

ADSORBING FILTERS, DRYERS, CLEAN AIR PACKAGES

OIL REMOVAL ADSORBING FILTERS



The adsorbing filters are designed to remove vapors from the air line that cannot be removed by a coalescing filter. They produce air that is virtually free of oil and hydrocarbons as required by industries such as food processing, electronics, and instrumentation.

The filter cartridges contain activated carbon to adsorb hydrocarbon vapors and odors from alcohols, esters, and ketones. An optional extended bowl includes a higher capacity adsorbing cartridge which allows as much as 50 percent greater air flow.

Series **BFC70-E9** adsorbing filters have aluminum bowls and are offered with 1/4, 3/8, or 1/2 ports. Series **FC350-E9** and the **FC380-E9** units have either polycarbonate plastic or aluminum bowls. The **FC350-E9** are offered with 1/4, 3/8, or 1/2 ports. The **FC380-E9** are offered with 3/8, 1/2, or 3/4 ports.

An adsorbing filter should always be preceded by a particulate filter and a coalescing filter. Such an assembly is one of Master Pneumatic's Clean Air Packages which will provide air with no more oil than 10 mg/m³ or 0.008 ppm.

CLEAN AIR PACKAGES



In critical applications when vapor impurities are a potential problem, the installation of a Clean Air Package provides the solution. Ultra clean air is provided by using the particulate filters as the first line of defense against gross contaminants found in all air lines. Elements remove

solid particles larger than 5 micron, while automatic drains eliminate liquid water and oil emulsions that collect in the sump area. The particulate filter serves as a pre-filter to extend the life of the more costly coalescing element used for the next stage of filtration.

The coalescing filter element will further clean the air of residual oil mists, aerosols, and minute particles, larger than 0.3 micron. A standard differential pressure gauge warns when the pressure drop exceeds 8 to 10 psi, indicating that the coalescing element should be changed.

Finally, the adsorber filter will provide air, virtually free of oil and most hydrocarbons. It effectively eliminates odors from freons, alcohols, esters, ketones, and up to 99% of most hydrocarbons.

Clean Air Packages are available with port sizes ranging from 1/4 to 1.

