

## TECHNICAL SPECIFICATION

### *Filter Regulator – B38*



**Product Description**



**Performance**



**Construction**



**Accessories and Spare Parts**



**How to Order**



**Dimensional Details**



## PRODUCT DESCRIPTION

Wilkerson B Series Integral Filter/Regulator Combo Units integrate the excellent features of the F Series filters and the R Series regulators into a high performance space-saving package. Filtration down to 5 microns in size – >97% efficient at separating out liquid water and oils with low pressure drops at rated flows – Excellent regulation characteristics, all in an economical and smartly-styled package.

## Features

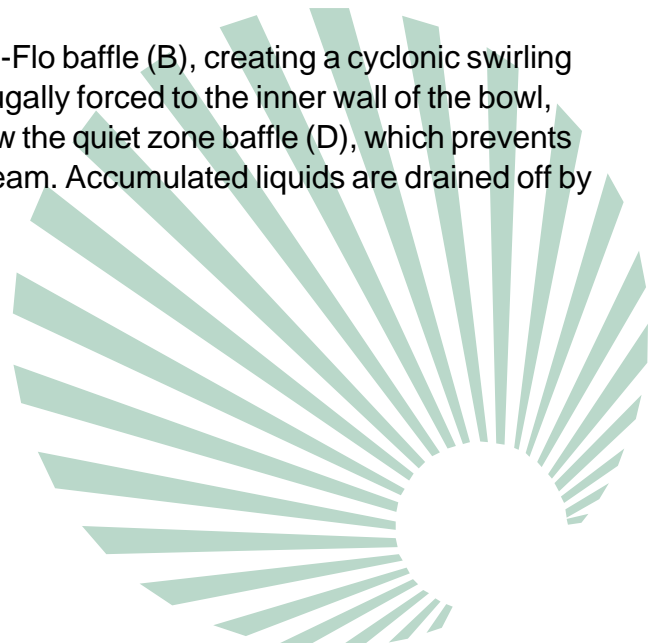
- Extremely efficient at water separation/removal (>97%)
- Special Whirl-Flo baffle creates a cyclonic flow, ensuring maximum separation of dirt and water from air
- 5 micron filter element - Wilkerson's standard
- Space-saving package combines filter and regulator into one integral unit.
- Balanced valve design for better performance at higher flows.
- Bayonet-type bowl mount for ease of service.
- Excellent response, repeatability, and sensitivity because of diaphragm design.
- Manual drain with pipe-away
- Can be installed modular or hard-piped.

## Operation

Turning adjusting knob (H) clockwise [viewed from top of knob] compresses main spring (I), moving diaphragm (J) and valve (K) down, which allows filtered air to flow past valve seat and downstream.

