

INTEGRAL FILTER/REGULATORS

The integration of a general purpose filter and a pressure regulator into a single module provides the compactness needed where space is limited. These integral filter/regulators are offered by Master Pneumatic in port sizes from 1/8 up to 3/4 along with models equipped with quick-connect fittings for tubing from 1/4 up to 10 mm.

The regulator is the top portion of the assembly, and the filter is the bottom portion. All sizes have essentially the same operating characteristics as their corresponding individual filters and regulators.

All filter/regulators include an internal automatic filter drain and a pressure gauge as standard equipment. Regulators are self relieving, and have gauge ports front and rear. Non-relieving models are also available.

Available options are the same as those for the corresponding individual filters and regulators. They include regulating springs for various pressure ranges, metal filter bowls, and sintered bronze filter elements in several µm ratings.

MODULAR or INLINE MOUNTING

SENTRY, GUARDSMAN, SERIES 350, SERIES 380, and **Full-Size VANGUARD** integral filter/regulators

are of modular design. Units can be connected to lubricators by special modular connectors which seal the faces between units. They may also be inline mounted with pipe nipples. **MINIATURE** filter/regulators are designed for inline mounting only.

All units are available with either **NPTF** or **BSPP** port threads.

SENTRY FILTER/REGULATORS

Port sizes 1/8 and 1/4 or fittings for tubing up to 10 mm. Modular units have durable plastic, corrosion-resistant bodies. Units are available with either piston or diaphragm type regulators. A non-relieving version can be used with water, oil, and many other liquids.



GUIDE to INTEGRAL FILTER/REGULATORS

Filter/Regulator Series	Modular Construction	Port Sizes					Pages
		1/8	1/4	3/8	1/2	3/4	
SENTRY							
CFDR10M, 11M models †	yes	X	X				210-211
MINIATURE							
CFDR55M, 56M models	no	X	X				212-213
CX (CO ₂) models	no	X	X				226-227
GUARDSMAN							
CFDR60 models	yes		X	X	X		214-215
GUARDSMAN II							
BCFDR70 models	yes		X	X	X		216-217
SERIES 350							
CF5AR350 models	yes		X	X	X		220-221
Full-Size VANGUARD							
CFDR100 models	yes		X	X	X	X	222-223
Full-Size SERIES 380							
CFDR380 models	yes			X	X	X	224-225

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



MINIATURE FILTER/REGULATORS

Port sizes 1/8 and 1/4. Built to the same performance standards as the **SENTRY** units, but are non-modular and at lower cost.

GUARDSMAN FILTER/REGULATORS

Port sizes 1/4, 3/8, and 1/2. Standard polycarbonate plastic filter bowl has a zinc die-cast shatterguard. A zinc bowl is optionally available. Regulator is a self-relieving piston type; non-relieving also available.



Full Size VANGUARD FILTER/REGULATORS

Port sizes 1/4 through 3/4. Polycarbonate plastic filter bowl with steel shatterguard standard. Optional zinc bowl with clear nylon sight glass. Regulator is a self-relieving diaphragm type; non-relieving also available. Includes pressure adjustment locking key to prevent tampering.



GUARDSMAN II FILTER/REGULATORS

Port sizes 1/4, 3/8, and 1/2. Standard aluminum filter bowl with clear nylon sight glass. Extra-capacity bowl optionally available. Regulator is a self-relieving piston type; non-relieving also available.



SERIES 380 FILTER/REGULATORS

Port sizes 3/8, 1/2, 3/4. Polycarbonate plastic filter bowl with steel shatterguard standard. Optional aluminum bowl with clear nylon sight glass. Regulator is a self-relieving diaphragm type; non-relieving also available. Includes pressure adjustment locking key to prevent tampering.

SENTRY Modular Integral Filter/Regulators

CFDR10M, CFDR11M Models Port Sizes: 1/8, 1/4; Tube Fittings



Model Shown: CFDR10M-2

- ◆ Filter and regulator consolidated in a single assembly.
- ◆ Modular assembly and mounting.
- ◆ Threaded ports or quick-connect fittings for tubing up to 10 mm in diameter.
- ◆ 5- μ m-rated polyethylene filter element; optional sintered bronze elements.
- ◆ High-strength polycarbonate plastic filter bowl; optional metal bowl.
- ◆ Internal automatic drain; optional manual drain.
- ◆ Piston-type regulator (CFDR10M models) or diaphragm-type (CFDR11M models).
- ◆ Self-relieving regulator; non-relieving optional.
- ◆ Pressure gauge.
- ◆ 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.

Dome and Knob: Acetal.

Filter Drain:

Internal automatic drain; optional manual drain.

Filter Element: 5- μ m-rated polyethylene; optional 5- μ m, 20- μ m, or 40- μ m sintered bronze.

Fluid Media: Compressed air.

Inlet Pressure:

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

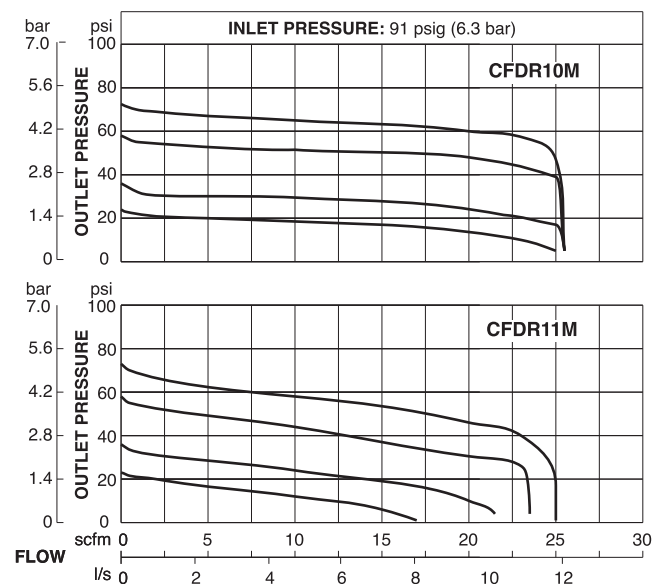
Outlet Pressure: Adjustable up to 100 psig (7 bar).

Pressure Gauge: 0 to 160 psig (11 bar); 1/8 NPT gauge ports front and rear.

Panel Mounting: 1-3/16 inch (30 mm) hole required.

Seals: Nitrile.

