

# GENERAL PURPOSE FILTERS

## FILTER FUNCTION

General purpose compressed air filters remove water and particulate material from the air stream to protect downstream equipment from contamination. As air enters the filter, internal baffles create a swirling motion to the air so that entrained dirt and liquids are thrown against the sides of the filter bowl and then fall to the sump area at the bottom of the bowl.

Additional baffling keeps the air in the sump area relatively quiet; this ensures that the removed material is not returned to the air flow going to the filter element. The filter element will then collect smaller particles.

The most frequently used element in Master Pneumatic general purpose filters is rated at 5 µm, so that nearly all particles larger than 5 µm (*half the diameter of a human hair*) will be collected in the filter element.

## FILTER SELECTION

General purpose filter elements are available with 5-µm and 40-µm ratings; some units can also be provided with 20-µm-rated elements. The most efficient filter element is one selected by taking into consideration the dirtiness of the ambient air and the needed cleanliness of the air after filtration.

Some high-flow filters have 40-µm elements which are satisfactory for general piping. At point of use, and with smaller filters, the standard 5-µm element is most commonly used and recommended. See coalescing filters for finer filtration.

## GUIDE to GENERAL PURPOSE FILTERS

Filter Series	Modular Construction	Port Sizes								Pages	
		1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2		2
<b>SENTRY</b> FD10 models †	yes	X	X								54-55
<b>MINIATURE</b> FD50 models	no	X	X								56-57
F50S stainless steel models	no		X								58-59
<b>GUARDSMAN</b> FD60 models	yes		X	X	X						60-61
<b>GUARDSMAN II</b> BFD70 models	yes		X	X	X						62-63
<b>Modular</b> F5A350 models	yes		X	X	X						64-65
<b>Full-Size VANGUARD</b> FD100 models	yes		X	X	X	X					66-67
<b>Full-Size SERIES 380</b> FD380 models	yes			X	X	X					68-69
<b>High-Flow VANGUARD</b> FD100, BFD100 models	no					X	X	X	X	X	70-71
BF6A400 models	no							X	X	X	74-75
BFD200 models	no					X	X	X	X		72-73 & 76-77

† Also available with quick-connect tube fittings up to 10 mm.

## FILTER MAINTENANCE

Filters must be attended to on a regular basis in order to rid them of water and other contaminants. The use of an automatic drain is highly recommended because it greatly reduces the need for frequent individual attention. This is especially important if access to the filter is difficult, because difficult access makes it much more likely that regular maintenance will be overlooked. If a filter is equipped with a manual drain, accumulated water must be removed regularly so that it does not clog the filter.

Pressure drop across filter elements increases as they continue to remove dirt from the air. They should be inspected on a regular basis, and replaced to restore full efficiency.

Under average conditions filter elements should be replaced each year.

## CARE OF PLASTIC BOWLS

Plastic bowls are made of high-strength polycarbonate, a very tough transparent material. Bowls are intended for use with compressed air, but can be adversely affected if contaminants such as alcohol or liquified petroleum gas are in the intake air. Some compressor oils, solvent fumes, and other substances can attack the bowl and lead to failure.

When a bowl is cleaned (by wiping inside and outside with a clean dry cloth) it should be inspected for cracks or scarring on the surface. If either condition occurs it is an indication that the ambient air contains harmful substances, and the bowl should be replaced, preferably with a metal bowl.

Just a few of the substances that can harm polycarbonate bowls are: acetone, ammonia, benzene, brake fluids, carbon disulfide, carbon tetrachloride, ethyl acetate, ethylene glycol, Freon, lacquer thinner, nitrocellulose lacquer, sodium hydroxide, toluene, turpentine, and many others.

Small bowls (i.e., Sentry and Miniature bowls) do not need bowl guards. However, metal shatterguards are supplied with larger bowls and must always be used.

Never use polycarbonate bowls at temperatures above 125°F (52°C) or pressures above 150 psig (10 bar). For conditions exceeding these limits use metal bowls.

## BOWL DRAINS

Manual drains are the simplest bowl drains, but they require frequent attention to rid the bowl of accumulated water and dirt particles. If a filter is located where it is difficult to access, it might not be drained as often as it should be. For this reason, and to save a lot of maintenance manpower, automatic drains (see next page) are standard equipment and provide a cost-effective way to maximize filter performance and reduce maintenance.

Tube-Away kits (see **ACCESSORIES**) supply tubing for **VANGUARD** filters with automatic drains to carry water and dirt to a suitable drainage outlet.

**HYDRO-JECTOR** external drains (see next page) for **SERIES 380** and **VANGUARD** filters are for use wherever severe condensate problems exist. They operate automatically whenever liquid in the bowl raises the float activating the drain.

The **WARRIOR** drain (see **ACCESSORIES**) is electronically controlled, and allows filter draining to occur at specific intervals and for specific lengths of time.

## IMPORTANT NOTE

Before inspecting or servicing a filter (or any other pneumatic component) be sure that the pneumatic pressure to the component is shut off and exhausted, and cannot be inadvertently turned on.

# BOWL DRAINS

## MANUAL DRAIN

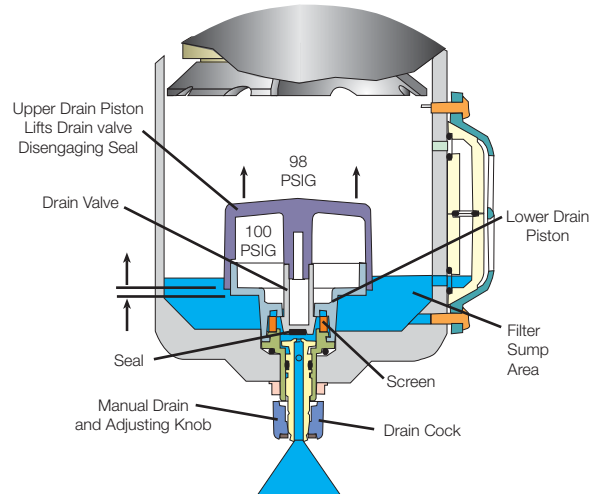
Manual drains are the simplest bowl drains, but they require frequent attention to rid the bowl of accumulated water and dirt particles. If a filter is located where it is difficult to access, it might not be drained as often as it should be. For this reason, and to save a lot of maintenance manpower, automatic drains are the standard equipment and provide a cost effective way to maximize filter performance and reduce maintenance.



Tube-Away kits supply tubing for filters with automatic drains to carry water and dirt to a suitable drainage outlet.

External drains for filters are used for use wherever severe condensate problems exist. They operate automatically whenever liquid in the bowl raises the float activating the drain.

automatic drain to expel accumulated liquid. The drain activates whenever the air supply is shut down and exhausted. An adjusting knob at the bottom of the filter on all products (except sentry and miniature series) can be set for sensitivity



## INTERNAL AUTOMATIC DRAIN

Manual draining is often inconvenient, and overlooked. Manual drains require frequent attention to rid the bowl of accumulated water and dirt particles. If a filter is located where it is difficult to access, it might not be drained as often as it should be. Automatic drains are standard on M/P Filters (D option), and we strongly recommend their use to improve filter effectiveness, lengthen service life, and reduce maintenance needs.



The automatic drain operates when liquids have accumulated in the filter bowl and a pressure drop of 2 psi (0.14 bar) or more occurs (e.g., when a valve or other device downstream is actuated). The pressure drop triggers the

## INTERNAL FLOAT DRAIN

Float drains are used as an alternative for continuous flow applications where pressure drop might only occur at the start of the duty cycle. When liquid is present the float will rise and the bowl will empty.

**Operating pressure:** 200 psig (13.8 bar) maximum and 30 psig (2.1 bar) minimum.

Internal float drain is available with plastic or brass drain stem.



## HYDRO-JECTOR EXTERNAL DRAINS

**HYDRO-JECTOR** drains are for use with the **SERIES 380** and **VANGUARD** filters wherever severe condensate problems exist. They can also be used to drain water separators, drip legs, and compressor receiver tanks. They operate with continuous, intermittent, or no air flow, and drain only when liquids are present.

Discharge rate is 300 gallons (1135 liters) per hour at 100 psig (6.9 bar). Flushing action is instantaneous with minimal air

loss compared to conventional drains. There is a manual override on the drain valve for clean-out and emergency use. **HYDRO-JECTOR** drains are available with 1/8 or 1/4 nipples. The 1/4 size is used with **SERIES 380** and **VANGUARD** filters.

The **HYDRO-JECTOR** is not recommended where heavy oil or foam is present, as can be the case in separators or large after-coolers.



**Model Shown:** E100-2

## A COST-EFFECTIVE SOLUTION TO THE REMOVAL OF WATER FROM A COMPRESSED AIR SYSTEM

Compressing ambient air to 100 psig creates air temperatures as high as 360°F (182°C) in the compressor cylinders. Typically, at this high temperature and with an air compressor rated at 450 scfm (210 l/s), the amount of water vapor generated will convert to 3.5 gallons (13 liters) of water for each hour of operation.

The hot air will be 100% saturated with water vapor, i.e., at its dew point. Even the smallest reduction in temperature will result in a “rain storm” within the compressed air system, and liquid water will accumulate. This water must be removed before it finds its way downstream where it can do considerable damage.