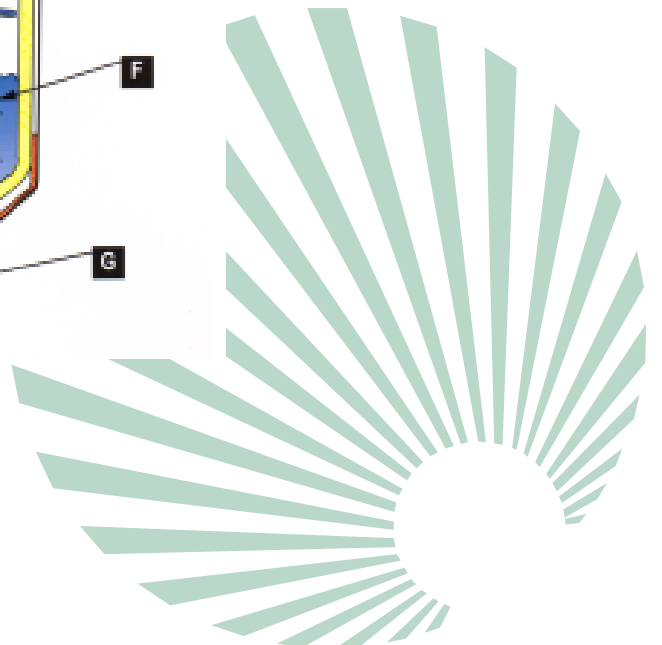
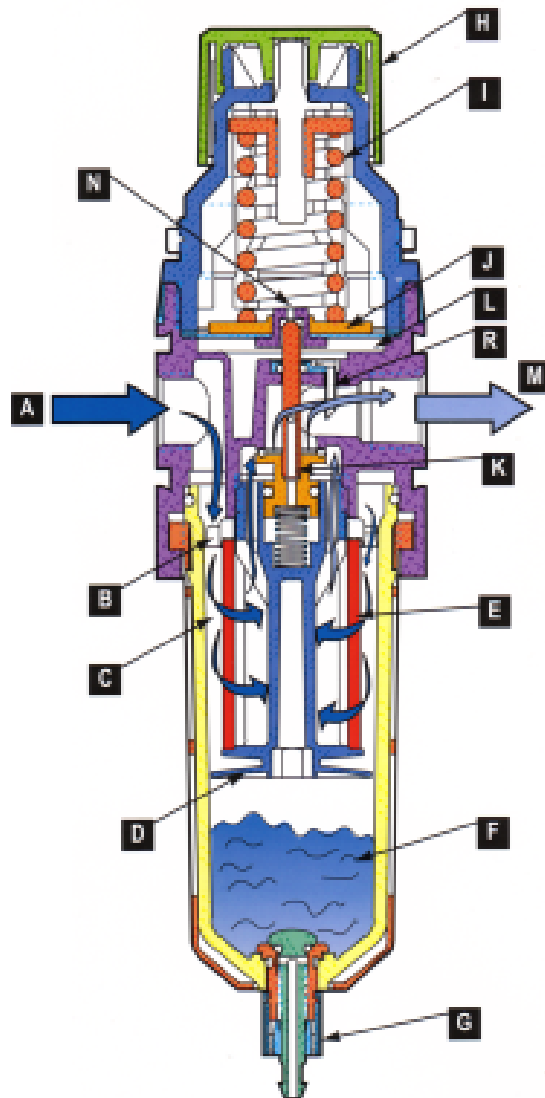
## Separation

Air enters at inlet port (A) and flows through the Whiri-Flo baffle (B), creating a cyclonic swirling flow (C). Liquids and large solid particles are centrifugally forced to the inner wall of the bowl, where gravity moves them to the quiet zone (F), below the quiet zone baffle (D), which prevents re-entrainment of the collected liquids into the air stream. Accumulated liquids are drained off by opening the manual drain valve (G).



## Filtration

After liquids and large solid particles are separated from the air stream, the air then flows through the element (E), where dirt particles down to 5 microns in size are filtered out. The filtered air stream exits the filter and flows across the valve seat and continues downstream (M). Pressure in the downstream line is sensed through the aspirator tube (R), at the underside of the diaphragm (L), offsetting the load of the main spring (I). When the downstream pressure reaches the set-point, the diaphragm (J) moves up, allowing the main valve (K) to move up, stopping air flow across the valve seat. In standard relieving models, a rise in downstream pressure above the set pressure will cause the diaphragm (J) to lift off the top of the valve stem (K), allowing the excess pressure to be vented through the relieving hole (N) in the centre of the diaphragm. The vented air passes to atmosphere under the knob (H).



## PERFORMANCE

Port Size	BSPP-G (ISO228)	3/4, 1
Flow Capacity*	3/4, 1	348 scfm (164 dm <sup>3</sup> /s)
Maximum Operating Temperature	Plastic Bowl Metal Bowl	125°F (52°C) 150°F (65,5°C)
Maximum Supply Pressure	Plastic Bowl Metal Bowl	150 psig (10,3 bar) 150 psig (10,3 bar)
Standard Filtration	Micron	5
Useful Retention**	oz (cm <sup>3</sup> )	2.7 (80,0)
Adjusting Range Pressure	0-60 psig (0-4, 1 bar) 0-125 psig (0-8, 6 bar)	
Gauge Port (2 each)	NPT/BSPP-G	1/4
Weight	lb (kg)	4.42 (2,0)

\* Inlet pressure 100 psig (6,9 bar). Secondary pressure 90 psid (6,2 bar).

\*\* Useful retention refers to volume below the quiet zone baffle.

### "F" Series Filters, Type "A" 5 micron elements

All Wilkerson Type "A" 5 micron elements meet or exceed ISO Class 3 for maximum particle size and concentration of solid contaminants.