FLOW CHARTS

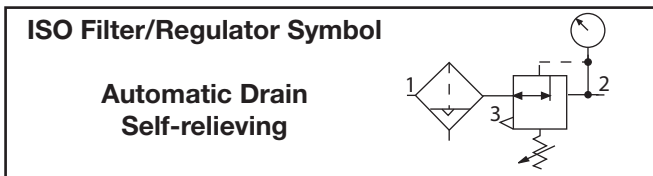
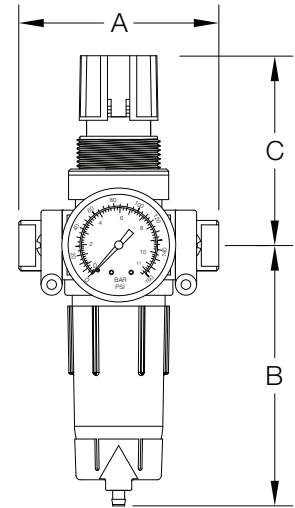


DIMENSIONS inches (mm)

Ports	A	B *	C	Depth †	Weight † lb (kg)
No Port	1.7 (43)	3.9 (99)	2.6 (67)	1.8 (45)	0.31 (0.15)
1/8, 1/4	3.0 (76)	3.9 (99)	2.6 (67)	1.8 (45)	0.53 (0.24)
Models below have quick-connect fittings for tubing.					
1/4	3.4 (86)	3.9 (99)	2.6 (67)	1.8 (45)	0.51 (0.23)
3/8	3.9 (99)	3.9 (99)	2.6 (67)	1.8 (45)	0.51 (0.23)
4 mm	3.4 (86)	3.9 (99)	2.6 (67)	1.8 (45)	0.51 (0.23)
6 mm	3.4 (86)	3.9 (99)	2.6 (67)	1.8 (45)	0.51 (0.23)
8 mm	3.4 (86)	3.9 (99)	2.6 (67)	1.8 (45)	0.51 (0.23)
10 mm	3.9 (99)	3.9 (99)	2.6 (67)	1.8 (45)	0.51 (0.23)

* Dimension with plastic filter bowl; with metal bowl is 4.3 (109).

† Less gauge.



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/regulator you want.

B C FD R10M P - 2 X Y P W

BOWL TYPE

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

FILTER DRAIN

Internal automatic drainFD
Manual drain.....F

REGULATOR TYPE

Piston type R10M
Diaphragm type..... R11M

MOUNTING HOLE LOCATION

Bottom mount (Standard) Leave Blank
Top mount P

INLET PORT SIZE

No Inlet and Outlet Ports Leave blank

Threaded:

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

Fittings for Tubing:

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

MOUNTING BRACKETS

See page 356.

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)

0-160 psig Gauge Leave Blank
No psig Gauge NG
Plastic nut P
Metal nut PN
Hex plastic mounting nut PE

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

None Leave Blank
Non-relieving A
Sintered bronze filter element:

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

Adjusting springs:

0-125 psig (0-8.6 bar)..... H
0-50 psig (0-3.4 bar)..... L
0-8 psig (0-0.6 bar)..... L8
0-15 psig (0-1.0 bar)..... L15
0-30 psig (0-2.1 bar)..... L30
No Drain (lubricator bowl) LDC
(Use Manual Drain Option under **BOWL DRAIN** section as well)

Tamper-resistant spinning MV(*)
knob (psig preset)

Viton seals V

*Insert maximum limited pressure.

OUTLET PORT SIZE

Same as inlet port Leave Blank

Threaded:

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

Fittings for Tubing:

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

MINIATURE Integral Filter/Regulators

CFDR55M, CFDR56M Models Port Sizes: 1/8, 1/4



Model Shown: CFDR56M-2

- ◆ Filter and regulator consolidated in a single assembly.
- ◆ Inline mounting.
- ◆ 5- μ m-rated polyethylene filter element; optional sintered bronze elements.
- ◆ High-strength polycarbonate plastic filter bowl; optional aluminum bowl.
- ◆ Internal automatic drain; optional manual drain.
- ◆ Piston-type regulator (CFDR55M models) or diaphragm-type (CFDR56M models).
- ◆ Self-relieving regulator; non-relieving optional.
- ◆ Pressure gauge.
- ◆ NPTF port threads; optional BSPP threads.

SPECIFICATIONS

Ambient/Media Temperature:

40° to 125°F (4° to 52°C).

Body: Aluminum.

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

Dome and Knob: Glass Filled Nylon and Acetal.

Filter Drain:

Internal automatic drain; optional manual drain.

Filter Element: 5- μ m-rated polyethylene; optional 5- μ m, 20- μ m, or 40- μ 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.

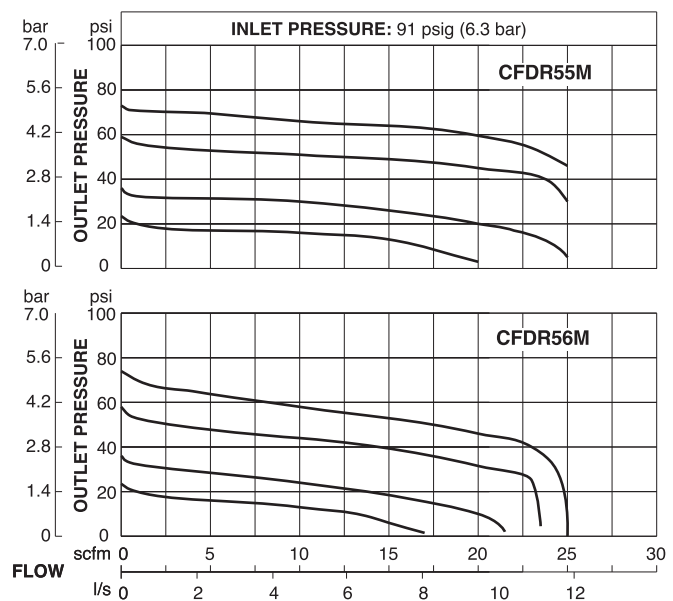
Outlet Pressure: Adjustable up to 100 psig (7 bar).

Pressure Gauge: 0 to 160 psig (11 bar); 1/8 NPT gauge ports front and rear.

Panel Mounting: 1-3/16 inch (30 mm) hole required.

Seals: Nitrile.

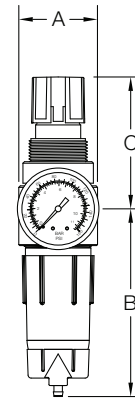
FLOW CHARTS



DIMENSIONS inches (mm)

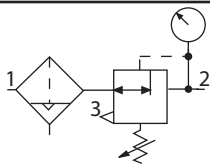
Bowl	Ports	A	B	C	Depth †	Weight †
						lb (kg)
Plastic	1/8, 1/4	1.6 (41)	3.9 (99)	2.6 (67)	1.6 (41)	0.53 (0.24)
Metal	1/8, 1/4	1.6 (41)	4.3 (109)	2.6 (67)	1.6 (41)	0.53 (0.24)

† Less gauge.



ISO Filter/Regulator Symbol

Automatic Drain
Self-relieving



REPLACEMENT FILTER ELEMENT KITS

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

ORDERING INFORMATION

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

B C FD R55M - 2 Y P W

BOWL TYPE

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

FILTER DRAIN

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

REGULATOR TYPE

Piston type R55M
Diaphragm type..... R56M

PORT SIZE

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

PORT TYPE

NPTF threads Leave Blank
BSPF threads W

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

0-160 psig Gauge Leave Blank
No psig Gauge NG
Plastic nut P
Metal nut PN
Hex plastic mounting nut PE

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

None Leave Blank
Non-relieving A
Small valve seat (provides lower flow, greater precision)..... C
Metal dome (threaded)..... D
Sintered bronze filter element:
5- μ m rating E5
20- μ m rating E4
40- μ m rating E3

Adjusting springs:

0-125 psig (0-8.6 bar) H
0-50 psig (0-3.4 bar) L
0-8 psig (0-0.6 bar) L8
0-15 psig (0-1.0 bar) L15
0-30 psig (0-2.1 bar) L30

No Drain (lubricator bowl) LDC
(Use Manual Drain Option under **BOWL DRAIN** section as well)

Tamper-resistant spinning MV(*)
knob (psig preset)

No gauge ports NP
Viton seals V

*Insert maximum limited pressure.