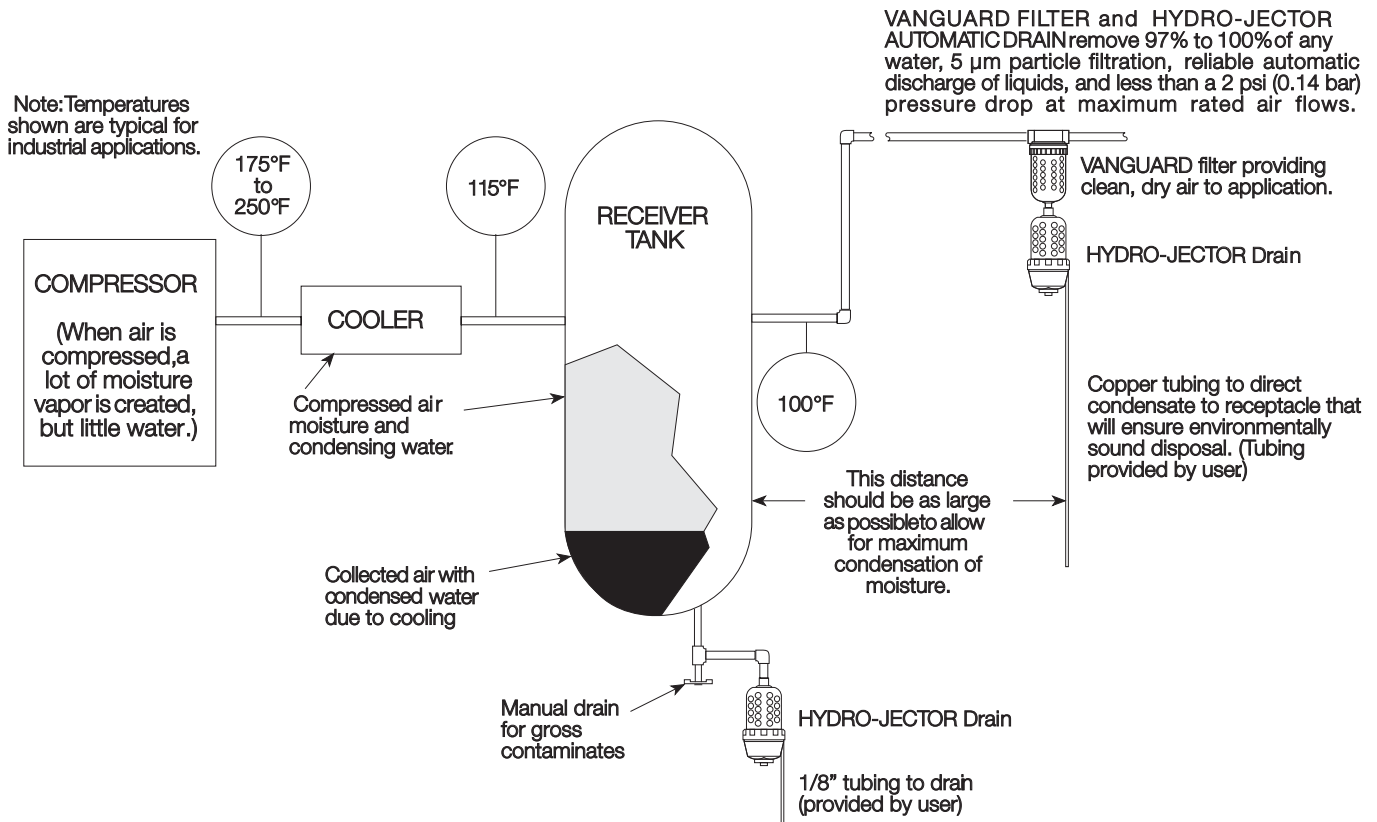
**VANGUARD** or **SERIES 380** heavy-duty filters paired with **HYDRO-JECTOR** drains provide a low-cost, and ef-

fective means for draining water from the system before it can do harm. Smaller plants, those with 100 to 500 scfm compressors, will find this an especially economical way to cope with the water problem.

**FILTER/HYDRO-JECTOR Installation:** The **VANGUARD** and **SERIES 380** filters must be ordered with the option designated “**LDC**”. This option removes the drain cock, and replaces it with a 1/4” threaded adapter. This will then receive the **HYDRO-JECTOR** drain which has a rubber spacer that goes between the filter and the drain.

See the sample compressor circuit below to see how the filter and **HYDRO-JECTOR** drains are used.

### TYPICAL COMPRESSOR CIRCUIT EMPLOYING HYDRO-JECTOR DRAINS



# SENTRY Modular General Purpose Filters

# FD10 Models Port Sizes: 1/8, 1/4; Tube Fittings



Model Shown: FD10-2

- ◆ Modular assembly and mounting.
- ◆ Threaded ports or quick-connect fittings for tubing up to 10 mm in diameter.
- ◆ 5- $\mu$ m-rated polyethylene filter element; optional sintered bronze elements.
- ◆ High-strength polycarbonate plastic filter bowl; optional metal bowl.
- ◆ Internal automatic drain; optional manual drain.
- ◆ **NPTF** port threads; optional **BSPP** threads.

## SPECIFICATIONS

### Ambient/Media Temperature:

40° to 125°F (4° to 52°C).

### Body:

Acetal.

**Bowl:** 2-Ounce (60-ml) capacity polycarbonate plastic; optional aluminum bowl.

### Bowl Drain:

Internal automatic drain; optional manual drain.

**Filter Element:** 5- $\mu$ m-rated polyethylene; optional 5- $\mu$ m, 20- $\mu$ m, or 40- $\mu$ m sintered bronze.

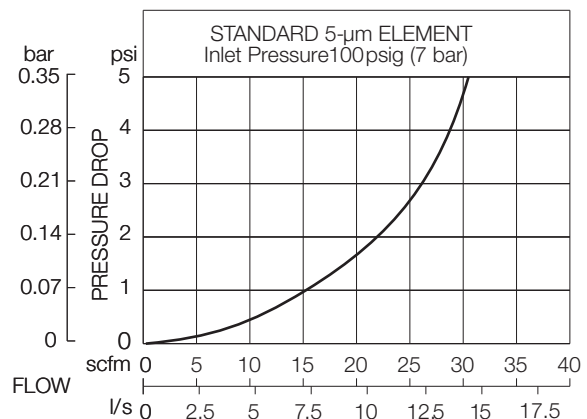
**Fluid Media:** Compressed air.

### Inlet Pressure:

15 psig (1 bar) minimum with automatic drain.  
150 psig (10 bar) maximum.

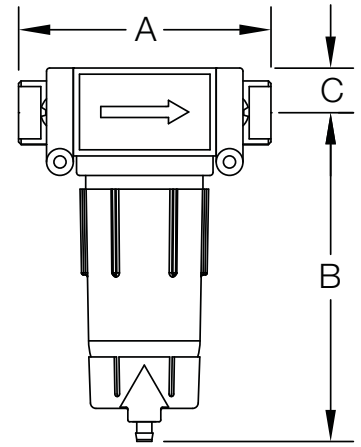
**Seals:** Nitrile.

## FLOW CHART

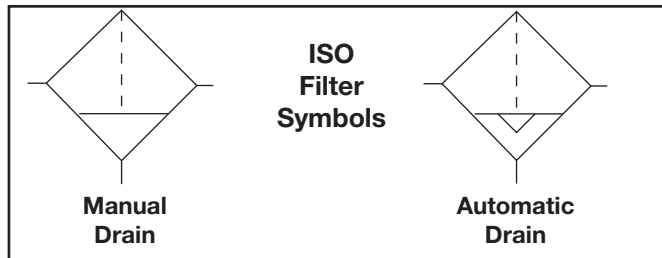


**DIMENSIONS** inches (mm)

Ports	A	B †	C	Depth	Weight
					lb (kg)
No Port	1.7 (43)	3.9 (99)	0.5 (13)	1.8 (45)	0.27 (0.12)
1/8, 1/4	3.0 (76)	3.9 (99)	0.5 (13)	1.8 (45)	0.49 (0.22)
<b>Models below have quick-connect fittings for tubing.</b>					
1/4	3.4 (86)	3.9 (99)	0.5 (13)	1.8 (45)	0.47 (0.21)
3/8	3.9 (99)	3.9 (99)	0.5 (13)	1.8 (45)	0.47 (0.21)
4 mm	3.4 (86)	3.9 (99)	0.5 (13)	1.8 (45)	0.47 (0.21)
6 mm	3.4 (86)	3.9 (99)	0.5 (13)	1.8 (45)	0.47 (0.21)
8 mm	3.4 (86)	3.9 (99)	0.5 (13)	1.8 (45)	0.47 (0.21)
10 mm	3.9 (99)	3.9 (99)	0.5 (13)	1.8 (45)	0.47 (0.21)



† Dimension for plastic bowl; metal bowl is 4.3 (109).



**REPLACEMENT FILTER ELEMENT KITS**

Element Type	Kit Number
5-µm polyethylene (Std element).....	KA130-27PE5
5-µm bronze .....	KA130-27E5
20-µm bronze .....	KA130-27E4
40-µm bronze .....	KA130-27E3

**ORDERING INFORMATION**

Change the letters in the sample model number below to specify the filter you want.

**B FD 10 P -2 X Y W**

**BOWL TYPE**

Plastic bowl ..... Leave Blank  
Metal bowl ..... B

**BOWL DRAIN**

Internal automatic drain ..... FD  
Manual drain ..... F

**MOUNTING HOLE LOCATION**

Bottom mount (standard) ..... Leave Blank  
Top mount ..... P

**INLET PORT SIZE**

No inlet & outlet ports ..... Leave Blank

**Threaded:**

1/8 NPTF ..... -1  
1/4 NPTF ..... -2

**Fitting for tubing:**

1/4 ..... -04  
3/8 ..... -06  
4mm ..... -M4  
6mm ..... -M6  
8mm ..... -M8  
10mm ..... -M10

**PORT TYPE**

As specified in **INLET PORT** .... Leave Blank  
**BSP** threads on both ports .... W

**OPTIONS** (More than one option can be chosen. Add in alphabetical order.)

None ..... Leave Blank

**Polyethylene filter element:**

5-µm rating ..... Leave Blank

**Bronze filter element:**

5-µm rating ..... E5

20-µm rating ..... E4

40-µm rating ..... E3

No Drain (*lubricator bowl*) ..... LDC

Use manual drain option under

**BOWL DRAIN SECTION** as well.

**OUTLET PORT SIZE**

Same as inlet port ..... Leave Blank

**Threaded:**

1/8 NPTF ..... -1

1/4 NPTF ..... -2

**Fitting for tubing:**

1/4 ..... -04

3/8 ..... -06

4mm ..... -M4

6mm ..... -M6

8mm ..... -M8

10mm ..... -M10

# MINIATURE General Purpose Filters

# FD50 Models Port Sizes: 1/8, 1/4



**Model Shown:** FD50-2

- ◆ Inline mounting.
- ◆ 5- $\mu\text{m}$ -rated polyethylene filter element; optional sintered bronze elements.
- ◆ High-strength polycarbonate plastic filter bowl; optional metal bowl.
- ◆ Internal automatic drain; optional manual drain.
- ◆ **NPTF** port threads; optional **BSPP** threads.

## SPECIFICATIONS

### Ambient/Media Temperature:

Plastic bowl: 40° to 125°F (4° to 52°C).

Metal bowl: 40° to 150°F (4° to 66°C).

**Body:** Aluminum.

**Bowl:** 2-Ounce (60-ml) capacity polycarbonate plastic; optional aluminum bowl.

### Bowl Drain:

Internal automatic drain; optional manual drain.

**Filter Element:** 5- $\mu\text{m}$ -rated polyethylene; optional 5- $\mu\text{m}$ , 20- $\mu\text{m}$ , or 40- $\mu\text{m}$  sintered bronze.