## CONSTRUCTION

Body		Aluminium
Stem, Element Retainer and Deflector		Acetal
Body Cap		ABS
Bowl	Plastic Bowl Metal Bowl	Polycarbonate Zinc
Filter Element		Sintered Polyethylene
Seals	Plastic Bowl Metal Bowl	Nitrile Nitrile
Springs		Steel
Valve Assembly		Brass/Nitrile
Diaphragm Assembly		Nitrile/Zinc



## ACCESSORIES AND SPARE PARTS

### Replacement Bowl Kits

Metal Bowl with Sight Gauge, Manual Drain	GRP-96-689
Metal Bowl with Sight Gauge, Automatic Drain	GRP-96-690
Plastic Bowl/Bowl Guard, Manual Drain	GRP-96-686
Plastic Bowl/Bowl Guard, Automatic Drain	GRP-96-687
Plastic Bowl/Bowl Guard, No Drain	GRP-96-691

### Replacement Element Kits

Type A 5 micron	FRP-96-692
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### Replacement Kits

Diaphragm Assembly, Relieving	RRP-96-694
Diaphragm Assembly	RRP-96-695
Bowl O-ring, Nitrile	GRP-96-693

### Accessories

Automatic Mechanical Drain, 1/8 NPT Fluorocarbon	GRP-95-981
Automatic Mechanical Drain, 1/8 NPT Nitrile	GRP-95-973
Gauge, Pressure, Flush Mounted, 0-60 psig	GRP-96-720
Gauge, Pressure, Flush Mounted, 0-160 psig	GRP-96-719
Gauge, Pressure, Flush Mounted, 0-2,0 bar	GRP-96-724
Gauge, Pressure, Flush Mounted, 0-4,1 bar	GRP-96-723
Gauge, Pressure, Flush Mounted, 0-11 bar	GRP-96-722
Wall Mounting Bracket, C-Type	GPA-96-609
Wall Mounting Bracket, T-Type, Joiner Set	GPA-96-608
Drain, Manual Override for Auto Drain, R 1/8 NPT	GRP-96-000
Drain, Manual Override for Auto Drain, R 1/8	GRP-96-100



## HOW TO ORDER

Filter/Regulator Numbering System

**B 1 8 - 0 3 - F H G P**

### B Unit Function

B = Filter/Regulator Combination

### 1 Family

8 08 = Miniature  
 18 = Compact  
 28 = Standard  
 38 = Jumbo (Not all configurations available for the B38 Series Filter/Regulator Refer to price list.)

### 0 Thread Type

0 = NPT  
 C = BSPP (ISO, R228 [G Series])

### 3 Pipe Size

1 = 1/8	4 = 1/2
2 = 1/4	6 = 3/4
3 = 3/8	8 = 1

### F Filter/Regulator Combination

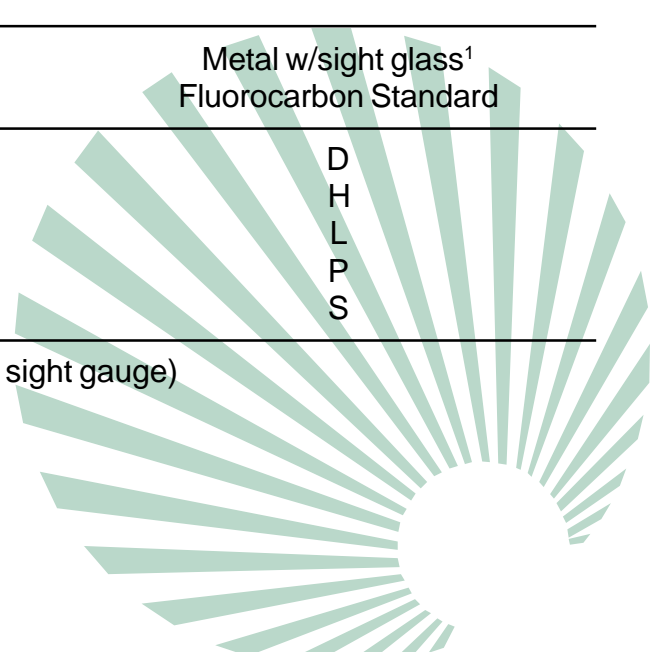
Diaphragm Function	Fluorocarbon	Spring Range			
		0-30 psi (0-2,1 Bar)	0-60 psi (0-4,1 Bar)	0-125 psi (0-8,5 Bar)	0-250 psi (0-17 Bar)
Relieving	No	C	D	F	G
	Yes	J	K	L	M
Non-relieving	No	P	Q	R	S
	Yes	V	X	Y	Z