MOUNTING BRACKETS

See page 356.

GUARDSMAN Modular Integral Filter/Regulators

CFDR60 Models Port Sizes: 1/4, 3/8, 1/2



Model Shown: CFDR60-3

SPECIFICATIONS

Ambient/Media Temperature:

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

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

Body: Zinc.

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

Dome and Knob: Acetal.

Filter Drain:

Internal automatic drain; optional manual drain.

Filter Element: 5- μ m-rated polyethylene; optional 5- μ m, 20- μ m, or 40- μ 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.

Outlet Pressure: Adjustable up to 100 psig (7 bar).

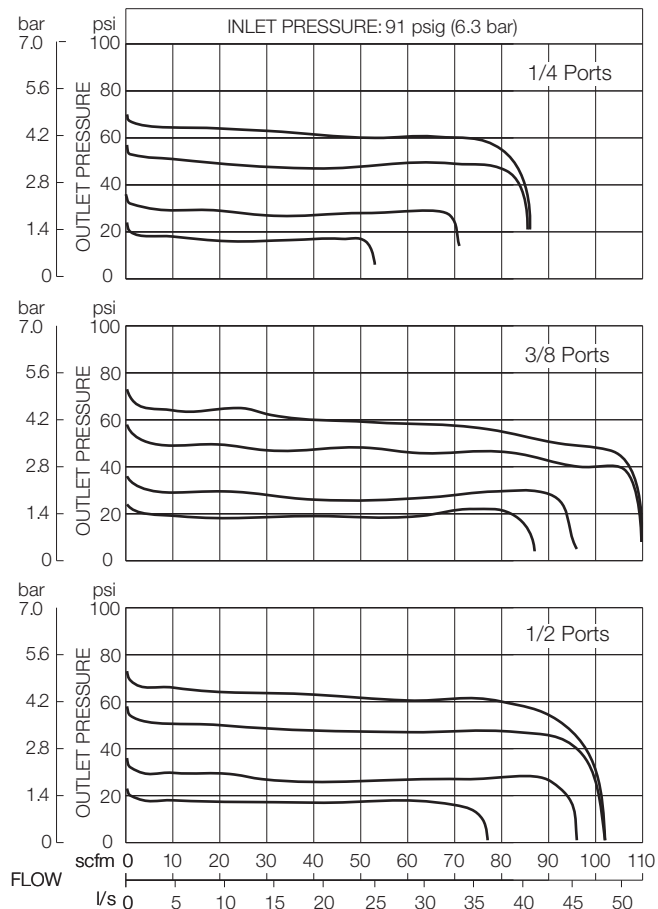
Pressure Gauge: 0 to 200 psig (14 bar); 1/4 NPT gauge ports front and rear.

Panel Mounting: 1-9/16 inch (40 mm) hole required.

Seals: Nitrile

- ◆ Filter and regulator consolidated in a single assembly.
- ◆ Modular or inline mounting.
- ◆ 5- μ 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.
- ◆ Self-relieving piston-type regulator; non-relieving optional.
- ◆ Pressure gauge.
- ◆ NPTF port threads; optional BSPP threads.

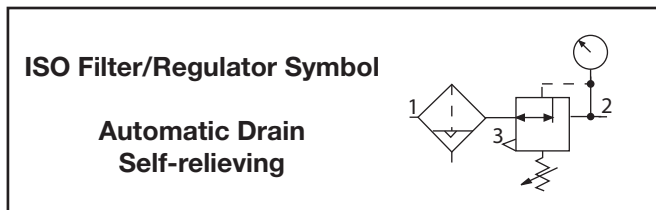
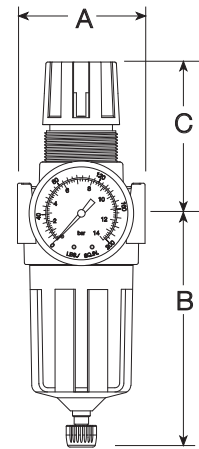
FLOW CHARTS



DIMENSIONS inches (mm)

Bowl	A	B *	C **	Depth †	Weight †
					lb (kg)
Plastic	2.7 (67)	4.6 (116)	3.3 (83)	2.4 (60)	1.44 (0.65)
Metal	2.7 (67)	4.9 (123)	3.3 (83)	2.4 (60)	1.50 (0.68)

† Less gauge.



REPLACEMENT FILTER ELEMENT KITS

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

ORDERING INFORMATION

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

B C FD R60- 2 Y P W

BOWL TYPE

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

FILTER DRAIN

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

PORT SIZE

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

PORT TYPE

NPTF threads Leave Blank
BSP threads W

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

0-200 psig Gauge Leave Blank
No psig Gauge NG
Plastic Mounting nut P
Metal Mounting nut PN

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

None Leave Blank
Non-relieving A
Sintered bronze filter element:

5- μ m rating E5
20- μ m rating E4
40- μ m rating E3

Adjusting springs:

0-150 psig (0-10 bar) H
0-50 psig (0-3.4 bar) L

MOUNTING BRACKETS
See page 356.

GUARDSMAN II Modular Integral Filter/Regulators

BCFDR70 Models Port Sizes: 1/4, 3/8, 1/2



Model Shown: BCFDR70-4

- ◆ Filter and regulator consolidated in a single assembly.
- ◆ Modular or inline mounting.
- ◆ 5- μ m-rated polyethylene filter element; optional sintered bronze elements.
- ◆ Aluminum bowl with clear nylon sight glass. Bowl can be rotated for easy readability.
- ◆ Internal automatic drain; optional manual drain and internal float drain.
- ◆ Self-relieving piston-type regulator; non-relieving optional.
- ◆ Pressure gauge; two gauge ports.
- ◆ **NPTF** port threads; optional **BSPP** threads.

SPECIFICATIONS

Ambient/Media Temperature:

40° to 125°F (4° to 52°C)

Body:

Zinc.

Bowl: 6-Ounce (180-ml) capacity aluminum with clear nylon sight glass. Optional 10-ounce (300-ml) extended bowl.

Dome and Knob:

Acetal.

Bowl Drain:

Internal automatic drain; optional manual drain and internal float drain.

Filter Element: 5- μ m-rated polyethylene; optional 5- μ m or 40- μ 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.

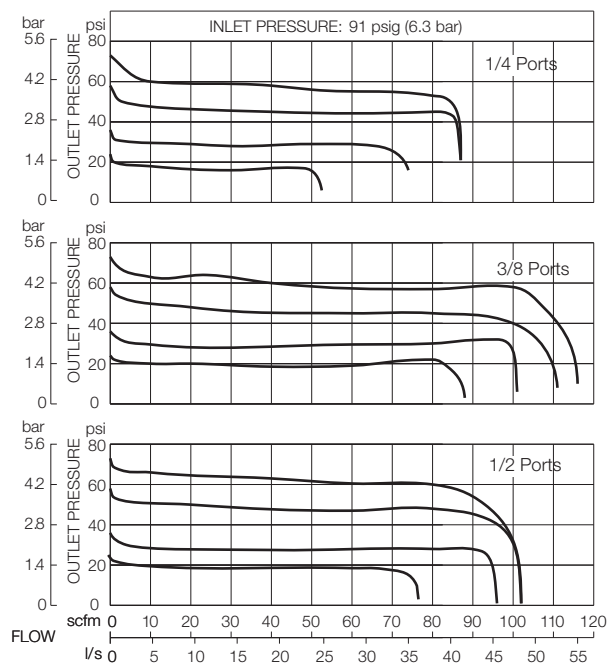
Outlet Pressure: Adjustable up to 100 psig (7 bar).