**Fluid Media:** Compressed air.

### Inlet Pressure:

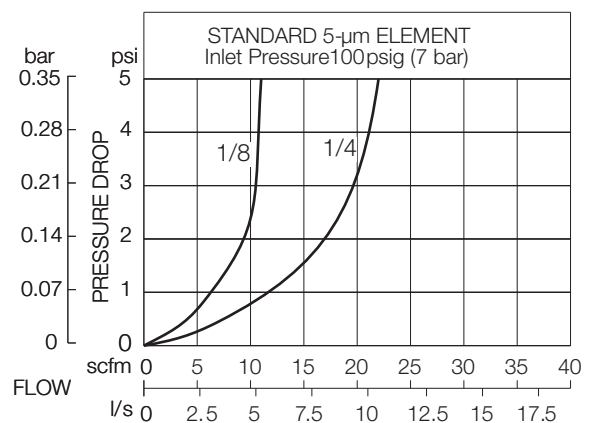
15 psig (1 bar) minimum with automatic drain.

Plastic bowl: 150 psig (10 bar) maximum.

Metal bowl: 200 psig (14 bar) maximum.

**Seals:** Nitrile.

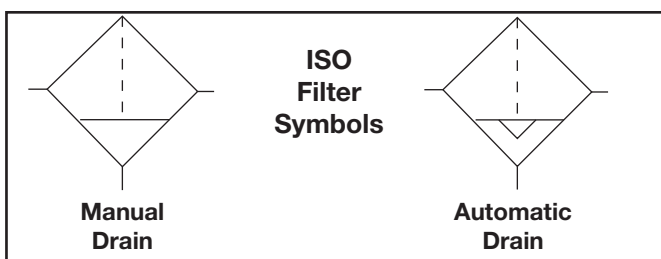
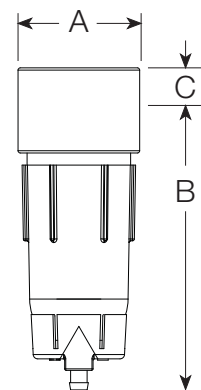
## FLOW CHART





## DIMENSIONS inches (mm)

Bowl	Ports	A	B	C	Depth	Weight	
						lb	(kg)
Plastic	1/8, 1/4	1.6 (41)	3.9 (99)	0.4 (9.5)	1.6 (41)	0.33	(0.15)
Metal	1/8, 1/4	1.6 (41)	4.3 (109)	0.4 (9.5)	1.6 (41)	0.35	(0.16)



## REPLACEMENT FILTER ELEMENT KITS

Element Type	Kit Number
5- $\mu$ m polyethylene (Std element)	KA130-27PE5
5- $\mu$ m bronze	KA130-27E5
20- $\mu$ m bronze	KA130-27E4
40- $\mu$ m bronze	KA130-27E3

## ORDERING INFORMATION

Change the letters in the sample model number below to specify the filter you want.

B FD 50 - 2 Y W

**BOWL TYPE**

Plastic bowl ..... Leave Blank

Metal bowl ..... B

**BOWL DRAIN**

Internal automatic drain ..... FD

Manual drain ..... F

**PORT SIZE**

1/8 NPTF ..... 1

1/4 NPTF ..... 2

**PORT TYPE**

As specified in **INLET PORT** .... Leave Blank

**BSP** threads on both ports ..... W

**OPTIONS** (*More than one option can be chosen. Add in alphabetical order.*)

None ..... Leave Blank

**Polyethylene filter element:**

5- $\mu$ m rating ..... Leave Blank

**Bronze filter element:**

5- $\mu$ m rating ..... E5

20- $\mu$ m rating ..... E4

40- $\mu$ m rating ..... E3

No Drain (*lubricator bowl*) ..... LDC

Use manual drain option under **BOWL DRAIN SECTION** as well.

Tapped modified head to allow...T

50-01 bracket assembly.



# MINIATURE Stainless Steel General Purpose Filters

# F50S Models Port Size: 1/4

Model Shown: BF50S-2V



- ◆ Meets **NACE** specifications.
- ◆ High-strength stainless steel filter bowl. Stainless steel construction provides unique corrosion resistance.
- ◆ Viton elastomers throughout.
- ◆ Inline mounting.
- ◆ 5- $\mu$ m-rated polyethylene filter element; optional sintered bronze elements.
- ◆ Manual drain.
- ◆ **NPTF** port threads; optional **BSPP** threads.

## SPECIFICATIONS

**Ambient/Media Temperature:**

40° to 150°F (4° to 66°C).

**Body:** Stainless steel.

**Bowl:** 2-Ounce (60-ml) capacity stainless steel.

**Bowl Drain:** Manual.

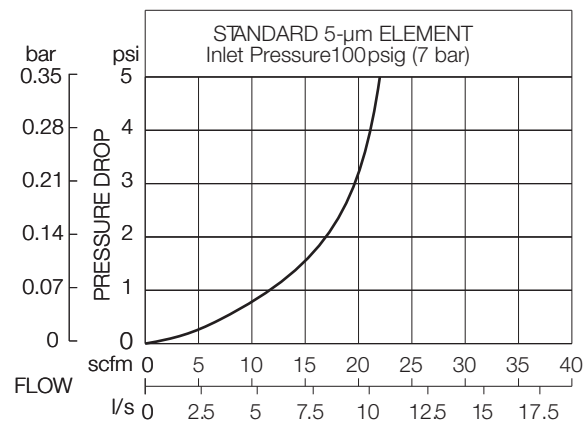
**Filter Element:** 5- $\mu$ m-rated polyethylene; optional 5- $\mu$ m, 20- $\mu$ m, or 40- $\mu$ m sintered bronze.

**Fluid Media:** Compressed air.

**Inlet Pressure:** 0 to 200 psig (14 bar) maximum.

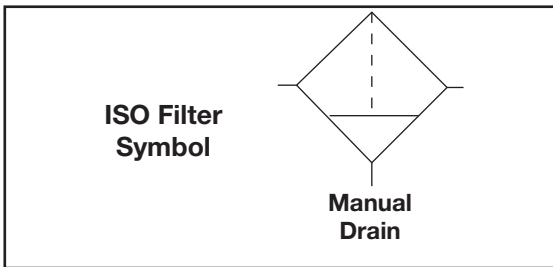
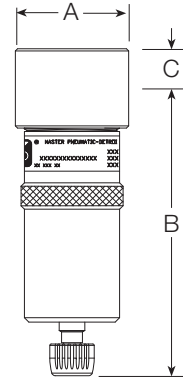
**Seals:** Viton

## FLOW CHART



**DIMENSIONS** inches (mm)

Bowl	Ports	A	B	C	Depth	Weight
						lb (kg)
Plastic	1/4	1.6 (41)	3.6 (92)	0.4 (9.5)	1.6 (41)	0.33 (0.15)
Metal	1/4	1.6 (41)	4.3 (109)	0.4 (9.5)	1.6 (41)	0.35 (0.16)



**REPLACEMENT FILTER ELEMENT KITS**

Element Type	Kit Number
5- $\mu$ m polyethylene (Std element).....	KA130-27PE5
5- $\mu$ m bronze .....	KA130-27E5
20- $\mu$ m bronze .....	KA130-27E4
40- $\mu$ m bronze .....	KA130-27E3

**ORDERING INFORMATION**

Change the letters in the sample model number below to specify the filter you want.

**B F 50S - 2 Y V W**

**BOWL TYPE** \_\_\_\_\_  
 Plastic bowl ..... Leave Blank  
 Metal bowl ..... B

**PORT TYPE** \_\_\_\_\_  
 As specified in **INLET PORT** .... Leave Blank  
**BSP** threads on both ports .....W

**OPTIONS** (More than one option can be chosen. Add in alphabetical order.)  
 None ..... Leave Blank

**Polyethylene filter element:**  
 5- $\mu$ m rating ..... Leave Blank

**Bronze filter element:**  
 5- $\mu$ m rating ..... E5  
 20- $\mu$ m rating ..... E4  
 40- $\mu$ m rating ..... E3  
 Tapped modified head to allow...T  
 50-01 bracket assembly.

# GUARDSMAN Modular General Purpose Filters

# FD60 Models Port Sizes: 1/4, 3/8, 1/2



Model Shown: FD60-2

- ◆ Modular or inline mounting.
- ◆ 5- $\mu$ m-rated polyethylene filter element; optional sintered bronze elements.
- ◆ High-strength polycarbonate plastic filter bowl with zinc shatterguard; optional zinc bowl.
- ◆ Internal automatic drain; optional manual drain.
- ◆ NPTF port threads; optional BSPP threads.

## SPECIFICATIONS

### Ambient/Media Temperature:

**Plastic Bowl:** 40° to 125°F (4° to 52°C).

**Metal Bowl:** 40° to 175°F (4° to 79°C).

**Body:** Zinc.

**Bowl:** 4-Ounce (120-ml) capacity polycarbonate plastic with zinc shatterguard; optional zinc bowl.

### Bowl Drain:

Internal automatic drain; optional manual drain.

**Filter Element:** 5- $\mu$ m-rated polyethylene; optional 5- $\mu$ m, 20- $\mu$ m, or 40- $\mu$ m sintered bronze.

**Fluid Media:** Compressed air.

### Inlet Pressure:

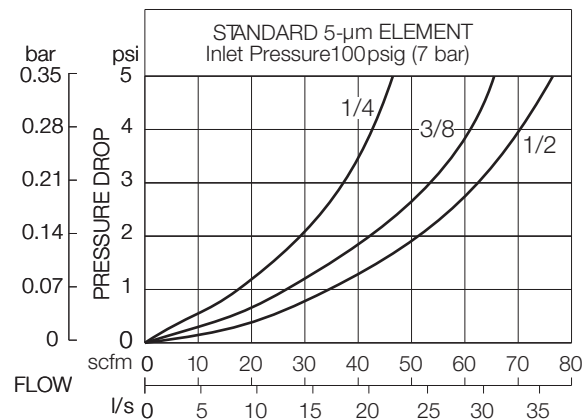
15 psig (1 bar) minimum with automatic drain.

**Plastic bowl:** 150 psig (10 bar) maximum.

**Metal bowl:** 200 psig (14 bar) maximum.

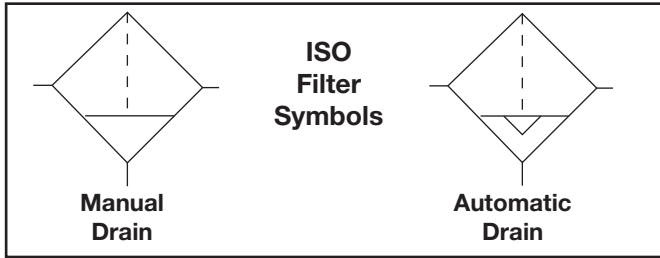
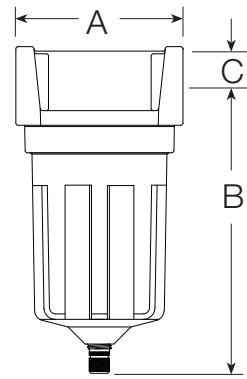
**Seals:** Nitrile.