MP-FILENCO DRYER/FILTERS

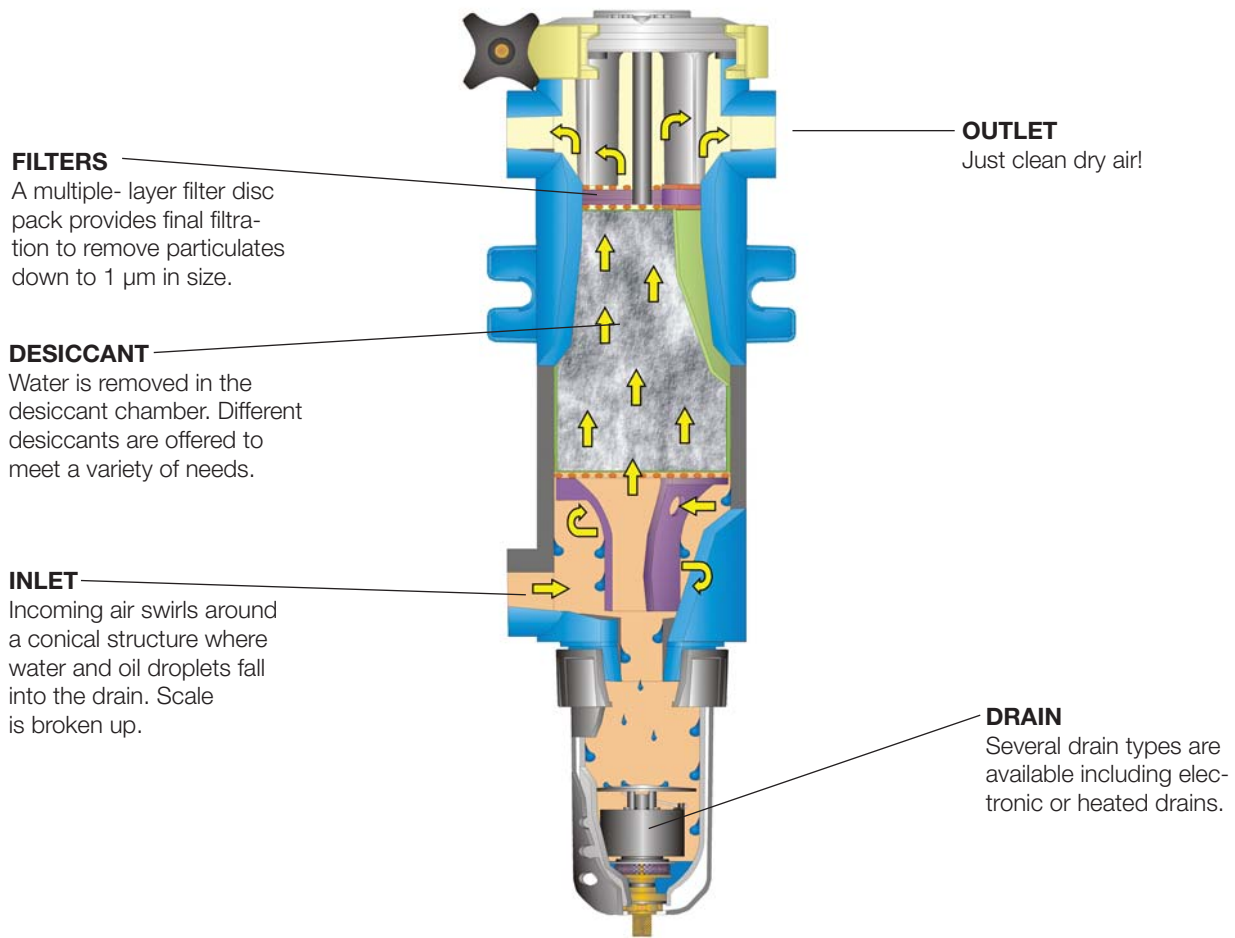


Many compressed air systems require point-of-use cleaning and drying of the air to supplement a central system. Dryer/filters do this extremely well because of their triple-action cleaning process and their ability to substantially reduce pressure dew points.

Available desiccants for these units include clay, clay with activated carbon, and molecular sieves for as much as 80° dew point suppression.

Automatic drains are strongly recommended, although there are a variety of options offered — from simple manual drains to the Warrior electronic drain.

MP-FILENCO DRYER CROSS SECTION



GUIDE to ADSORBING FILTERS, DRYERS and CLEAN AIR PACKAGES

Product	Port Sizes							Pages
	1/4	3/8	1/2	3/4	1	1-1/2	2	
ADSORBING FILTERS								
BFC70-E9	X	X	X					106-107
FC350-E9	X	X	X					108-109
FC380-E9		X	X	X				110-111
CLEAN AIR PACKAGES								
Guardman II	X	X	X					112-113
Series 350	X	X	X					114-115
Series 380		X	X	X				116-117
High-flow BFD FCD100				X	X			118-119
350-4SA447 (2 Drop)			X					112-113
380-4SA446 (4 Drop)			X					114-115
MP-FILENCO DRYER/FILTERS								
Series 25	X							120-121
Series 36		X						122-123
Series 38			X					122-123
Series 418					X			124-125
Series 625						X		126-127
Series 832							X	126-127

GUARDSMAN II Modular Oil Vapor Removal (Adsorbing) Filters



Model Shown: BFC70-4E9

SPECIFICATIONS

Ambient/Media Temperature:

40° to 175°F (4° to 79°C).

Body: Zinc.

Bowl: 6-Ounce (180-ml) capacity aluminum. Optional 10-ounce (300-ml) extended aluminum bowl has higher flow filter cartridge.

Bowl Drain: Manual.

Bowl Ring: Nylon.

Filter Cartridge: Activated carbon.

Fluid Media: Compressed air.

Inlet Pressure: 200 psig (14 bar) maximum.