Pressure Gauge: 0 to 200 psig (14 bar); 1/4 NPT gauge ports front and rear.

Panel Mounting: 1-9/16 inch (40 mm) hole required.

Seals: Nitrile.

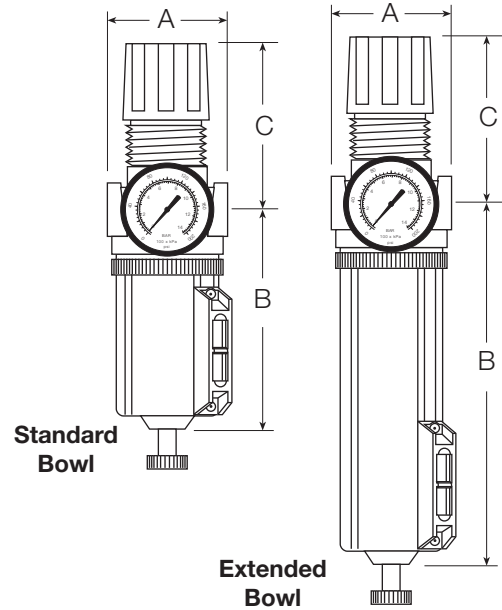
FLOW CHARTS



DIMENSIONS inches (mm)

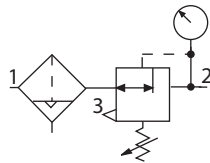
Bowl	A	B	C	Depth †	Weight †
					lb (kg)
Standard	2.7 (67)	5.9 (151)	3.3 (83)	2.4 (60)	1.50 (0.68)
Extended	2.7 (67)	8.9 (227)	3.3 (83)	2.4 (60)	1.75 (0.80)

† Less gauge.



ISO Filter/Regulator Symbol

**Automatic Drain
Self-relieving**



REPLACEMENT FILTER ELEMENT KITS

Element Type	Kit Number
5-µm polyethylene (Std element).....	KA60F-03PE5
5-µm bronze	KA60F-03E5
40-µm bronze	KA60F-03E3

ORDERING INFORMATION

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

BC FD R 70 - 2 Y P W

FILTER DRAIN

Internal automatic drain FD
 Manual drain..... F
 Internal float drain F6A
 (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

MOUNTING BRACKETS

See page 356.

PORT TYPE

NPTF threadsLeave Blank
 BSPP threadsW

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

0-200 psig Gauge Leave Blank
 No psig Gauge NG
 Mounting nut P

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

None Leave Blank
 Non-relieving A
 Sintered bronze filter element:
 5-µm rating E5
 40-µm rating E3
 Adjusting springs:
 0-150 p sig (0-10 bar) H
 0-50 psig (0-3.4 bar) L

SERIES 350 Modular Integral Filter/Regulators

CFR350 Models Port Sizes: 1/4, 3/8, 1/2



Model Shown: CF5AR350-3G

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: Zinc.

Dome: Nylon

Bowl: 5.1-Ounce (151-ml) 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.

Filter Element: 5-µm-rated polyethylene; optional 5-µm-rated and 40-µm-rated bronze element.

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).

Outlet Pressure: Adjustable up to 150 psig (10 bar); optional adjusting springs.

Optional Pressure Adjustment Locking Key: Removable.

Pressure Gauge: 0 to 200 psig (14 bar); 1/4 NPT gauge ports front and rear.

Panel Mounting: 2-1/16-inch (52-mm) hole required.

Seals: Nitrile.

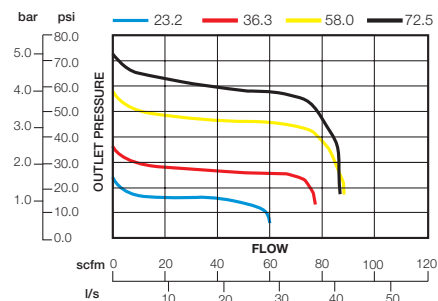
Valve: Brass.

- ◆ Modular or inline mounting.
- ◆ Designed to remove particulate material down to 5 micron from the airstream to protect downstream equipment.
- ◆ Optional bronze 5-µm-rated, 20-µm-rated, and 40-µm-rated. 5-µm-rated polyethylene filter elements are standard.
- ◆ Superior water 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).
- ◆ Superior pressure regulation - diaphragm type regulator
- ◆ Self relieving design; large diaphragm sensing ratio; non-relieving optional.
- ◆ Optional pressure adjustment locking key; tamper resistant pressure setting.
- ◆ Reverse flow option.
- ◆ Pressure gauge.
- ◆ Front mounted modular clamping design with encapsulated screws.
- ◆ Compatible with modular 380 series of products.
- ◆ NPTF port threads; optional BSPP threads.

FLOW CHARTS

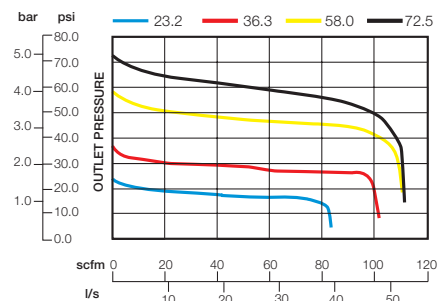
CFR350-2 FLOW CHARACTERISTICS

Inlet pressure 91.3 psi (6.3 bar)



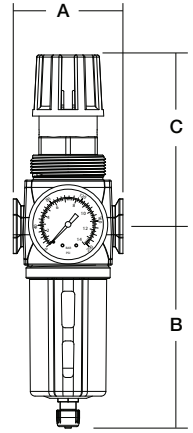
CFR350-4 FLOW CHARACTERISTICS

Inlet pressure 91.3 psi (6.3 bar)



DIMENSIONS inches (mm)

Bowl	A	B †	C	Depth	Weight lb (kg)
Std plastic	3.0 (76.2)	5.54 (140.6)	4.68 (119)	2.51 (63.8)	1.98 (0.90)
Std metal	3.0 (76.2)	6.37 (161.8)	4.68 (119)	2.76 (70.1)	2.17 (0.99)



Panel Mounting: 2-1/16" (52mm) hole required.

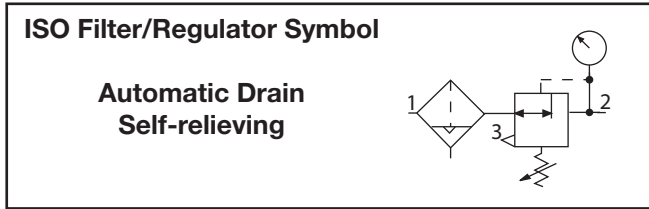
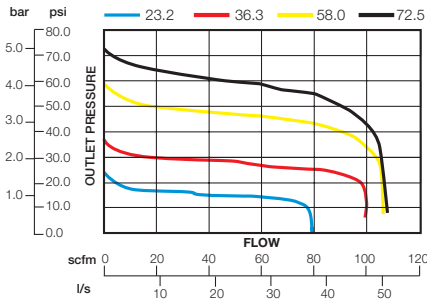
† **Bowl (standard) removal clearance:** add 3.1 (79)

† **Bowl (extended) removal clearance:** add 6.1 (155)

Dimensions above reflect less gauge.

