40 Micron - Cleaned for Oxygen Service) - <i>Optional</i>
	C	Filter - Stainless Steel (40 Micron) - <i>Optional</i>
	X	Filter - Polypropylene Blend (35 Micron) ( <b>Standard</b> )
<b>BONNET TYPE</b>		
6	B	B = Mounting Bracket (Mounted to regulator - See Dimensional Drawing A17-130)
	S	Plain Bonnet
<b>ADJUSTMENT SELECTIONS</b>		
7	H	Handwheel
	K	Knob (Wrench Style) - ( <b>Standard</b> )
	<b>NOTES:</b>	Factory Preset an Tamperproof options are available as (Specials). PLEASE CONSULT FACTORY Preset (Factory Output Setting CAN be field adjusted) Tamperproof (Factory Output Setting CANNOT be Field Adjusted) Customer must specify OUTPUT SETTING, SUPPLY PRESSURE and FLOW.
<b>DIAPHRAGM SELECTIONS</b>		
8	E	Buna "N" (w/Relief, No Bleed) ( <b>Standard</b> )
	M	Buna "N" (No Bleed, No Relief)
<b>GAUGE SELECTIONS</b>		
9	X	Absence of Specification - No Gauge - ( <b>Standard</b> )
	<b>NOTES:</b>	1. Pressure gauge options are available in the price pages. 2. All gauges are supplied with brass bourdon tubes.
<b>FILTER BOWL OPTIONS</b>		
10	1	Standard (Bowl Size)
<b>RANGE SELECTIONS</b>		
11	C	0-25 PSI (0-172 kPa)
	D	0-35 PSI (0-241 kPa)
	F	0-60 PSI (0-414 kPa)
	G	0-125 PSI (0-862 kPa)

## Example



## Dimension Specifications