Seals: Nitrile.

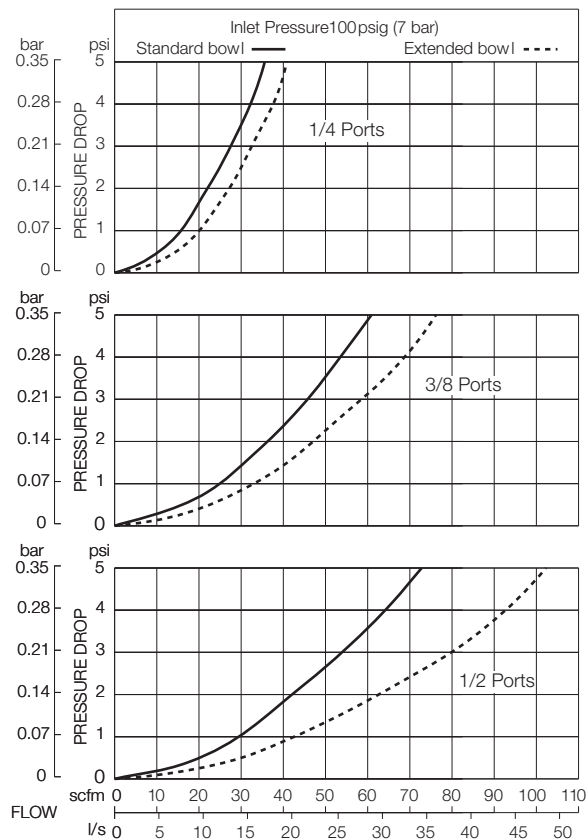
BFC70-E9 Models Port Sizes: 1/4, 3/8, 1/2

The adsorbing filter is designed to remove vapors from the air line that cannot be removed by a coalescing filter. It produces air virtually free of oil and hydrocarbons as required by industries such as food processing, electronics, and instrumentation.

An adsorbing filter must be preceded by a coalescing filter, and these filters should be preceded by a general purpose filter. Such a trio of filters constitutes a Clean Air Package that will provide air with no more than 0.01 mg of oil per cubic meter. For such clean air assemblies see following pages.

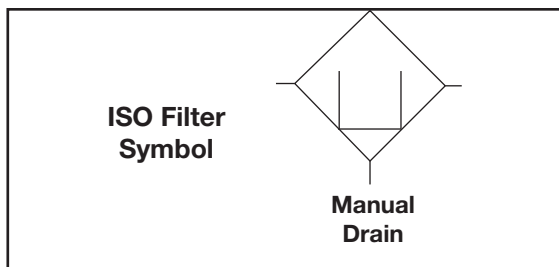
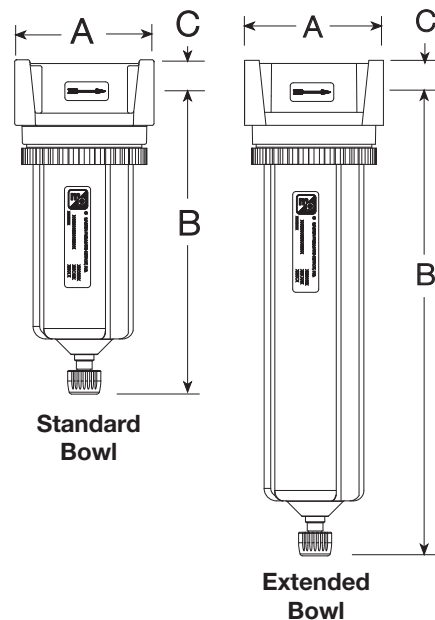
- ◆ Modular or inline mounting.
- ◆ Filter cartridge contains activated carbon
- ◆ Aluminum bowl. Optional extended bowl with higher flow cartridge.
- ◆ Manual drain.
- ◆ NPTF port threads; optional BSPP threads.