CFR350-3 FLOW CHARACTERISTICS

Inlet pressure 91.3 psi (6.3 bar)



ORDERING INFORMATION

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

BCFR 350 - 3 E5 G W

BOWL AND DRAIN TYPE

- Plastic bowl, manual drain CFR
- Plastic bowl, internal float drain (plastic stem) CF5AR
- Metal bowl, manual drain BCFR
- Metal bowl, internal float drain (metal stem)..... BCF6AR

PORT SIZE

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

PORT TYPE

- NPTF threads Leave blank
- BSPP threads W

OPTIONS

- None Leave Blank
- Pressure gauge G
- Mounting nut P

OPTIONS (more than one can be chosen.
Add in alphabetical order).

- None Leave blank
- Relieving Leave blank
- Non-relieving A
- Locking knob B
- Reverse flow QE

Filter Elements

- 5-µm-rated (polyethylene) Leave blank
- 5-µm-rated (bronze) E5
- 20-µm-rated (bronze) E4
- 40-µm-rated (bronze) E3

SPRINGS:

- 0-200 psig (0-13 bar) H

Can only be ordered with
metal bowl option under

BOWL AND DRAIN TYPE.

- 0-150 psig (0-10 bar) std Leave blank
- 0-100 psig (0-6 bar) L100
- 0-50 psig (0-3 bar) L
- Limit maximum psig setting M*
- Tee Handle T

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

MOUNTING BRACKETS

See page 356.

* insert maximum limited pressure.

Full-Size VANGUARD Modular Integral Filter/Regulators

CFDR100 Models Port Sizes: 1/4, 3/8, 1/2, 3/4



Model Shown: CFDR100-6

- ◆ Filter and regulator consolidated in a single assembly.
- ◆ Modular assembly and mounting.
- ◆ 5- μ 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.
- ◆ Self-relieving diaphragm-type regulator; non-relieving optional.
- ◆ Pressure adjustment locking key.
- ◆ Pressure gauge.
- ◆ 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: Zinc.

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

Dome: Nylon. Aluminum with option H spring.

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

Filter Element: 5- μ m-rated polyethylene; optional 5- μ m, 20- μ m, or 40- μ 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.

Knob: Acetal.

Outlet Pressure: Adjustable up to 125 psig (8.6 bar).

Pressure Adjustment Locking Key: Removable.

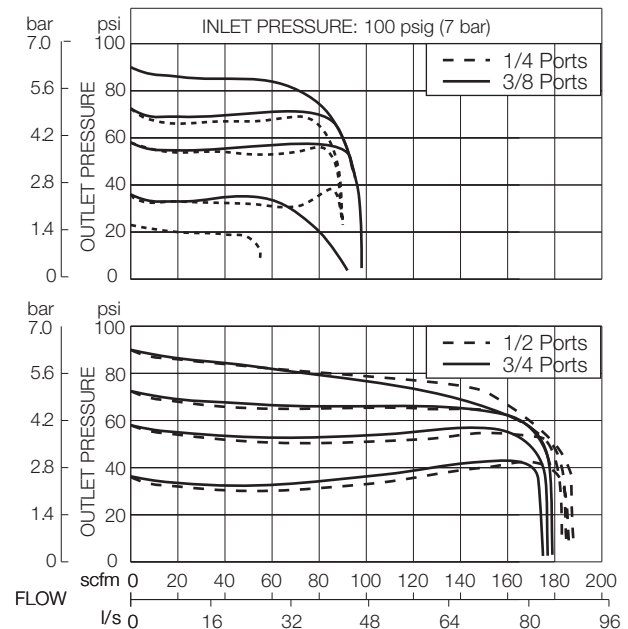
Pressure Gauge: 0 to 200 psig (14 bar); 1/4 NPT gauge ports front and rear.

Panel Mounting: 2-1/16 inch (52 mm) hole required.

Seals: Nitrile

FLOW CHARTS

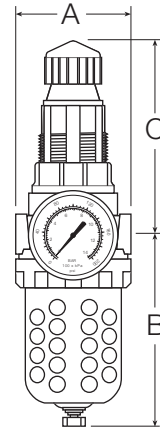
Standard 5- μ m Element



DIMENSIONS inches (mm)

Bowl	A	B *	C **	Depth †	Weight †
					lb (kg)
Plastic	3.5 (89)	5.8 (146)	5.8 (146)	3.5 (89)	2.50 (1.15)
Metal	3.5 (89)	6.4 (163)	5.8 (146)	3.5 (89)	2.55 (1.17)

* Bowl removal clearance: add 3.1 (79).
 ** Dome removal clearance: add 0.63 (16).
 † Less gauge.



ORDERING INFORMATION

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

B C FD R100-2 Y P W

BOWL TYPE

Plastic bowl Leave Blank
 Metal bowl B

FILTER DRAIN

Internal automatic drain FD
 Manual drain F
 Internal float drain F5A

(Plastic stem). use 'leave blank' option under 'BOWL TYPE'.

Internal float drain F6A

(Brass stem). use 'B' option under 'BOWL TYPE'.

External Hydro-Jector drain FE

PORT SIZE

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

PORT TYPE

NPTF threads Leave Blank
 BSPP threads W

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

0-200 psig Gauge Leave Blank
 No psig Gauge NG
 Mounting nut P

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

None Leave Blank
 Non-relieving A
 Sintered bronze filter element:
 5-µm rating E5
 20-µm rating E4
 40-µm rating E3

Adjusting springs:

0-20 psig (0-1.4 bar) L20
 0-150 psig (0-10 bar) H**
 Range specified when using **plastic bowl** options under **BOWL TYPE**.

0-175 psig (0-12 bar) H**
 Range specified when using **metal bowl** options under **BOWL TYPE**.

0-50 psig (0-3.4 bar) L
 Less Drain Cock LDC
(1/4-NPT female port instead. Use Manual drain option under BOWL DRAIN section)

Metal Dome MD
 Limit maximum psig setting M*
 Tee handle T

* Insert maximum limited pressure.
 ** H option spring includes metal dome.

MOUNTING BRACKETS

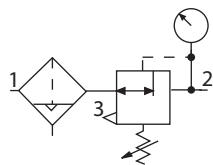
See page 356.

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

ISO Filter/Regulator Symbol

**Automatic Drain
 Self-relieving**



Full-Size SERIES 380 Modular Integral Filter/Regulators

CFDR380 Models Port Sizes: 3/8, 1/2, 3/4



Model Shown: CFDR380-G

- ◆ Filter (FD380) and regulator (R380) consolidated into a single space-saving assembly.
- ◆ Modular or inline mounting.
- ◆ 5- μ m-rated polyethylene filter element; optional 40- μ m element.
- ◆ Polycarbonate plastic bowl with steel shatter-guard; optional metal bowl with sight glass.
- ◆ Internal automatic drain; optional manual drain and internal float drain.
- ◆ Self-relieving diaphragm-type regulator; non-relieving optional.
- ◆ Pressure adjustment locking key; tamper-resistant pressure setting.
- ◆ Pressure gauge included; two gauge ports.
- ◆ 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: Zinc.