## FLOW CHART



**DIMENSIONS** inches (mm)

Bowl	Ports	A	B	C	Depth	Weight lb (kg)
Plastic	1/4 – 1/2	2.7 (67)	4.8 (122)	0.6 (16)	2.4 (60)	1.13 (0.51)
Metal	1/4 – 1/2	2.7 (67)	4.9 (123)	0.6 (16)	2.4 (60)	1.50 (0.68)



**REPLACEMENT FILTER ELEMENT KITS**

Element Type	Kit Number
5-µm polyethylene (Std element).....	KA60F-03
5-µm bronze .....	KA60F-03E5
20-µm bronze .....	KA60F-03E4
40-µm bronze .....	KA60F-03E3

**ORDERING INFORMATION**

Change the letters in the sample model number below to specify the filter you want.

**B FD 60 - 2 Y W**

<p><b>BOWL TYPE</b></p> <p>Plastic bowl ..... Leave Blank</p> <p>Metal bowl ..... B</p> <p><b>BOWL DRAIN</b></p> <p>Internal automatic drain ..... FD</p> <p>Manual drain ..... F</p> <p><b>PORT SIZE</b></p> <p>1/4 NPTF ..... 2</p> <p>3/8 NPTF ..... 3</p> <p>1/2 NPTF ..... 4</p>	<p><b>PORT TYPE</b></p> <p>As specified in <b>INLET PORT</b> .... Leave Blank</p> <p><b>BSP</b> threads on both ports .....W</p> <p><b>OPTIONS</b></p> <p><b>Polyethylene filter element:</b></p> <p>5-µm rating ..... Leave Blank</p> <p><b>Bronze filter element:</b></p> <p>5-µm rating ..... E5</p> <p>20-µm rating ..... E4</p> <p>40-µm rating ..... E3</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

# GUARDSMAN II Modular General Purpose Filters

# BFD70 Models Port Sizes: 1/4, 3/8, 1/2



Model Shown: BFD70-4

## SPECIFICATIONS

### Ambient/Media Temperature:

Manual & auto drains: 40° to 175°F (4° to 79°C).  
Float drains: 40° to 150°F (4° to 66°C).

**Body:** Zinc.

**Bowl:** 6-Ounce (180-ml) capacity aluminum with clear nylon sight glass. Bowl can be rotated for easy readability. Optional 10-ounce (300-ml) extended aluminum bowl for greater sump capacity.

### Bowl Drain:

Internal automatic drain; optional manual and internal float drain.

**Bowl Ring:** Nylon.

**Filter Element:** 5- $\mu$ m-rated polyethylene; optional 5- $\mu$ m or 40- $\mu$ m sintered bronze.

**Fluid Media:** Compressed air.

### Inlet Pressure:

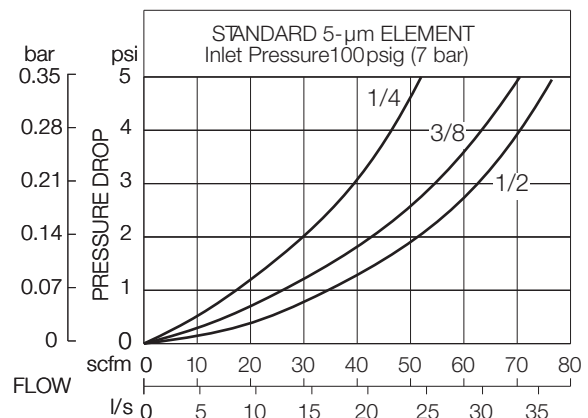
Minimum: 15 psig (1 bar) with automatic drain, 30 psig (42 bar) with float drain.

Maximum: 200 psig (14 bar)

**Seals:** Nitrile.

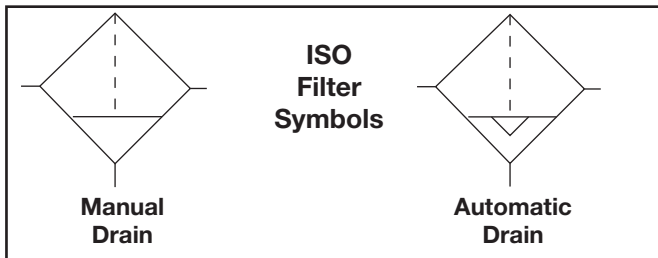
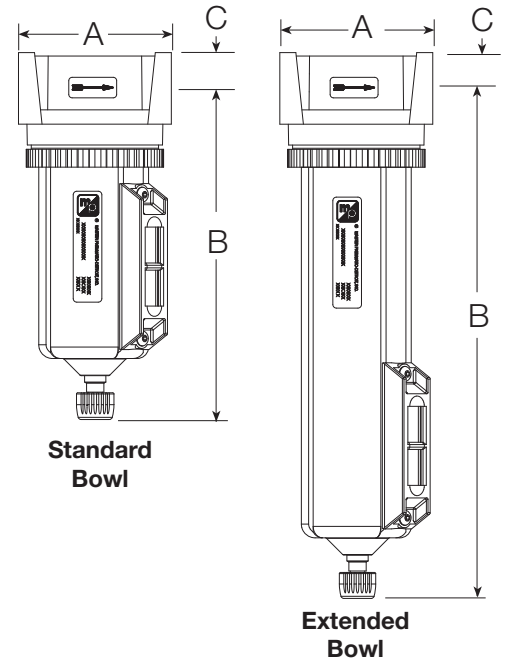
- ◆ Modular or inline mounting.
- ◆ 5- $\mu$ m-rated polyethylene filter element; optional sintered bronze elements.
- ◆ Metal bowl with clear nylon sight glass. Bowl can be rotated for easy readability.
- ◆ Optional extended bowl for greater sump capacity.
- ◆ Internal automatic drain; optional manual and float drain.
- ◆ NPTF port threads; optional BSPP threads.

## FLOW CHART



**DIMENSIONS** inches (mm)

Bowl	A	B	C	Depth	Weight lb (kg)
Standard	2.7 (67)	6.5 (165)	0.6 (16)	2.4 (60)	1.25 (0.57)
Extended	2.7 (67)	9.5 (241)	0.6 (16)	2.4 (60)	1.50 (0.68)



**REPLACEMENT FILTER ELEMENT KITS**

Element Type	Kit Number
5- $\mu$ m polyethylene (Std element).....	A60F-03PE5
5- $\mu$ m bronze .....	KA60F-03E5
40- $\mu$ m bronze .....	KA60F-03E3

**ORDERING INFORMATION**

Change the letters in the sample model number below to specify the filter you want.

**BFD 70 - 2 Y W**

**BOWL and DRAIN TYPE**

- Metal bowl, Internal automatic drain ..... BFD
- Metal bowl, Manual drain ..... BF
- Metal bowl, Internal Foat drain..... BF6A  
(brass stem)

**BOWL SIZE**

- Standard 6-ounce bowl ..... 70
- Extended 10-ounce bowl ..... 70H

**PORT SIZE**

- 1/4 NPTF ..... 2
- 3/8 NPTF ..... 3
- 1/2 NPTF ..... 4

**PORT TYPE**

- As specified in **INLET PORT** .... Leave Blank
- BSPP** threads on both ports ....W

**OPTIONS**

**Polyethylene filter element:**

- 5- $\mu$ m rating ..... Leave Blank

**Bronze filter element:**

- 5- $\mu$ m rating ..... E5
- 20- $\mu$ m rating ..... E4
- 40- $\mu$ m rating ..... E3

# SERIES 350 Modular General Purpose Filters

# F350 Models Port Sizes: 1/4, 3/8, 1/2



Model Shown: F5A350-4C1

### Available Color Caps



- ◆ Modular or inline mounting.
- ◆ Designed to remove particulate material to 5 micron from the airstream to protect downstream equipment.
- ◆ Optional bronze 5- $\mu$ m-rated, 20- $\mu$ m-rated, and 40- $\mu$ m-rated. 5- $\mu$ m-rated Polyethylene filter elements are standard.
- ◆ Superior removal of free water up to 98% efficiency
- ◆ Removal of effluents via manual or automatic float drains.
- ◆ Inlet pressure rated at 250 psig (17 bar) with metal bowls up to 175° F (79° C).
- ◆ Color caps available for visual management systems. (Blue, red, yellow and grey). Consult factory for custom colors.
- ◆ Front mounted modular clamping design with encapsulated screws.
- ◆ Compatible with modular 380 series of products.
- ◆ NPTF port threads; optional BSPP threads.

## SPECIFICATIONS

### Ambient/Media Temperature:

Plastic Bowl, all drain types: 40° to 125°F (4° to 52°C).  
Metal Bowl, manual drains: 40° to 175°F (4° to 79°C).  
Metal Bowl, float drains: 40° to 150°F (4° to 66°C).

**Body:** Die-cast zinc.

**Bowl:** 5.1-Ounce (151-ml) capacity polycarbonate plastic with nylon shatterguard; optional 6.0 ounce (177-ml) aluminum bowl with clear nylon sight glass.

**Bowl Drain:** Internal float drain; by removing the adjustment knob, a 3/16" (5mm) flexible tube can be connected to drain effluents. Optional manual drain.

**Cap Color:** yellow, optional red, blue and grey.

**Differential Pressure Gauge:** Optional.

**Filter Element:** 5- $\mu$ m-rated polyethylene; optional 5- $\mu$ m-rated, 20- $\mu$ m-rated or 40- $\mu$ m-rated sintered bronze.

**Fluid Media:** Compressed air.

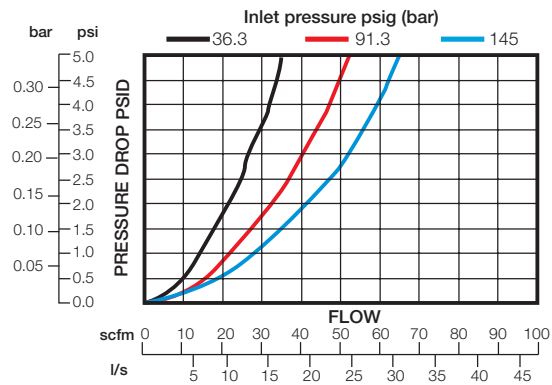
### Inlet Pressure:

Plastic bowl & manual drain: 0-150 psig (0-10 bar).  
Plastic bowl & Float drain: 30-150 psig (2-10 bar).  
Metal bowl & manual drain: 0-250 psig (0-17 bar).  
Metal bowl & Float drain: 30-200 psig (2-14 bar).