FLOW CHARTS



DIMENSIONS inches (mm)

Bowl	A	B	C	Depth	Weight lb (kg)
Standard	2.7 (67)	6.5 (165)	0.63 (16)	2.4 (60)	1.50 (0.68)
Extended	2.7 (67)	9.5 (241)	0.63 (16)	2.4 (60)	1.75 (0.80)



REPLACEMENT FILTER ELEMENT KITS

Bowl	Kit Number
Standard (Std cartridge)	A60F-29E9
Extended.....	A60F-32E9

ORDERING INFORMATION

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

BFC 70 - 2 E9 W

BOWL SIZE		PORT TYPE	
Standard 6-ounce bowl.....	70	NPTF threads	Leave Blank
Extended 10-ounce bowl	70H	BSPF threads	W
with higher flow filter cartridge		PORT SIZE	
		1/4 NPTF.....	2
		3/8 NPTF.....	3
		1/2 NPFT.....	4

SERIES 350 Modular Oil Vapor Removal (Adsorbing) Filters



Model Shown: FC350-4C1E9

Available Color Caps



SPECIFICATIONS

Ambient/Media Temperature:

Plastic bowl, manual drain 40° to 125°F (4° to 52°C)

Metal bowl, manual drain 40° to 175°F (4° to 79°C)

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. Optional 10-ounce (300-ml) extended aluminum bowl with clear nylon sight glass and extended flow filter element.

Bowl Drain: Manual drain.

Cap Color: Yellow, optional red, blue and grey.

Filter Cartridge: Activated carbon with urethane seals.

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.

FC350-E9 Models Port Sizes: 1/4, 3/8, 1/2

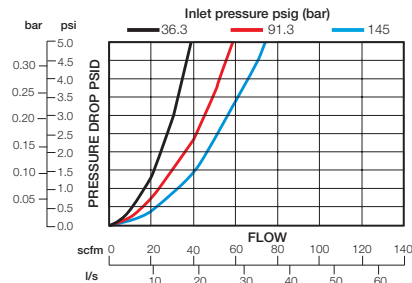
The adsorbing filter is designed to remove vapors from the air line that cannot be removed by a coalescing filter. It produces air free of oil and hydrocarbons as required by industries such as food processing, electronics, and instrumentation. An adsorbing filter preceded by a coalescing filter and a general purpose filter constitute a Clean Air Package as shown on the following pages.

- ◆ Modular or inline mounting.
- ◆ Designed to remove oil vapor that cannot be removed by a coalescent filter. Also removes odors and tastes.
- ◆ Filter cartridge contains activated carbon.
- ◆ Inlet pressure rated at 250 psig (17 bar) with metal bowls up to or at 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.
- ◆ Polycarbonate plastic bowl with shatterguard. Optional metal bowl.
- ◆ NPTF port threads; optional BSPP threads.

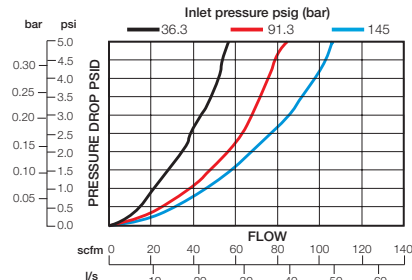
APPLICATION NOTE: General purpose and coalescing filter must be installed upstream of the Adsorbing filter to ensure good performance and to extend the life of the element.