Bonnet:

Nylon: aluminum wth optional 0-175 psig spring.

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

Bowl Drain: Internal automatic drain; optional manual drain and internal float drain.

Cap Color: Black.

Filter Element: 5- μ m-rated polyethylene; optional 40- μ m element.

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).

Outlet Pressure: Adjustable up to 125 psig (8.6 bar); optional adjusting springs.

Pressure Adjustment Locking Key: Removable.

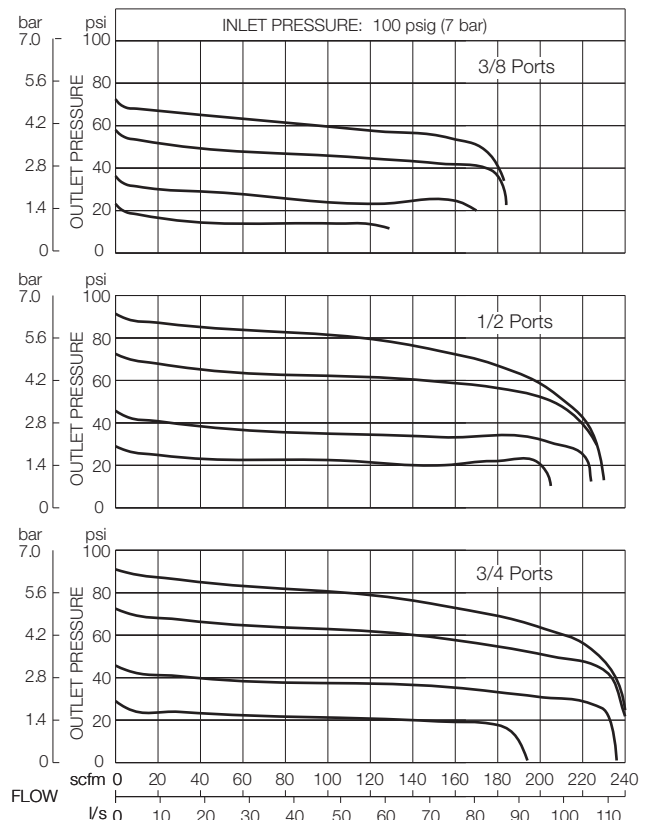
Pressure Gauge: 0 to 200 psig (14 bar); 1/4 NPT gauge ports front and rear.

Panel Mounting: 2.05-inch (52.1-mm) hole required.

Seals: Nitrile.

Valve: Brass.

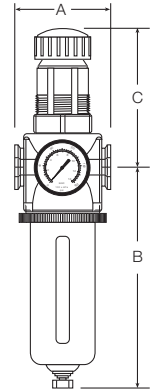
FLOW CHARTS



DIMENSIONS inches (mm)

Bowl	A	B *	C **	Depth †	Weight †
					lb (kg)
Polycarbonate	3.5 (88)	7.7 (195)	5.4 (137)	2.9 (73)	3.69 (1.68)
Metal	3.5 (88)	7.6 (193)	5.4 (137)	2.9 (73)	3.69 (1.68)

* Bowl removal clearance: add 3.1 (79).
 ** Dome removal clearance: add 0.63 (16).
 † Less gauge.



ORDERING INFORMATION

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

BCFDR 380-3 Y G W

BOWL AND DRAIN TYPE

Plastic bowl, manual drain	CFR
Metal bowl, manual drain	BCFR
Plastic bowl, automatic drain	CFDR
Metal bowl, automatic drain	BCFDR
Plastic bowl, internal float drain (plastic stem) ...	CF5AR
Metal bowl, internal float drain (brass stem)	BCF6AR

PORT SIZE

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

PORT TYPE

NPTF threads	Leave blank
BSPP threads	W

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

None	Leave Blank
Panel mounting nut	P
0-200 psig gauge	G

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

None	Leave Blank
Non-relieving	A

Polyethylene filter element:

5-µm rating	Leave Blank
-------------------	-------------

Bronze filter element:

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

Adjusting spring:

0-50 psig (0-3.4 bar)	L
0-150 psig (0-10 bar)	H**

Range specified when using **plastic bowl** options under **BOWL AND DRAIN TYPE**.

0-175 psig (0-12 bar)	H**
-----------------------------	-----

Range specified when using **metal bowl** options under **BOWL AND DRAIN TYPE**.

Less drain cock	LDC
-----------------------	-----

(1/4-NPTF female port instead. use manual drain option under **BOWL DRAIN** section and only available in Metal Bowl under **BOWL TYPE**).

Metal dome	MD
Limit maximum psig setting	M*
Tee handle	T

* Insert maximum limit pressure.

** H options springs automatically includes metal dome.

REPLACEMENT FILTER ELEMENT KITS

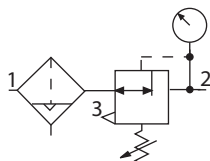
Element Rating	Kit Number
5-µm Polyethylene (Std element)	A115-106PE5
40-µm Polyethylene	A115-106PE3
5-µm Bronze	A115-106E5
20-µm Bronze	A115-106E4

MOUNTING BRACKETS

See page 356.

ISO Filter/Regulator Symbol

Automatic Drain
Self-relieving



CO₂ MINIATURE Integral Coalescent Filter & Relief Valve

CX (CO₂) Models Port Sizes: 1/8, 1/4



Model Shown: CX-3B1B0A0-2AG

- ◆ Inline mounting.
- ◆ Diaphragm-type design.
- ◆ Outstanding control at relatively low cost
- ◆ Pressure gauge optional.
- ◆ NPTF port threads; optional BSPP threads.

SPECIFICATIONS

Ambient/Media temperature:

-40° to 125°F (-40° to 52°C).

Body and dome: Aluminum. Optional anodized coating

Fluid media: CO₂, inert gases

Shutdown pressure range: 1-175 psig (0 to 12 bar). standard; other ranges are available.

Flow range: 0 to 20 scfm.

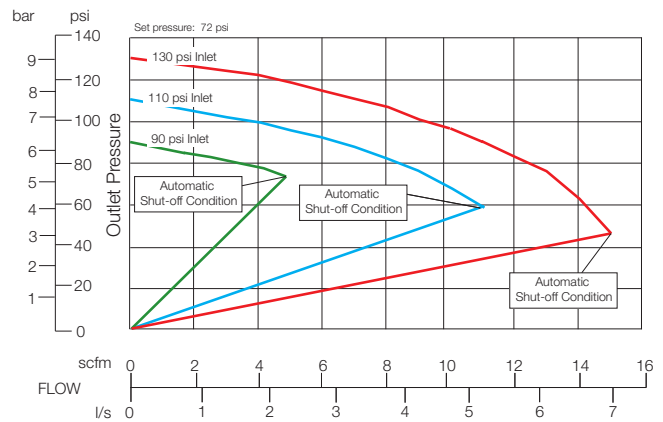
Pressure gauge: 0 to 160 psig (11 bar); 1/8 NPT gauge ports front and rear. Optional gauges sold separately.

Panel mounting: 1-3/16 inch (30 mm) hole required.

Seals: Neoprene seals and O-rings. Nitrile diaphragm.

