CATALOG 420

FILTERS
PRESSURE REGULATORS
LUBRICATORS
SILENCERS
RECLASSIFIERS

• *Manufacturers of Premium Pneumatic Controls since 1921* •

ROSS®

Consider it DONE!

For reliable line conditioning, choose ROSS **Filters, Regulators, and Lubricators**

Almost any pneumatic system will function better, and for a longer time, with properly "conditioned" air. In fact, many system components, such as air cylinders and motors, may be vulnerable to significant damage from dirty or unlubricated air. Other devices require a carefully maintained, consistent line pressure. Yet others will malfunction or fail due to excess water vapor in the line. These are but a few of the cases where filters, regulators, lubricators, and other devices are called upon to prepare, or "condition," compressed air. All such devices are available in single-function units, but they are more often installed in combinations to perform several conditioning functions at once.

ROSS SERIES MD4™

Modern, modular design with ROSS' traditional robust construction including a seven year warranty designed to meet or exceed ISO Standard.

Choose a combination of the standard filter, regulator, and lubricator, or mix and match specialized units to meet special requirements.

Rugged and reliable construction makes ROSS FRLs economical and trouble-free system components.

45° Mounting Increments (regulator & extra ports) Modular or In-line Mounting

Easy to use Mounting Brackets Integral to Modular Clamps

Tamper resistant removable knob for sight-feed lubricator

Cap color options: Gold (standard), Red, Blue, Yellow, Gray

General purpose filtration polycarbonate plastic bowl with metal shatterguard

Metal Bowls (optional)

Coalescing and Adsorbing Filter Options

Automatic filter drains open to discharge accumulated liquids whenever there is air flow. ROSS strongly recommends their use.

Removable Regulator Adjustment Key

Reverse Flow Regulator (optional)

Available with O-ring-sealed modular connectors up to 3/4 ports, and for piped connections to 1½.

Standard ROSS filter elements are rated at 5 microns. Most other brands allow particles up to 40 microns to pass right through. A 40-micron particle is 500 times as big as a 5-micron particle!

ROSS standard regulators monitor and control air pressure with a very high degree of accuracy. For applications requiring even greater precision, there are models that can hold the pressure to within 3 psig (0.2 bar) throughout the entire flow range.

ROSS lubricators are available in two configurations: **wick-feed** and **sight-feed.** Both types are available in port sizes from 1/4 to 1½.

Coalescing filters available to remove 99.98% of oil and particles larger than 0.01 micron.
Equipped with differential pressure gauge to indicate life of filter element. Use with 5-micron pre-filter.

3/8" FRL Flows to 110 SCFM
1/2" FRL Flows to 150 SCFM
3/4" FRL Flows to 205 SCFM

O-ring seals provide no leak interface with front loaded, retained screws for easy access.

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CONTENTS

INSTRUCTIONAL INFORMATION

For convenience in matching filters, regulators, and lubricators, ROSS units are grouped in five series of increasing flow capacity: ***Bantam, Miniature, Mid-Size, Full-Size, MD4™,*** and ***High-Capacity.***

BANTAM Series. For flow to 30 scfm (14.1 l/s); port sizes 1/8 and 1/4; tube fittings 1/4 to 10 mm. Modular components are joined without pipe nipples; ports are O-ring sealed.

MINIATURE Series. For flow to 20 scfm (9.4 l/s); port sizes 1/8 and 1/4. Units joined by pipe nipples.

MID-SIZE Series. For flow to 75 scfm (35.4 l/s); port sizes 1/4, 3/8, 1/2. Connection of units by either special modular connectors or by pipe nipples.

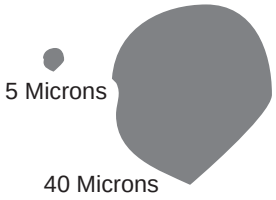
FULL-SIZE Series. For flow to 155 scfm (73.1 l/s); port sizes 1/4 through 3/4. Connection of units by either special modular connectors or by pipe nipples.

MD4™ Series. For flows to 205 scfm (96.7 l/s), port sizes 3/8" to 3/4" units joined by positive-seal clamps.

HIGH-CAPACITY Series. For flow to 1000 scfm (471.9 l/s); pipe sizes 3/4 through 2. Connection of units only by pipe nipples.

FILTER RATINGS. ROSS conventional filters have 5-micron ratings compared to the usual industry standard 40-micron rating. 40-micron particles have 500 times the volume of 5-micron particles, so it's easy to see why ROSS filters clean best.