### H Bowls/Drains

Drains	Plastic w/guard Nitrile Standard	Metal w/sight glass <sup>1</sup> Fluorocarbon Standard
	None	C
Std Auto Drain <sup>2</sup>	G	H
Manual Drain	K	L
Low Flow Auto Drain <sup>2</sup>	N	P
Piston Drain (B08 only)	R	S

<sup>1</sup>B08 Filter/Regulator has an all metal bowl (no sight gauge)

<sup>2</sup>Except 08 Series



## G Options

- 0 = None
- E = Bar Gauge (Except 38 Model)
- C = Tamper Resistant Regulator Adj (Tamper kit not installed.  
Kit is shipped loose in carton)
- G = Pressure Gauge
- P = Metal Panel Nut (Except 38 Model)

## 0 Options

- 0 = None
- E = Bar Gauge (Except 38 Model)
- C = Tamper Resistant Regulator Adj (Tamper kit not installed.  
Kit is shipped loose in carton)
- G = Pressure Gauge
- P = Metal Panel Nut (Except 38 Model)
- K = Pressure Gauge mounted on back side (B08 only)

*Note: When selecting from the options columns, please enter letters in alphabetical order, for example:*

**B18 – 03 – F H G P**

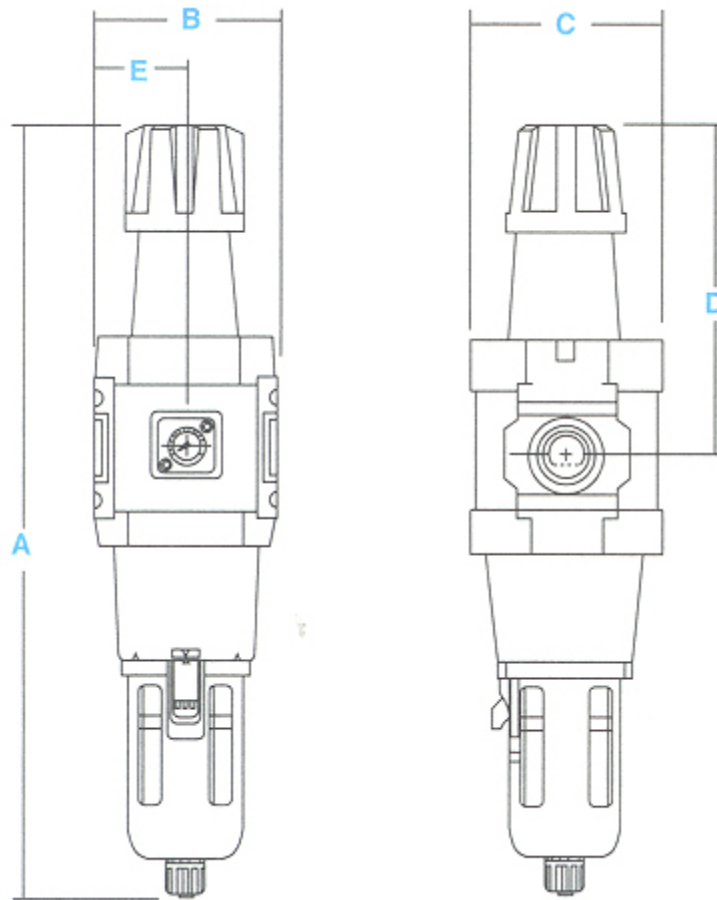
## "F" Series Filters, Type "A" 5 micron elements

All Wilkerson Type "A" 5 micron elements meet or exceed ISO Class 3 for maximum particle size and concentration of solid contaminants.

**Note:** All classes above refer to International Standards Organisation (ISO) standard 8573-1:1991 (E), pertaining to maximum particle size and concentration of solid contaminants, and maximum oil content.



## DIMENSIONAL DETAILS



Models	A mm (inches)	B mm (inches)	C mm (inches)	D mm (inches)	E mm (inches)
Manual Drain B38-XX-FK00	407 (16.02)	100 (3.94)	100 (3.94)	159 (6.26)	51.9 (2.05)
Manual Drain with Pressure Gauge B38-XX-FKG0	407 (16.02)	100 (3.94)	100 (3.94)	159 (6.26)	51.9 (2.05)