FLOW CHARTS

FC350-2E9 FLOW CHARACTERISTICS



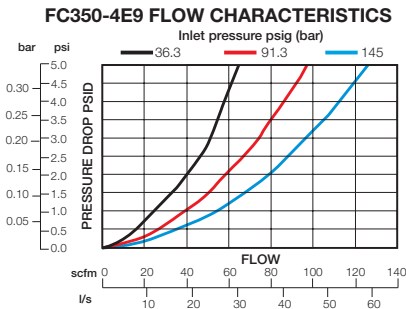
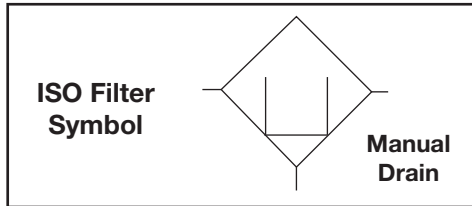
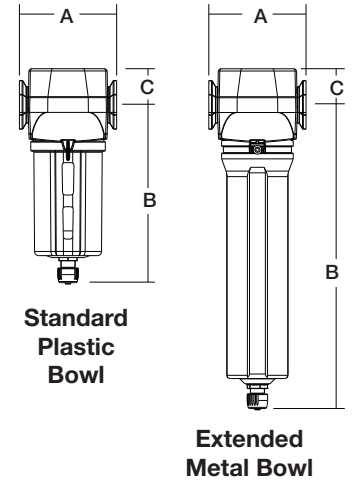
FC350-3E9 FLOW CHARACTERISTICS



DIMENSIONS inches (mm)

Bowl	A	B †	C	Depth	Weight lb (kg)
Std plastic	3.0 (76.2)	5.54 (140.7)	1.12 (28.3)	2.51 (63.8)	1.29 (0.59)
Std metal	3.0 (76.2)	6.42 (163.1)	1.12 (28.3)	2.76 (70.1)	1.41 (0.64)
Ext metal	3.0 (76.2)	9.51 (241.6)	1.12 (28.3)	2.76 (70.1)	1.54 (0.70)

† Bowl (standard) removal clearance: add 3.1 (79)
 † Bowl (extended) removal clearance: add 6.1 (155)



REPLACEMENT FILTER ELEMENT KITS

Bowl Size	Kit Number
Standard (Std element).....	A60F-29E9
Extended.....	A60F-32E9

ORDERING INFORMATION

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

BFC 350 H - 3 C1 E9 W

BOWL AND DRAIN TYPE

Plastic bowl, manual drain FC

Metal bowl, manual drain BFC

BOWL LENGTH

Standard length Leave Blank

Extended bowl length H

(Must be used with metal bowl option shown in **BOWL AND DRAIN TYPE**).

PORT TYPE

NPTF threads Leave blank

BSPF threads W

OPTIONS

Cap color:

Yellow (standard) C1

Red C2

Mid blue C3

Grey Leave Blank

PORT SIZE

1/4 NPTF 2

3/8 NPTF 3

1/2 NPTF 4

Full-Size SERIES 380 Modular Oil Vapor Removal (Adsorbing) Filters



Model Shown: FC380-6E9

Available Color Caps



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: 9-Ounce (270-ml) capacity polycarbonate plastic with steel shatterguard; optional aluminum bowl. Optional 15-ounce (450-ml) extended aluminum bowl includes a higher capacity adsorbing cartridge.

Bowl Drain: Manual.

Bowl Ring: Nylon.

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

Filter Cartridge: Activated carbon with urethane seals.

Fluid Media: Compressed air.

Inlet Pressure:

Plastic bowl: 150 psig (10 bar) maximum.
Metal bowl: 200 psig (14 bar) maximum.

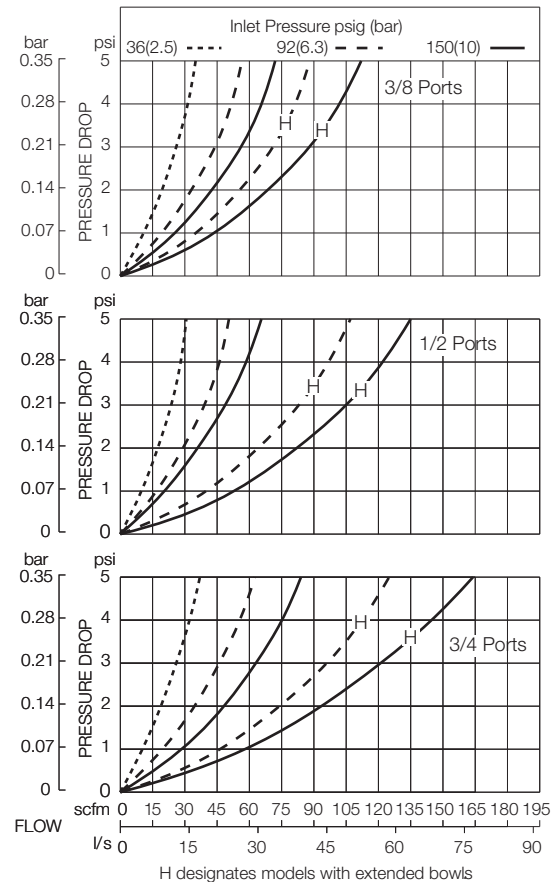
Seals: Nitrile.