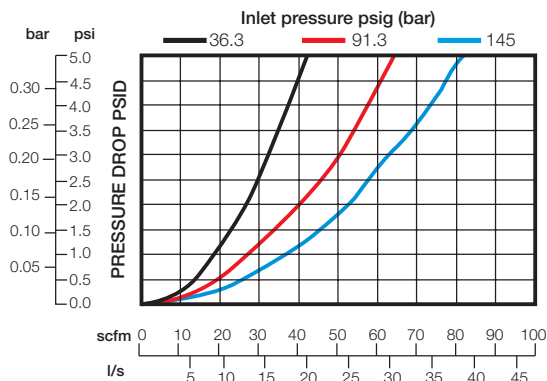
**Seals:** Nitrile.

## FLOW CHARTS (5- $\mu$ m element)

### F350-2 FLOW CHARACTERISTICS



### F350-3 FLOW CHARACTERISTICS

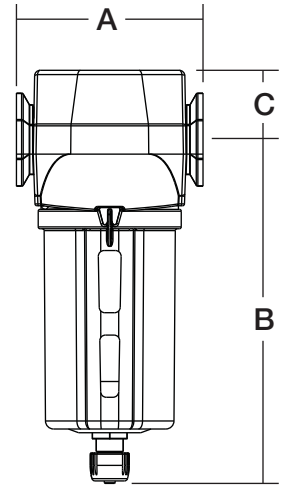




**DIMENSIONS** inches (mm)

Bowl	A	B †	C	Depth	Weight lb (kg)
Plastic	3.0 (76.2)	5.54 (140.6)	1.12 (28.3)	2.51 (63.8)	1.29 (0.59)
Metal	3.5 (88.9)	6.42 (163.1)	1.12 (28.3)	2.76 (70.1)	1.41 (0.64)

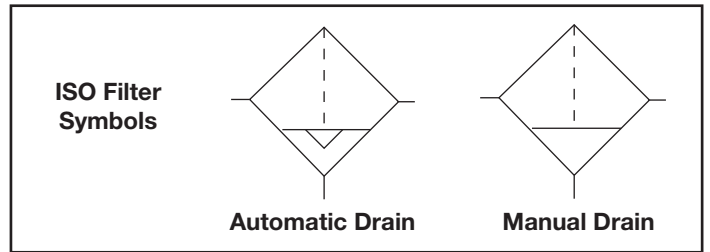
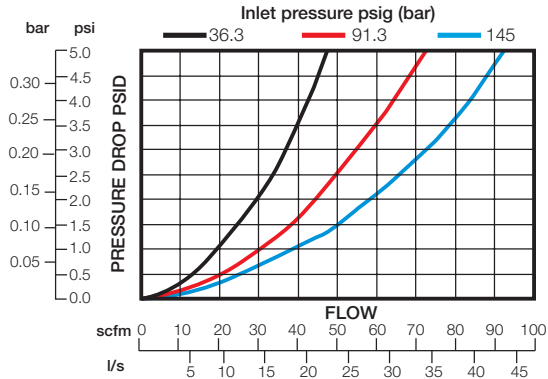
† Bowl removal clearance: add 3.1 (79).



**REPLACEMENT FILTER ELEMENT KITS**

Element Rating	Kit Number
5-µm Polyethylene (Std element) .....	A60F-03PE5
40-µm Bronze .....	A60F-03E3
5-µm Bronze .....	A60F-03E5
20-µm Bronze .....	A60F-03E4

**F350-4 FLOW CHARACTERISTICS**



**ORDERING INFORMATION**

Change the letters in the sample model number below to specify the filter you want.

**BF 350 S - 3 E5 W**

**BOWL AND DRAIN TYPE**

(Metal bowls contain a sight glass)

- Plastic bowl, manual drain ..... F
- Metal bowl, manual drain ..... BF
- Plastic bowl, internal float drain (plastic stem) ... F5A
- Metal bowl, internal float drain (brass stem) ..... BF6A

**DIFFERENTIAL PRESSURE GAUGE**

- No gauge (no gauge ports) ..... 350
- Differential pressure gauge ..... 350S

**PORT SIZE**

- 1/4 NPTF ..... 2
- 3/8 NPTF ..... 3
- 1/2 NPTF ..... 4

**PORT TYPE**

- NPTF threads ..... Leave blank
- BSPP threads ..... W

**OPTIONS** (More than one option can be chosen. Add in alphabetical order.)

**Cap color:**

- Yellow (standard) ..... C1
- Red ..... C2
- Blue ..... C3
- Grey ..... Leave Blank

**Polyethylene filter element:**

- 5-µm rating ..... Leave Blank

**Bronze filter element:**

- 5-µm rating ..... E5
- 20-µm rating ..... E4
- 40-µm rating ..... E3

# Full-Size VANGUARD Modular General Purpose Filters

# FD100 Models Port Sizes: 1/4 to 3/4



Model Shown: FD100-2

- ◆ Modular or inline mounting.
- ◆ 5- $\mu\text{m}$ -rated polyethylene filter element; optional sintered bronze elements.
- ◆ High-strength polycarbonate plastic filter bowl with steel shatterguard; optional metal bowl with clear nylon sight glass.
- ◆ Internal automatic drain; optional manual drain, float drain or external Hydro-Jector drain.
- ◆ NPTF port threads; optional BSSP threads.

## SPECIFICATIONS

### Ambient/Media Temperature:

Plastic Bowl, all drain types: 40° to 125°F (4° to 52°C).  
Metal Bowl, manual & auto drains: 40° to 175°F (4° to 79°C).  
Metal Bowl, float drains: 40° to 150°F (4° to 66°C).

**Body:** Zinc.

**Bowl:** 8-Ounce (240-ml) capacity polycarbonate plastic with steel shatterguard; optional zinc bowl with clear nylon sight glass.

**Bowl Drain:** Internal automatic drain; optional manual drain, internal float drain or external Hydro-Jector drain.

**Bowl Ring:** Aluminum.

**Filter Element:** 5- $\mu\text{m}$ -rated polyethylene; optional 5- $\mu\text{m}$ , 20- $\mu\text{m}$ , or 40- $\mu\text{m}$  sintered bronze.

**Fluid Media:** Compressed air.

### Inlet Pressure:

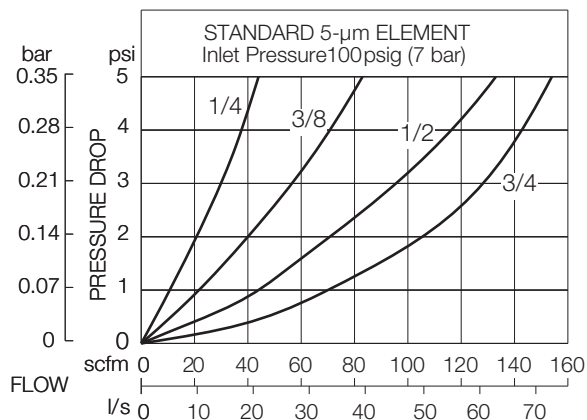
Minimum: 15 psig (1 bar) with automatic drain, 30 psig (2 bar) with float drain.

Plastic Bowl: 150 psig (10 bar) maximum.

Metal Bowl: 200 psig (14 bar) maximum.

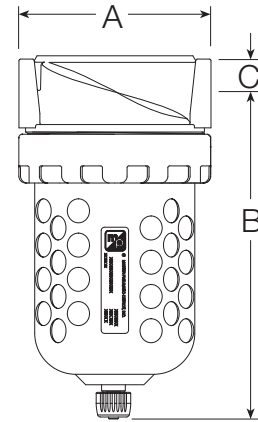
**Seals:** Nitrile.

## FLOW CHART

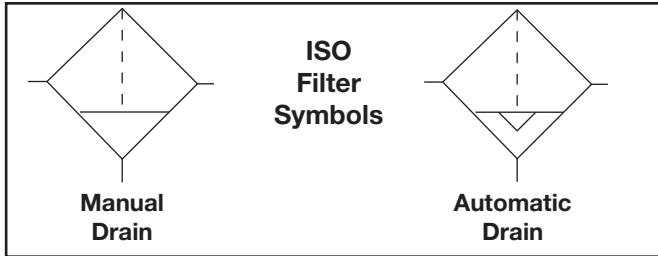


## DIMENSIONS inches (mm)

Bowl	Ports	A	B †	C	Depth	Weight † lb (kg)
Plastic	1/4 – 3/4	3.5 (89)	5.8 (146)	0.6 (16)	3.5 (89)	1.93 (0.88)
Metal	1/4 – 3/4	3.5 (89)	6.4 (163)	0.6 (16)	3.5 (89)	2.90 (1.32)



† With Hydro-Jector external drain, dimension B is increased by 8.0 inches (203 mm), and weight is increased by 2.56 pounds (1.18 kg).



## REPLACEMENT FILTER ELEMENT KITS

Element Type	Kit Number
5-µm polyethylene (Std element).....	KA103-03PE5
5-µm bronze .....	KA103-03E5
20-µm bronze.....	KA103-03E4
40-µm bronze.....	KA103-03E3

## ORDERING INFORMATION

Change the letters in the sample model number below to specify the filter you want.

### BFD 100 – 2 Y W

#### BOWL AND DRAIN TYPE

- Plastic bowl, internal automatic drain ..... FD
- Metal bowl, internal automatic drain ..... BFD
- Plastic bowl, manual drain ..... F
- Metal bowl, manual drain ..... BF
- Plastic bowl, internal float drain ..... F5A  
(plastic stem)
- Metal bowl, internal float drain ..... BF6A  
(brass stem).

#### DIFFERENTIAL PRESSURE GAUGE

- No gauge ..... 100
- Large gauge ..... 101L
- Small gauge ..... 101
- Large gauge with normally **OPEN** ..... 101E  
reed switch.
- Large gauge with normally **CLOSED**..... 101E2  
reed switch.

#### DIFFERENTIAL PRESSURE GAUGES

Large Dual Face Gauge  
106-35



Large Dual Face Gauge  
with Reed Switch  
106-35E (Normally Open)  
106-35EC (Normally Closed)

Small Slide Gauge  
103-151

#### PORT TYPE

As specified in **INLET PORT** .... Leave Blank  
**BSP** threads on both ports .....W

**OPTIONS** (More than one option can be chosen. Add in alphabetical order.)

None ..... Leave Blank

#### Polyethylene filter element:

5-µm rating ..... Leave Blank

#### Bronze filter element:

5-µm rating ..... E5

20-µm rating ..... E4

40-µm rating ..... E3

No bowl drain ..... LDC

(1/4 NPT female port instead.)

Also use 'BF' option under **BOWL AND DRAIN TYPE** section.)