ROSS coalescing filters remove 99.98% of oil from the air as well as solids as small as 0.3 micron. A filter as fine as this should be preceded by a conventional 5-micron filter to prolong its service life. Full-Size and High-Capacity units have built-in differential pressure gauges to show when the coalescing element must be changed.



COMPARATIVE SIZE

ROSS OIL VAPOR REMOVAL. Adsorbing filters remove oil and hydrocarbon vapors that cannot be removed by a coalescing or a general purpose filter. It is used in industries such as food processing, electronics, and instrumentation.

FILTER DRAINS. Most ROSS filters are available with either manual or automatic drains. An automatic drain discharges liquids accumulated in the filter bowl whenever there is a pressure drop. This ensures better filter performance and simplifies maintenance, especially of filters in inaccessible locations. ROSS strongly recommends the use of automatic drains.

PRESSURE REGULATORS. Both piston and diaphragm styles are available. All are self-relieving and give accurate and consistent pressure regulation. In the *Miniature, Full-Size, MD4™, and High-Capacity* series precision regulators are offered. They provide the most precise regulation throughout their flow ranges. *Mid-Size, Full-Size,* and *High-Capacity* series also offer reverse-flow regulators for special applications.

LUBRICATORS. Two systems of introducing oil into the air stream are used in ROSS lubricators.

Wick-feed. A porous bronze rod carries oil from the lubricator bowl up to the air passage by capillary action, and the air stream picks up the oil. This is a self-adjusting system because the amount of oil added to the air is in proportion to the air flow.

Sight-feed. A riser tube brings the oil up to an adjustable metering valve within a transparent dome, where it then drips into the air stream. A vane in the path of incoming air creates the small pressure drop that draws oil up the riser tube. This occurs even at very low air flows so that no air passes without being lubricated.

CONSOLIDATED FILTER & REGULATOR. A filter and a regulator consolidated into a single space-saving assembly is available in all sizes except the *High-Capacity* series.

Pre-assembled combinations of filter, regulator, and lubricator units are available in all series.

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 in 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 ROSS general purpose filters is rated at 5-micron, so that nearly all particles larger than 5 micron (half the diameter of a human hair) will be collected in the filter element.

FILTER SELECTION

General purpose filter elements are available with 5-micron ratings. 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-capacity filters have 40-micron elements which are satisfactory for general piping. At point of use, and with smaller filters, the standard 5-micron element is most commonly used and recommended. See coalescing and oil vapor removal (adsorbing) filters for finer filtration.

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.

The pressure drop across filter elements increases as they accumulate 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 annually.

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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 liquefied 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.*

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. Please refer to page 80 for a more complete list.

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 (10.3 bar). For conditions exceeding these limits use metal bowls.

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 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.

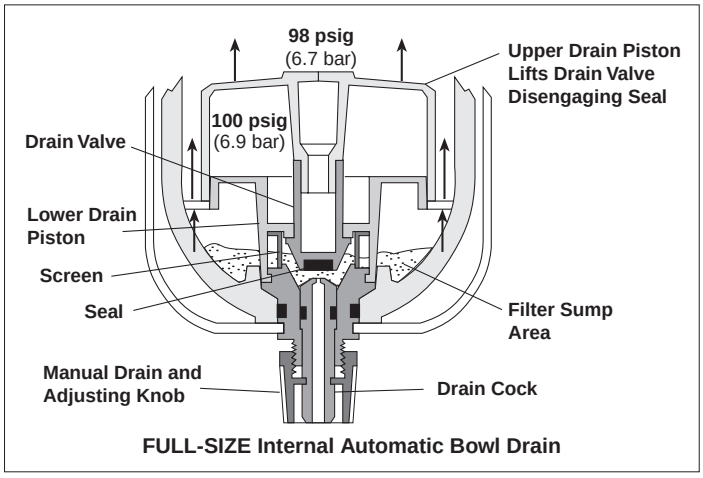
External drains for filters are for use wherever severe condensate problems exist. They operate automatically whenever liquid in the bowl raises the float activating the drain.

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 ROSS filters and we strongly recommend their use to improve filter effectiveness, lengthen service life, and reduce maintenance needs.

The ROSS 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 is actuated). The pressure drop triggers the 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 can be set for optimum performance throughout the air flow range.



FULL-SIZE Internal Automatic Bowl Drain

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.