FC380-E9 Models Port Sizes: 3/8, 1/2, 3/4

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- ◆ Modular or inline mounting.
- ◆ Filter cartridge contains activated carbon.
- ◆ Polycarbonate plastic bowl with steel shatter-guard; optional aluminum bowl. Optional extended aluminum bowl with higher flow filter cartridge.
- ◆ Manual drain.
- ◆ NPTF port threads; optional BSPP threads.

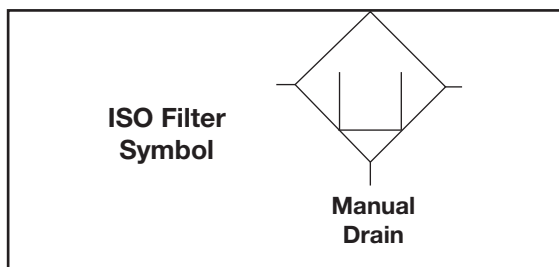
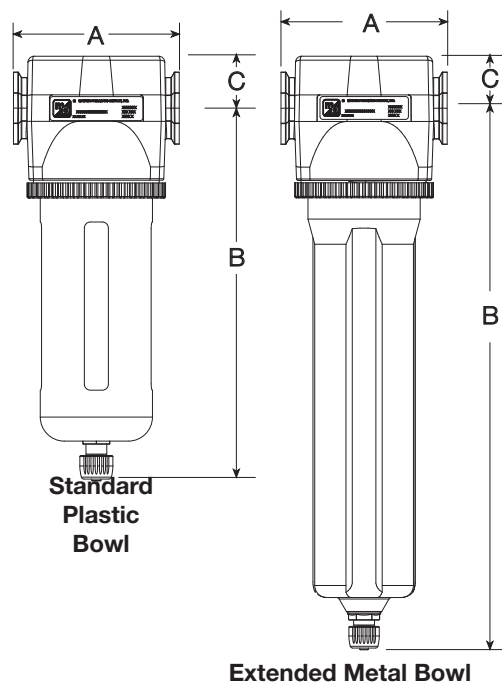
FLOW CHARTS



DIMENSIONS inches (mm)

Bowl	A	B †	C	Depth	Weight lb (kg)
Polycarbonate	3.5 (88)	7.7 (195)	1.1 (28)	2.9 (73)	2.13 (0.97)
9-Ounce Metal	3.5 (88)	7.6 (193)	1.1 (28)	3.1 (79)	2.13 (0.97)
Extended Metal	3.5 (88)	11.2 (284)	1.1 (28)	3.1 (79)	2.31 (1.05)

† Bowl removal clearance: add 3.1 (79) for 9-ounce bowl; 6.1 (155) for extended bowl.



REPLACEMENT FILTER ELEMENT KITS

Bowl Size	Kit Number
Standard (Std element).....	A115-117E9
Extended.....	A115-118E9

ORDERING INFORMATION

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

B FC 380 - 3 Y E9 W

BOWL TYPE
 Plastic with guard Leave Blank
 Metal B

BOWL SIZE
 Standard 9-ounce bowl 380
 Extended 15-ounce high- flow (metal only) 380H

PORT TYPE
 NPTF threads Leave Blank
 BSPP threads W

OPTIONS
 None Leave Blank
 Cap color: Grey is standard.
 Yellow C1
 Red C2
 Blue C3

PORT SIZE
 3/8 NPTF 3
 1/2 NPTF 4
 3/4 NPTF 6