#### PORT SIZE

1/4 NPTF ..... 2

3/8 NPTF ..... 3

1/2 NPTF ..... 4

3/4 NPTF ..... 6X

**Note:** '6X', 3/4 NPTF has smaller bowl capacity than '6' 3/4 NPTF.

# Full-Size SERIES 380 Modular General Purpose Filters

# FD380 Models Port Sizes: 3/8, 1/2, 3/4

## Available Color Caps



Model Shown: FD380-6

- ◆ Modular or inline mounting.
- ◆ 5- $\mu$ m-rated polyethylene filter element; optional 40- $\mu$ m element.
- ◆ Polycarbonate plastic bowl with steel shatter-guard; optional metal bowl with sight glass.
- ◆ Internal automatic drain; optional manual drain, internal float drain, Hydro-Jector drain, or Warrior electronic drain.
- ◆ NPTF port threads; optional BSPP threads.

## SPECIFICATIONS

### Ambient/Media Temperature:

Plastic Bowl, all drain types: 40° to 125°F (4° to 52°C).  
Metal Bowl, manual & auto drains: 40° to 175°F (4° to 79°C).  
Metal Bowl, float drains: 40° to 150°F (4° to 66°C).

**Body:** Die-cast zinc.

**Bowl:** 9-Ounce (270-ml) capacity polycarbonate plastic with steel shatterguard; optional aluminum bowl with clear nylon sight glass.

**Bowl Drain:** Internal automatic drain; by removing the adjustment knob, a 3/16" (5mm) flexible tube can be connected to the drain. Optional manual drain, Internal float drain, Hydro-Jector drain, or Warrior electronic drain.

**Bowl Ring:** Nylon.

**Cap Color:** Grey. Yellow, red, and blue optional.

**Differential Pressure Gauge:** Optional.

**Filter Element:** 5- $\mu$ m-rated polyethylene; optional 5- $\mu$ m, 20- $\mu$ m sintered bronze. or 40- $\mu$ m polyethylene

**Fluid Media:** Compressed air.

### Inlet Pressure:

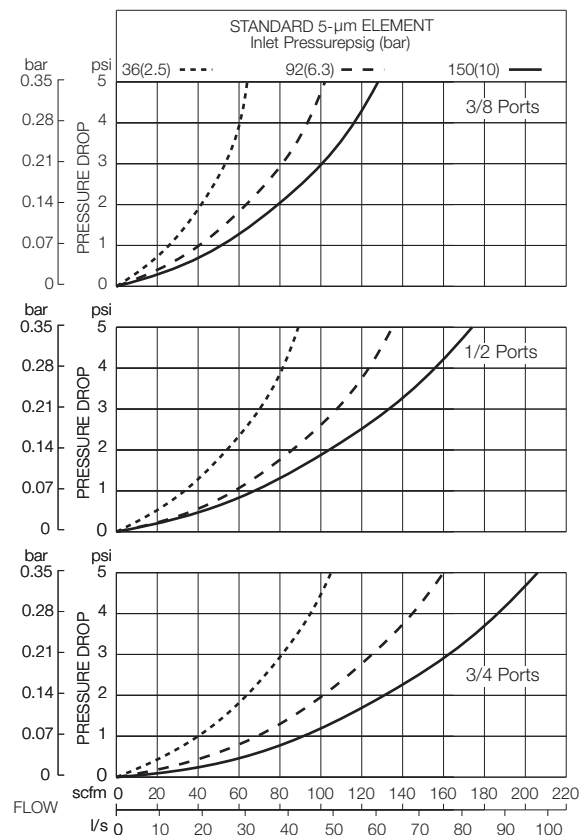
Minimum: 15 psig (1 bar) with automatic drain, 30 psig (2 bar) with internal float drain.

Plastic bowl: 150 psig (10 bar).

Metal bowl: 200 psig (14 bar).

**Seals:** Nitrile

## FLOW CHARTS (5- $\mu$ m element)



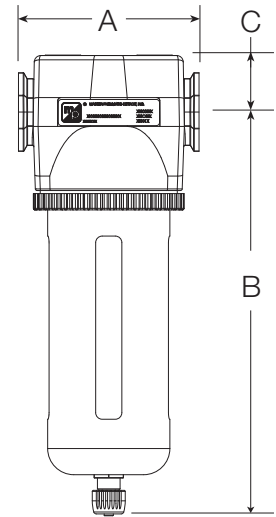
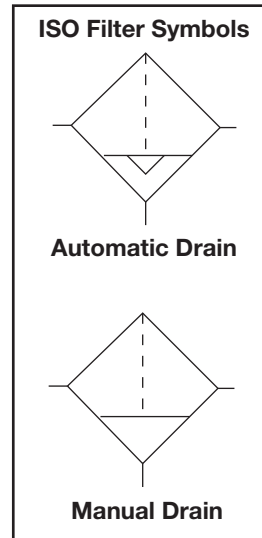
## DIMENSIONS inches (mm)

Bowl	A	B †	C	Depth	Weight lb (kg)
Plastic	3.5 (88)	7.7 (195)	1.1 (28)	2.9 (73)	2.13 (0.97)
Metal	3.5 (88)	7.6 (193)	1.1 (28)	3.1 (79)	2.13 (0.97)

† Bowl removal clearance: add 3.1 (79).

## REPLACEMENT FILTER ELEMENT KITS

Element Rating	Kit Number
5-µm Polyethylene (Std element)	A115-106PE5
40-µm Polyethylene	A115-106PE3
5-µm Bronze	A115-106E5
20-µm Bronze	A115-106E4



## ORDERING INFORMATION

Change the letters in the sample model number below to specify the filter you want.

# BFD 380 - 3 Y W

### BOWL AND DRAIN TYPE *(Metal bowls contain a sight glass)*

- Plastic bowl, internal automatic drain ..... FD
- Metal bowl, internal automatic drain ..... BFD
- Plastic bowl, manual drain ..... F
- Metal bowl, manual drain ..... BF
- Plastic bowl, internal float drain (**plastic stem**) ... F5A
- Metal bowl, internal float drain (**brass stem**) ..... BF6A
- Metal bowl, external Hydro-Jector drain ..... BFE  
*(LDC option is not needed; under OPTIONS)*
- Metal bowl, warrior electronic drain ..... BF2A

### DIFFERENTIAL PRESSURE GAUGE

- No gauge ..... 380
- Large gauge ..... 380L
- Small gauge ..... 380S
- Large gauge with normally **OPEN** reed switch.... 380E
- Large gauge with normally **CLOSED**..... 380E2  
reed switch

### PORT SIZE

- 3/8 NPTF ..... 3
- 1/2 NPTF ..... 4
- 3/4 NPTF ..... 6

### PORT TYPE

- NPTF threads ..... Leave blank
- BSPF threads ..... W

### OPTIONS *(More than one option can be chosen. Add in alphabetical order.)*

- None ..... Leave Blank

### Cap color:

- Grey ..... Leave Blank
- Yellow ..... C1
- Red ..... C2
- Blue ..... C3

### Polyethylene filter element:

- 5-µm rating ..... Leave Blank
- 40-µm rating ..... E3

### Bronze filter element:

- 5-µm rating ..... E5
- 20-µm rating ..... E4
- No bowl drain ..... LDC

*(1/4 NPT female port instead. Also use 'BF' option under BOWL AND DRAIN TYPE section.)*

## DIFFERENTIAL PRESSURE GAUGES



Large Dual Face Gauge  
106-35



Small Slide Gauge  
103-151



Large Dual Face Gauge  
with Reed Switch  
106-35E (Normally Open)  
106-35EC (Normally Closed)

# High-Flow VANGUARD General Purpose Filters

# FD100 Models Port Sizes: 3/4, 1



Model Shown: FD100-8

## SPECIFICATIONS

### Ambient/Media Temperature:

Plastic Bowl, all drain types: 40° to 125°F (4° to 52°C).  
Metal Bowl, manual & auto drains: 40° to 175°F (4° to 79°C).  
Metal Bowl, float drains: 40° to 150°F (4° to 66°C).

**Body:** Aluminum.

**Bowl:** 16-Ounce (480-ml) capacity polycarbonate plastic with steel shatterguard; optional aluminum bowl with clear nylon sight glass.

**Bowl Drain:** Internal automatic drain; optional manual drain, internal float drain, or external Hydro-Jector drain.

**Bowl Ring:** Aluminum.

**Filter Element:** 5- $\mu$ m-rated polyethylene; optional 5- $\mu$ m, 20- $\mu$ m, or 40- $\mu$ m sintered bronze.

**Fluid Media:** Compressed air.

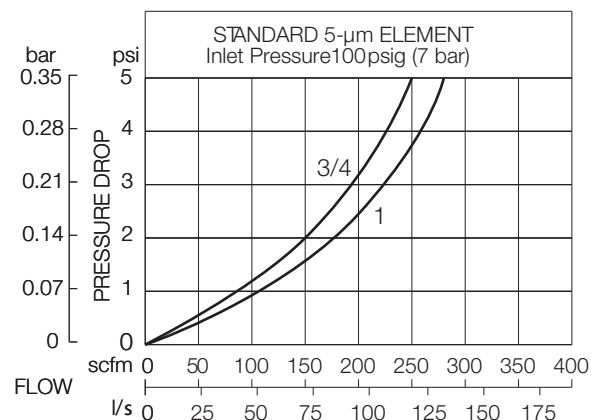
### Inlet Pressure:

Minimum: 15 psig (1 bar) with automatic drain, 30 psig (2 bar) with internal float drain.  
Plastic Bowl: 150 psig (10 bar) maximum.  
Metal Bowl: 200 psig (14 bar) maximum.

**Seals:** Nitrile.

- ◆ Inline mounting.
- ◆ 5- $\mu$ m-rated polyethylene filter element; optional sintered bronze elements.
- ◆ High-strength polycarbonate plastic filter bowl with steel shatterguard; optional metal bowl with clear nylon sight glass.
- ◆ Internal automatic drain; optional manual drain, internal float drain, or external Hydro-Jector drain.
- ◆ **NPTF** port threads; optional **BSPB** threads.