Maximum inlet pressure: 200 psi

FLOW CHART

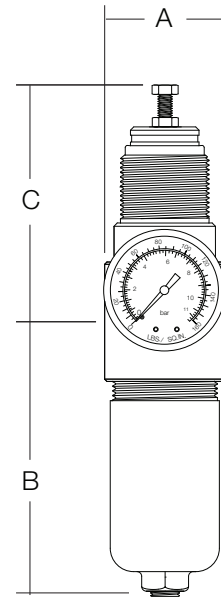
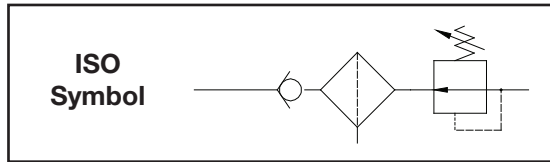


The Automatic Shut-off Condition was measured 4 inches from the Outlet port. Hose length can be compensated for by decreasing the difference between the inlet and the set point pressures to account for pressure drop of hose.

DIMENSIONS inches (mm)

A	B	C	Depth †	Weight † lb (kg)
1.6 (41)	3.56 (90)	2.68 (68)	1.6 (41)	0.60 (0.27)

† Less gauge.



ORDERING INFORMATION

Change the letters in the sample model number below to specify the CO₂ Integral Coalescent filter / relief valve you want.

CX- 3 B 1 B 0 A 0- 2 A G W

ANODIZED TYPE

None A
Clear Anodized head and B
dome.

DOME TYPE

Threaded metal dome 1
and metal bowl (no drain).
Stainless steel adjustment
screw and stainless steel nut.

O-RING AND SEAL MATERIAL

Neoprene seals, o-rings, 0
and Nitrile diaphragm.
Nitrile seals, o-rings and 1
diaphragm.

GAUGE OPTION

No Gauge Leave blank
Gauge 0-160 psig G

PORT TYPE

NPTF threads Leave blank
BSPF threads W

SPRING RANGES

0-125 psig (0-8.6 bar) C
0-50 psig (0-3.4 bar) D
0-15 psig (0-1 bar) F
0-30 psig (0-2.1 bar) H

PORT SIZE

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

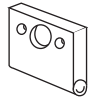
PANEL MOUNT NUTS

None A
Plastic nut B
Plastic hex nut C
Metal nut * D

* If anodize is chosen, then panel mount nut will be the same color.

SENTRY Modular Accessories

Sentry modular units use end plates secured with screws to hold the ports in place, and also to serve as mounting brackets. Short screws secure the end plates when a single module is used; long screws when two or more modules are used. Parts required for assembly are as follows:



Sentry End Plate

Item	Part Number	Quantity Required		
		1 Unit	2 Units	3 Units
End Plate	10R-10	2	2	2
Short Screw	10R-18	4	2	0
Long Screw	10R-19	0	2	4
Small O-ring	103-95	1	1	1
Large O-ring	33-53	1	2	3
Ports		See Chart at Right		

Sentry assemblies can be fitted with either threaded pipe ports or ports for tubing. The sizes available are shown below. Two ports required for each assembly.

PIPE PORTS		TUBING PORTS	
Pipe Size	Port Number	Tubing Size	Port Number
G 1/8	10R-21-1/8W	1/4	A10R-21-04
G 1/4	10R-21-1/4W	3/8	A10R-21-06
1/8 NPT	10R-21-1/8	4 mm	A10R-21-M4
1/4 NPT	10R-21-1/4	6 mm	A10R-21-M6
		8 mm	A10R-21-M8
		10 mm	A10R-21-M10

GUARDSMAN and VANGUARD Modular Accessories

MODULAR CONNECTORS



GUARDSMAN and VANGUARD modular components can be joined or removed quickly with these specially designed connectors. Each connector includes an O-ring assembly which forms an air-tight seal between modules. FRL and other assemblies include the required modular connectors between components, unless the assembly has been specifically ordered for connection with pipe nipples.

Connectors can be ordered as part number KA30-04.

MODULAR MALE PORT

Used to connect modular units to non-modular units. Also allows right-angle connections by using the side ports or extra ports shown at the right.



Port Size	Male Port Part Number
1/4-NPTF	30-11-1/4
1/4-BSPT	30-11-1/4W
3/8-NPTF	30-11-3/8
3/8-BSPT	30-11-3/8W
1/2-NPTF	30-11-1/2
1/2-BSPT	30-11-1/2W
3/4-NPTF	30-11-3/4
3/4-BSPT	30-11-3/4W

MODULAR FEMALE PORT

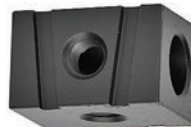
Used to connect modular units to piping at inlet or outlet.



Port Size	Female Port Part Number
1/4-NPTF	30-12-1/4
1/4-BSPP	30-12-1/4W
3/8-NPTF	30-12-3/8
3/8-BSPP	30-12-3/8W
1/2-NPTF	30-12-1/2
1/2-BSPP	30-12-1/2W
3/4-NPTF	30-12-3/4
3/4-BSPP	30-12-3/4W

MODULAR EXTRA PORTS

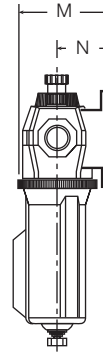
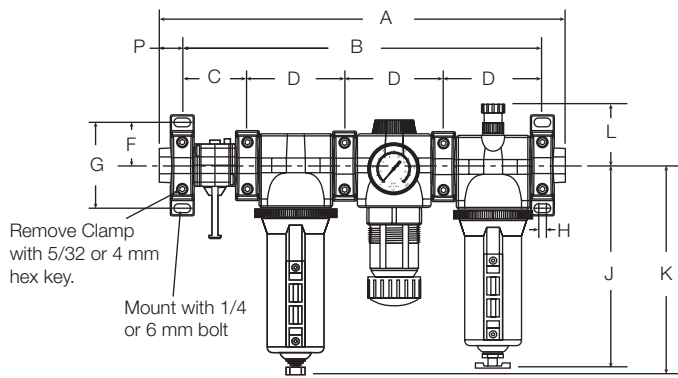
Used before or after a modular unit to supply three auxiliary 1/4 ports.



Port Size	Female Port Part Number
1/4-NPTF	30-13
1/4-BSPP	30-13W

SERIES 350 and 380 Modular Accessories

Dimensions: inches (mm)



	350	380
A	13.78 (350.1)	15.35 (389.9)
B	12.02 (305.4)	13.59 (345.2)
C	2.5 (63.5)	2.5 (63.5)
D	3.28 (83.3)	3.71 (94.2)
F	1.50 (38.1)	1.50 (38.1)
G	3.00 (76.2)	3.00 (76.2)
H	0.20 (5.1)	0.20 (5.1)
J	6.02 (152.9)	7.36 (186.9)
K	6.42 (163.1)	7.56 (192.0)
L	2.21 (56.1)	2.19 (55.6)
M	3.05 (77.5)	3.24 (82.3)
N	1.79 (45.5)	1.79 (45.5)
P	0.88 (22.4)	0.88 (22.4)

MALE and FEMALE END PORTS



Either male or female end ports can be attached to threaded inlet and outlet lines. This allows all modules of an FRL assembly to be removed easily and quickly without having to unthread the end modules. The end ports are attached to the modules with clamps (see at left). End ports can be included in an assembled FRL or ordered separately by the following part numbers:

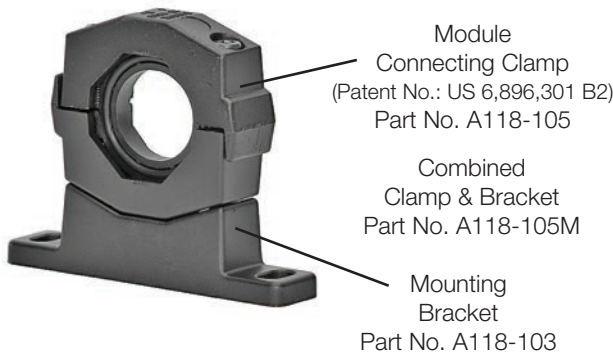
Port Size	Male Number	Female Number
1/4 NPTF	118-109-2F	118-100-2
1/4 BSP*	118-109-2FW	118-100-2W
3/8 NPTF	118-109-3F	118-100-3
3/8 BSP*	118-109-3FW	118-100-3W
1/2 NPTF	118-109-4F	118-100-4
1/2 BSP*	118-109-4FW	118-100-4W
3/4 NPTF	118-109-6F	118-100-6
3/4 BSP*	118-109-6FW	118-100-6W

Note: * = add T for male threads P for female threads.

EXTRA PORT BLOCK

An extra port block can be placed between modules to provide two auxiliary ports. Its mounting position can be rotated to obtain the most convenient operating orientation. If only one auxiliary port is to be used, the unused port must be closed with a pipe plug. (The inlet and outlet are not threaded.) Order with **FRLs** or order by the following part numbers:

Auxiliary Port Size	Part Number
1/4 NPTF.....	118-106-2
1/4-BSPP.....	118-106-2W
3/8 NPTF.....	118-106-3
3/8-BSPP.....	118-106-3W
1/2 NPTF.....	118-106-4
1/2-BSPP.....	118-106-4W



CLAMP for MODULE CONNECTIONS

Specially designed clamps provide a quick and easy assembly or disassembly of Series 350 and 380 modules. Two allen-head bolts quickly tighten or loosen the clamp using a 5/32 or 4mm hex key. The clamp contains a plate carrying two O-rings to provide positive sealing between modules. Order clamp by part number A118-105. Combined clamp and bracket (below) can be ordered by part number A118-105M.

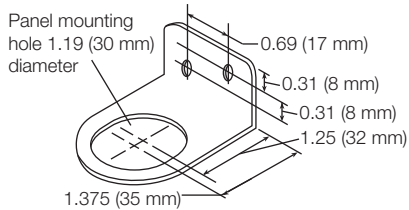
MOUNTING BRACKET

Two brackets are normally used to mount an **FRL** to a vertical surface. The mounting bracket attaches to the module-connecting clamp (see above) with a single screw. Each bracket then employs two bolts (1/4" or 6mm) to connect the assembly to the mounting surface. Order bracket and screw by part number A118-103. Combined bracket and clamp (above) can be ordered by part number A118-105M.

Mounting Accessories

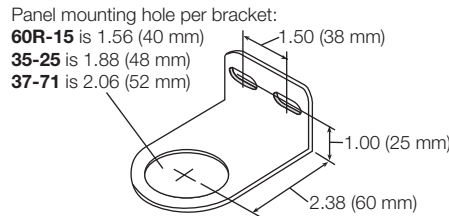
REGULATOR MOUNTING BRACKETS

Regulators and integral filter/regulators can be mounted to a surface with a bracket that attaches to the regulator. Brackets and mounting nuts can be ordered separately or in a kit which includes both bracket and mounting nut.



SENTRY and MINIATURE

Kit: A33-82, Bracket: 33-82, Nut: 10R-26



GUARDSMAN and GUARDSMAN II

Kit: K60R-15, Bracket: 60R-15, Nut: 60R-14P

R75 SERIES

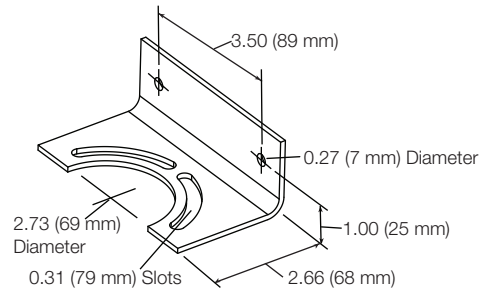
Kit: None, Bracket: 35-25, Nut: None

R350 SERIES

Kit: A127-11, Bracket: 37-71, Nut: 127-11

SERIES 380 and VANGUARD

Kit: K37-71, Bracket: 37-71, Nut: 37-345F

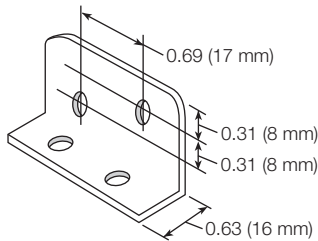


HPR100 and HPR180

Kit: A37-381, Bracket: 37-.364, Nut: None

MODULAR MOUNTING BRACKETS

Two L-shaped metal brackets as shown below can be used for wall mounting of modular FRLs or Clean Air Packages. A single bracket can be used to mount individual filters or lubricators. Kits include two brackets and four screws for attaching the brackets to the modules.



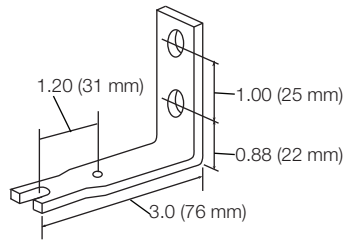
SENTRY

Screws: 10R-19 (2 required), Bracket: None

MINIATURE

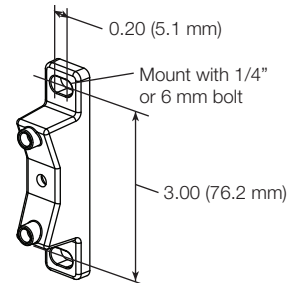
Kit: K50-01, Bracket: 50-01

Note: miniature can only be used in conjunction with 'T' suffix option on FD50, FCD50, and L50 products.



GUARDSMAN and Modular VANGUARD

Kit: K30-08, Bracket: 30-08

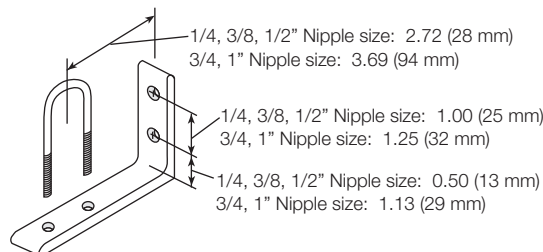


380 SERIES

Kit: A118-103, Bracket: None

FRL INLINE MOUNTING PIPE BRACKETS

Two pipe brackets can be used for wall mounting of FRL assemblies that use pipe nipples to join the components. The bracket kits listed below include two sets of brackets.



ALL PIPED ASSEMBLIES

Nipple size: 1/4" Kit: UMB-2

Nipple size: 3/8" Kit: UMB-3

Nipple size: 1/2" Kit: UMB-4

Nipple size: 3/4" Kit: UMB-6

Nipple size: 1" Kit: UMB-8

Note: No mounting brackets available for PR180M, PRH180M, 1-1/4" or 1-1/2".