## FLOW CHART



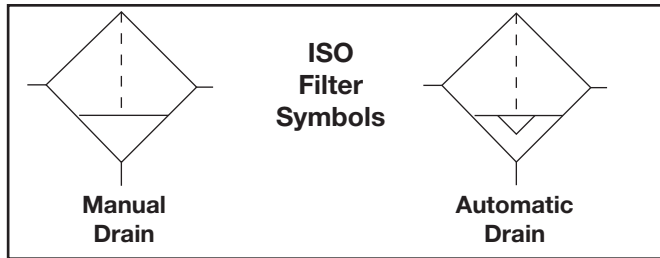
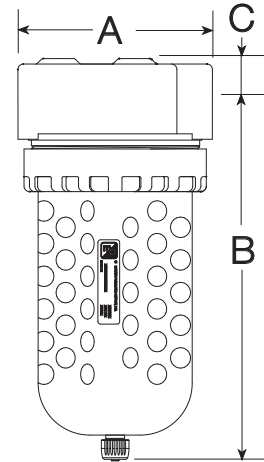
\* **Note:** "6", 3/4" NPTF has larger bowl capacity than "6x", 3/4" NPTF



## DIMENSIONS inches (mm)

Bowl	Ports	A	B †	C	Depth	Weight † lb (kg)
Plastic	3/4, 1	4.5 (114)	8.0 (203)	0.8 (21)	4.2 (106)	2.44 (1.11)
Metal	3/4, 1	4.5 (114)	8.3 (210)	0.8 (21)	4.2 (106)	3.25 (1.48)

† With Hydro-Jector external drain, dimension B is increased by 8.0 inches (203 mm), and weight is increased by 2.56 pounds (1.18 kg).



## REPLACEMENT FILTER ELEMENT KITS

Element Type	Kit Number
5-µm polyethylene (Std element)	KA109-3PE
5-µm bronze	KA109-03E5
20-µm bronze	KA109-03E4
40-µm bronze	KA109-03E3

## ORDERING INFORMATION

Change the letters in the sample model number below to specify the filter you want.

# BFD 100 - 6 Y W

### BOWL AND DRAIN TYPE

- Plastic bowl, internal automatic drain ..... FD
- Metal bowl, internal automatic drain ..... BFD
- Plastic bowl, manual drain ..... F
- Metal bowl, manual drain ..... BF
- Plastic bowl, internal float drain (**plastic stem**) ... F5A
- Metal bowl, internal float drain (**brass stem**) ..... BF6A
- Metal bowl, external Hydro-Jector drain ..... BFE  
(LDC option is not needed; under **OPTIONS**)
- Metal bowl, warrior electronic drain ..... BF2A

### DIFFERENTIAL PRESSURE GAUGE

- No gauge ..... 100
- Large gauge ..... 101
- Small gauge ..... 101S
- Large gauge with normally **OPEN** reed switch..... 101E
- Large gauge with normally **CLOSED**..... 101E2  
reed switch

### PORT SIZE

- 3/4 NPTF ..... 6
- Note:** '6', 3/4 NPTF has a larger bowl capacity than '6X' 3/4 NPTF.
- 1 NPTF ..... 8

### PORT TYPE

- As specified in **INLET PORT** ..... Leave Blank
- BSP** threads on both ports ..... W

### OPTIONS (More than one option can be chosen. Add in alphabetical order.)

- None ..... Leave Blank

### Polyethylene filter element:

- 5-µm rating ..... Leave Blank

### Bronze filter element:

- 5-µm rating ..... E5
- 20-µm rating ..... E4
- 40-µm rating ..... E3
- No bowl drain ..... LDC  
(1/4 NPT female port instead. Also use 'BF' option under **BOWL AND DRAIN TYPE** section.)

## DIFFERENTIAL PRESSURE GAUGES



Small Slide Gauge  
103-151



Large Dual Face Gauge  
106-35



Large Dual Face Gauge  
with Reed Switch  
106-35E (Normally Open)  
106-35EC (Normally Closed)



# High-Flow VANGUARD General Purpose Filters

# BFD200 Models Port Sizes: 3/4, 1



Model Shown: BFD200-6

- ◆ Inline mounting.
- ◆ 40- $\mu$ m-rated sintered bronze filter element; optional 5- $\mu$ m-rated sintered bronze element.
- ◆ Aluminum bowl with clear nylon sight glass.
- ◆ Optional differential pressure gauge.
- ◆ Internal automatic drain; optional manual drain, internal float drain, or external Hydro-Jector drain.
- ◆ NPTF port threads; optional BSPP threads.

## SPECIFICATIONS

### Ambient/Media Temperature:

Manual & auto drains: 40° to 175°F (4° to 79°C).  
Float drains: 40° to 150°F (4° to 66°C).

**Body:** Aluminum.

**Bowl:** 35-Ounce (1 liter) aluminum bowl with clear nylon sight glass.

**Bowl Drain:** Internal automatic drain; optional manual drain, internal float drain, or external Hydro-Jector drain.

**Bowl Ring:** Aluminum.

**Differential Pressure Gauge:** Optional.

**Filter Element:** 40- $\mu$ m-rated sintered bronze; optional 5- $\mu$ m sintered bronze.

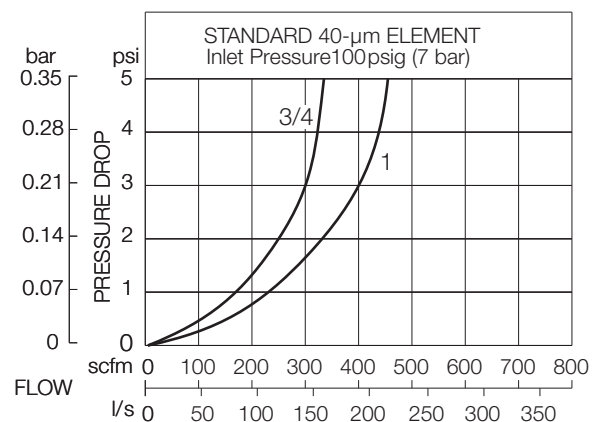
**Fluid Media:** Compressed air.

### Inlet Pressure:

Minimum: 15 psig (1 bar) with automatic drain, 30 psig (2 bar) with internal float drain.  
200 psig (14 bar) maximum.

**Seals:** Nitrile.

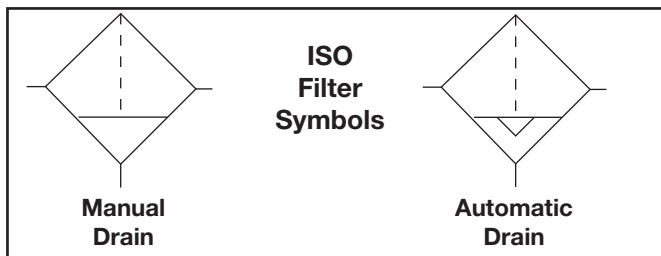
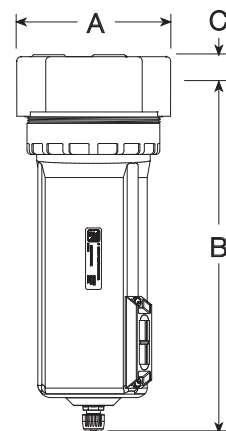
## FLOW CHART



## DIMENSIONS inches (mm)

A	B †	C	Depth	Weight † lb (kg)
4.5 (114)	10.3 (263)	1.0 (25)	4.2 (106)	4.25 (193)

† With Hydro-Jector external drain, dimension B is increased by 8.0 inches (203 mm), and weight is increased by 2.56 pounds (1.18 kg).



## REPLACEMENT FILTER ELEMENT KITS

Element Type	Kit Number
40-µm bronze (Std element)	A114-106E3
5-µm bronze	A114-106E5

## ORDERING INFORMATION

Change the letters in the sample model number below to specify the filter you want.

**BFD 200 - 6 Y W**

### BOWL AND DRAIN TYPE

- Metal bowl, internal automatic drain ..... BFD
- Metal bowl, manual drain ..... BF
- Metal bowl, internal float drain ..... BF6A  
(Brass stem).
- Metal bowl, external Hydro-Jector ..... BFE  
drain (LDC option is not needed;  
under **OPTIONS**).
- Metal bowl, warrior electronic drain ..... BF2A

### HEAD TYPE and DIFFERENTIAL PRESSURE GAUGE

- No tapped ports on head, no gauge ..... 200
- Tapped ports on head, large gauge ..... 201
- Tapped ports on head, small gauge ..... 201S
- Tapped ports on head, large gauge ..... 201E  
with normally **open** reed switch.
- Tapped ports on head, large gauge ..... 201E2  
with normally **closed** reed switch.

### PORT TYPE

- NPTF threads ..... Leave blank
- BSPP threads ..... W

**OPTIONS** (More than one option can be chosen. Add in alphabetical order).

- None ..... Leave blank
- 5-µm rating bronze element ..... E5
- 40-µm rating bronze element ... Leave blank
- Less drain cock ..... LDC  
(1/4 NPT female port instead. Also  
use 'BF' option under **BOWL AND  
DRAIN TYPE** section.)

### PORT SIZE

- 3/4 NPTF ..... 6
- 1 NPTF ..... 8

## DIFFERENTIAL PRESSURE GAUGES



Small Slide Gauge  
103-151



Large Dual Face Gauge  
106-35



Large Dual Face Gauge  
with Reed Switch  
106-35E (Normally Open)  
106-35EC (Normally Closed)

# High-Flow VANGUARD General Purpose Filters

# BF6A400 Models Port Sizes: 1-1/4, 1-1/2, & 2



Model Shown: BF6A400-10

## SPECIFICATIONS

### Ambient/Media Temperature:

**Manual Drain:** 40° to 175°F (4° to 79°C).

**Float, hydro-jector drain:** 40° to 150°F (4° to 66°C).

**Body:** Aluminum.

**Bowl:** 120-Ounce (3548-ml) capacity aluminum bowl.

**Bowl Drain:** Internal float drain; optional manual drain or external Hydro-Jector drain.

**Filter Element:** 40- $\mu$ m-rated sintered bronze; optional 5- $\mu$ m sintered bronze.

**Fluid Media:** Compressed air.

### Inlet Pressure:

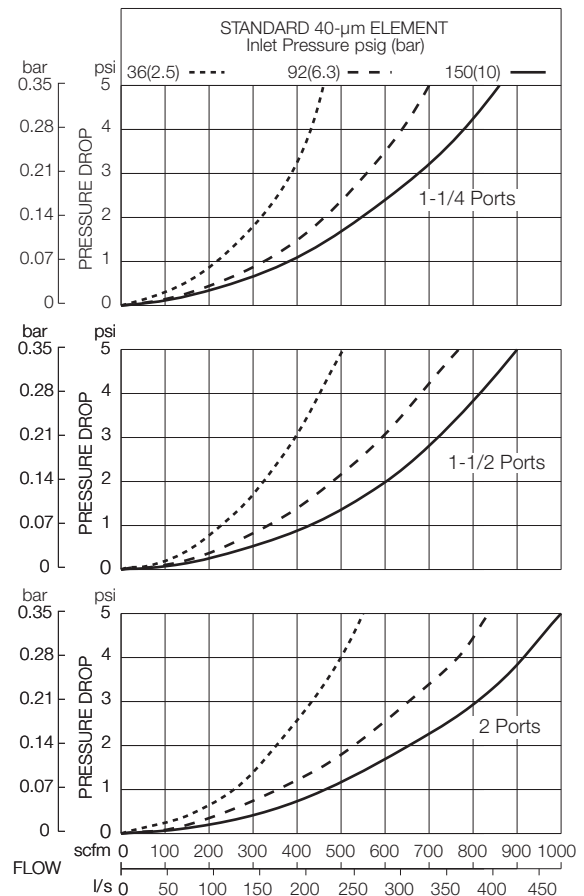
**Float Drain:** 30 psig (2.1 bar) minimum. 200 psig (14 bar) maximum.

**Manual Drain:** 0 psig (0 bar) minimum. 300 psig (21 bar) maximum.

**Seals:** Nitrile.

- ◆ Inline mounting.
- ◆ 40- $\mu$ m-rated sintered bronze filter element; optional 5- $\mu$ m sintered bronze element.
- ◆ Aluminum bowl.
- ◆ Internal float drain; optional manual drain or external Hydro-Jector drain.
- ◆ NPTF port threads; optional BSPP threads.

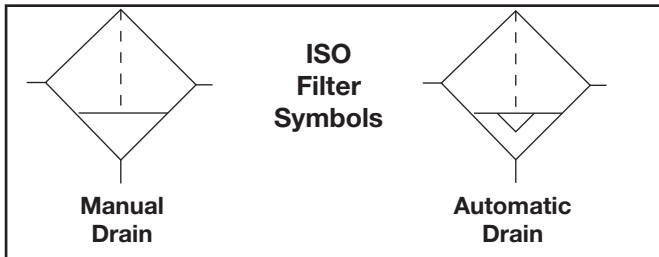
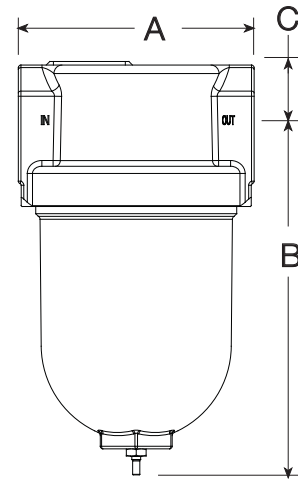
## FLOW CHARTS



**DIMENSIONS** inches (mm)

A	B †	C	Depth	Weight † lb (kg)
8.1 (204.7)	12.0 (305)	2.4 (60.3)	8.0 (203.2)	17 (7.72)

† With Hydro-Jector external drain, dimension B is increased by 8.0 inches (203 mm), and weight is increased by 2.56 pounds (1.18 kg).



**REPLACEMENT FILTER ELEMENT KITS**

Element Type	Kit Number
40-µm bronze (Std element)	K106-33
5-µm bronze	K106-33E5

**ORDERING INFORMATION**

Change the letters in the sample model number below to specify the filter you want.

**BF6A 400L - 10 E5 W**

**DRAIN and BOWL TYPE**

- Metal bowl, Internal automatic float drain ... **BF6A**  
*(brass stem)*
- Metal bowl, manual drain ..... **BF**
- Metal bowl, less drain cock, external ..... **BF7AE**  
Hydro-Jector drain.
- Metal bowl, no drain (**less drain cock**) ..... **BF7A**
- Metal bowl, warrior electronic drain ..... **BF2A**

**HEAD TYPE and DIFFERENTIAL**

**PRESSURE GAUGE**

- No tapped ports on head, no gauge ..... **400**
- Tapped ports on head, no gauge ..... **401**
- Tapped ports on head, large differential ..... **401L**  
pressure gauge.
- Tapped ports on head, Small differential ..... **401S**  
pressure gauge
- Tapped ports on head, Large differential ..... **401E**  
pressure gauge with normally open  
reed switch.
- Tapped ports on head, Large differential ..... **401E2**  
pressure gauge with normally closed  
reed switch.

**PORT TYPE**

- NPTF ..... Leave Blank
- BSPB ..... **W**

**ELEMENT TYPE**

- 5-µm rating bronze element ..... **E5**
- 40-µm rating bronze elemen ..... **E3**

**PORT SIZE**

- 1-1/4 NPTF ..... **10**
- 1-1/2 NPTF ..... **12**
- 2 NPTF ..... **16**

**DIFFERENTIAL PRESSURE GAUGES**



# High-Flow VANGUARD General Purpose Filters

# BFD200 Models Port Sizes: 1-1/4, 1-1/2



Model Shown: BFD200-10

## SPECIFICATIONS

### Ambient/Media Temperature:

Manual & auto drains: 40° to 175°F (4° to 79°C).  
Float drains: 40° to 150°F (4° to 66°C).

**Body:** Aluminum.

**Bowl:** 35-Ounce (1 liter) aluminum bowl with clear nylon sight glass.

**Bowl Drain:** Internal automatic drain; optional manual drain, internal float drain, or external Hydro-Jector drain.

**Bowl Ring:** Aluminum.

**Differential Pressure Gauge:** Optional.

**Filter Element:** 40- $\mu$ m-rated sintered bronze; optional 5- $\mu$ m sintered bronze.

**Fluid Media:** Compressed air.

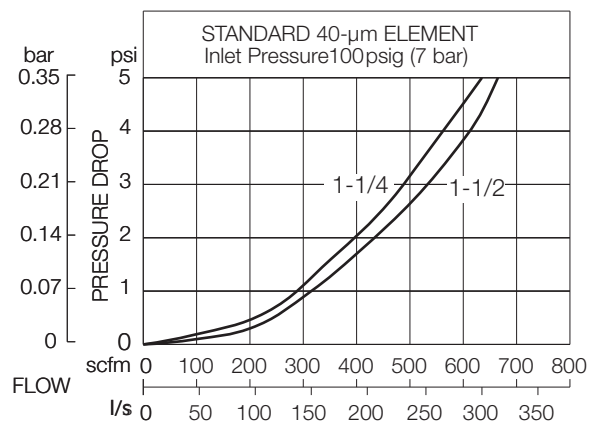
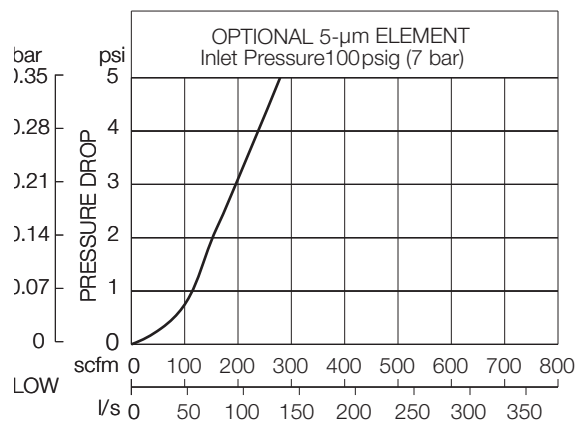
### Inlet Pressure:

Minimum: 15 psig (1 bar) with automatic drain 30 psig (2 bar) with float drain.  
200 psig (14 bar) maximum.

**Seals:** Nitrile.

- ◆ Inline mounting.
- ◆ 40- $\mu$ m-rated sintered bronze filter element; optional 5- $\mu$ m-rated sintered bronze element.
- ◆ Aluminum bowl with clear nylon sight glass.
- ◆ Optional differential pressure gauge.
- ◆ Internal automatic drain; optional manual drain, internal float drain, or external Hydro-Jector drain.
- ◆ NPTF port threads; optional or BSPP threads.

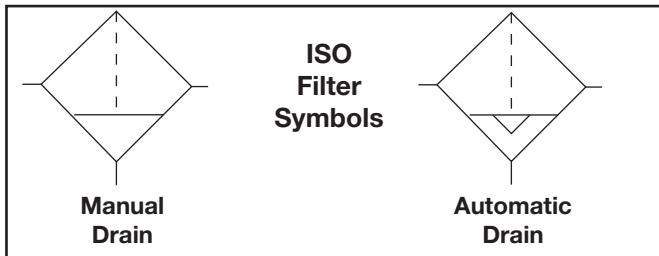
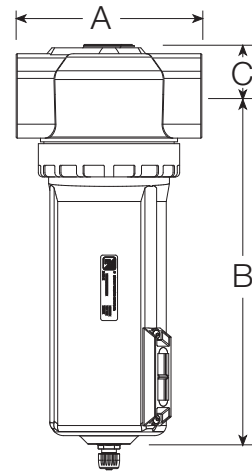
## FLOW CHARTS



**DIMENSIONS** inches (mm)

A	B †	C	Depth	Weight † lb (kg)
5.5 (140)	10.7 (271)	1.4 (36)	4.2 (106)	4.50 (2.04)

† With Hydro-Jector external drain, dimension B is increased by 8.0 inches (203 mm), and weight is increased by 2.56 pounds (1.18 kg).



**REPLACEMENT FILTER ELEMENT KITS**

Element Type	Kit Number
40-µm bronze (Std element)	A114-106E3
5-µm bronze	A114-106E5

**ORDERING INFORMATION**

Change the letters in the sample model number below to specify the filter you want.

**BFD 200 - 10 Y W**

**BOWL AND DRAIN TYPE**

- Metal bowl, internal automatic drain ..... BFD
- Metal bowl, manual drain ..... BF
- Metal bowl, internal float drain ..... BF6A  
(Brass stem).
- Metal bowl, external Hydro-Jector ..... BFE  
drain (LDC option is not needed;  
under **OPTIONS**).
- Metal bowl, warrior electronic drain ..... BF2A

**HEAD TYPE and DIFFERENTIAL PRESSURE GAUGE**

- No tapped ports on head, no gauge ..... 200
- Tapped ports on head, large gauge ..... 201
- Tapped ports on head, small gauge ..... 201S
- Tapped ports on head, large gauge ..... 201E  
with normally **open** reed switch.
- Tapped ports on head, large gauge ..... 201E2  
with normally **closed** reed switch.

**PORT TYPE**

- NPTF threads ..... Leave blank
- BSPP threads ..... W

**OPTIONS** (More than one option can be chosen. Add in alphabetical order).

- None ..... Leave blank
- 5-µm rating bronze element ..... E5
- 40-µm rating bronze element ... Leave blank
- Less drain cock ..... LDC  
(1/4 NPT female port instead. Also use 'BF' option under **BOWL AND DRAIN TYPE** section.)

**PORT SIZE**

- 1-1/4 NPTF ..... 10
- 1-1/2 NPTF ..... 12

**DIFFERENTIAL PRESSURE GAUGES**



Small Slide Gauge  
103-151



Large Dual Face Gauge  
106-35



Large Dual Face Gauge  
with Reed Switch  
106-35E (Normally Open)  
106-35EC (Normally Closed)