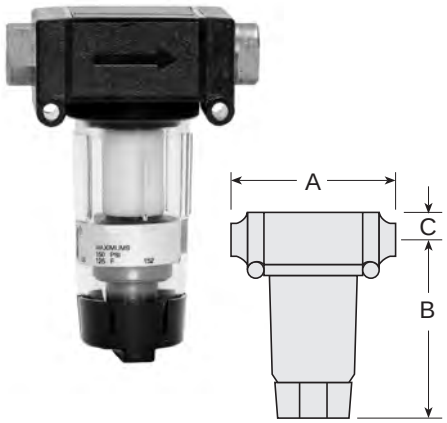
Internal float drain are available with plastic or brass drain stem, plastic or metal bowl.

Float Drain with Plastic Stem

Float Drain with Brass Stem

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.

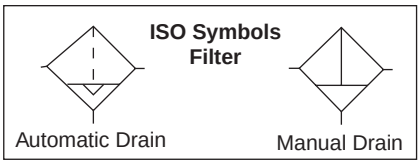
Ports: 1/8 to 1/4
Flow to 30 scfm



FEATURES:
- Modular assembly and mounting
- Threaded ports or quick-connect fittings for tubing up to 10 mm in diameter
- High-strength polycarbonate plastic filter bowl; optional metal bowl
- Internal automatic drain; optional manual drain

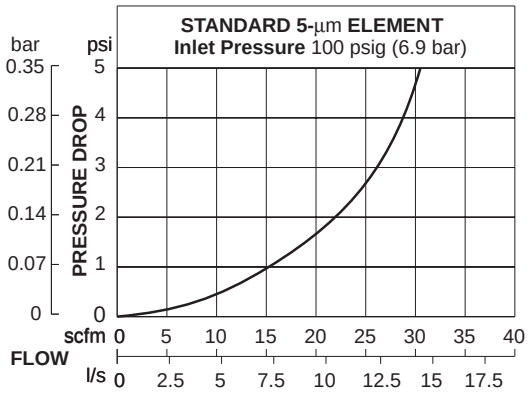
Port Size	DIMENSIONS inches (mm) A	B †	C	Depth	Weight lb (kg)
No Port	1.7 (43)	3.6 (92)	0.5 (13)	1.8 (45)	0.27 (0.12)
1/8, 1/4	3.0 (76)	3.6 (92)	0.5 (13)	1.8 (45)	0.49 (0.22)
Models below have quick-connect fittings for tubing.					
1/4	3.4 (86)	3.6 (92)	0.5 (13)	1.8 (45)	0.47 (0.21)
3/8	3.9 (99)	3.6 (92)	0.5 (13)	1.8 (45)	0.47 (0.21)
4 mm	3.4 (86)	3.6 (92)	0.5 (13)	1.8 (45)	0.47 (0.21)
6 mm	3.4 (86)	3.6 (92)	0.5 (13)	1.8 (45)	0.47 (0.21)
8 mm	3.1 (79)	3.6 (92)	0.5 (13)	1.8 (45)	0.47 (0.21)
10 mm	3.9 (99)	3.6 (92)	0.5 (13)	1.8 (45)	0.47 (0.21)

† Dimension for polycarbonate plastic bowl; metal bowl is 3.8 (97).



Port Size	Air Flow scfm (l/s)	Automatic Drain Models Plastic Bowl	Automatic Drain Models Metal Bowl	Manual Drain Models Plastic Bowl	Manual Drain Models Metal Bowl
1/8	30 (14.1)	5B01B0100	5B01B0200	5B01B0300	5B01B0400
1/4	30 (14.1)	5B02B0100	5B02B0200	5B02B0300	5B02B0400
WITH TUBE FITTINGS:					
1/4	30 (14.1)	5B03B0100	5B03B0200	5B03B0300	5B03B0400
3/8	30 (14.1)	5B04B0100	5B04B0200	5B04B0300	5B04B0400
4mm	30 (14.1)	5B05B0100	5B05B0200	5B05B0300	5B05B0400
6mm	30 (14.1)	5B06B0100	5B06B0200	5B06B0300	5B06B0400
8mm	30 (14.1)	5B07B0100	5B07B0200	5B07B0300	5B07B0400
10mm	30 (14.1)	5B08B0100	5B08B0200	5B08B0300	5B08B0400

FLOW CHART



REPLACEMENT FILTER ELEMENT KITS & BOWLS

Element Rating/Type	Kit Number
5-µm polyethylene - Standard	933K77
Bowl Type	**Kit Number**
Plastic - Automatic	920K77
Plastic - Manual	921K77
Metal - Automatic	R-ABFD130-22
Metal - Manual	R-ABF130-22

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 150°F (4° to 66°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-micron rated polyethylene.
Fluid Media: Compressed air.

Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5B01B0100.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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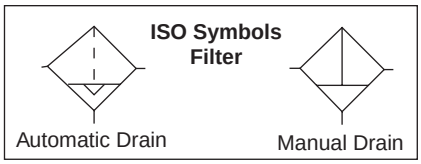
Ports: 1/8 & 1/4
Flow to 23 scfm

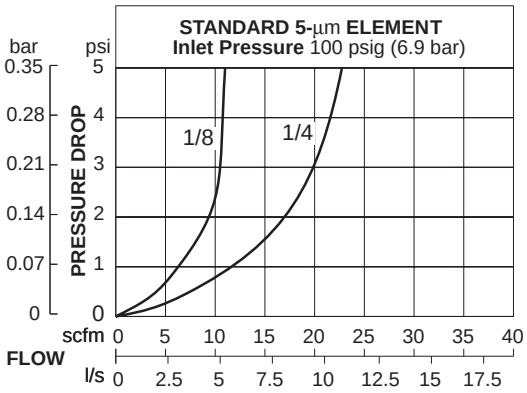
FEATURES:
- Inline mounting
- High-strength polycarbonate plastic filter bowl; optional metal bowl
- Internal automatic drain; optional manual drain

Bowl Type	Port Size	DIMENSIONS inches (mm) A	B	C	Depth	Weight lb (kg)
Plastic	1/8, 1/4	1.6 (41)	3.6 (92)	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)



Port Size	Air Flow scfm (l/s)	Automatic Drain Models Plastic Bowl	Automatic Drain Models Metal Bowl	Manual Drain Models Plastic Bowl	Manual Drain Models Metal Bowl
1/8	11 (5.2)	5021B1010	5022B1010	5011B1010	5012B1010
1/4	23 (10.8)	5021B2010	5022B2010	5011B2010	5012B2010

FLOW CHART



REPLACEMENT FILTER ELEMENT KITS & BOWLS

Element Rating/Type	Kit Number
5-µm polyethylene - Standard	933K77
Bowl Type	**Kit Number**
Plastic - Automatic	920K77
Plastic - Manual	921K77
Metal - Automatic	R-ABFD130-22
Metal - Manual	R-ABF130-22

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature:

Polycarbonate 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-micron rated polyethylene.

Fluid Media: Compressed air.

Inlet Pressure:

For automatic drain model:

With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).

With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).

For manual drain model:

With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).

With metal bowl: 0 to 200 psig (0 to 13.8 bar).

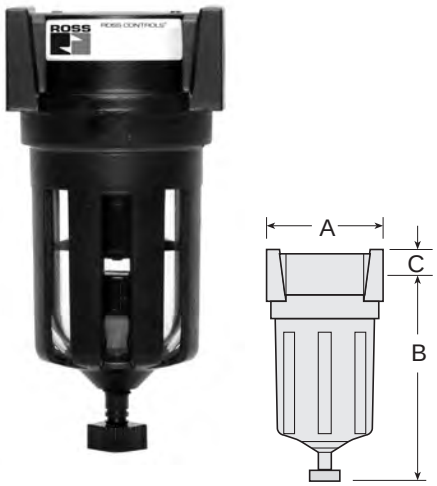
Seals: Nitrile.

Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5021B1010.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

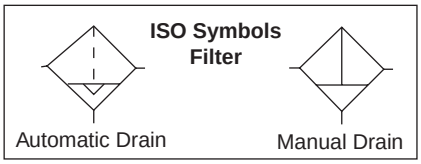
MID-SIZE Filters

Ports: 1/4, 3/8, 1/2
Flow to 75 scfm



FEATURES:
- Modular or inline mounting
- High-strength polycarbonate plastic filter bowl with zinc shatterguard; optional zinc bowl
- Internal automatic drain; optional manual drain

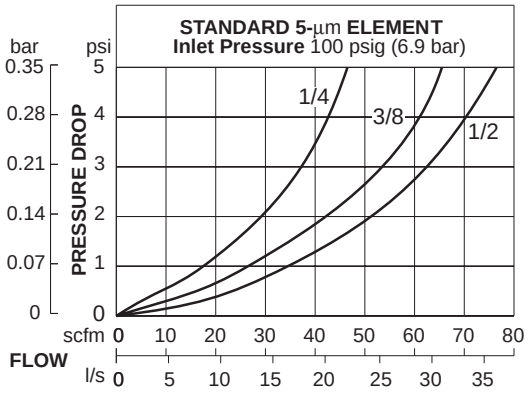
Bowl Type	Port Size	DIMENSIONS inches (mm) A	B	C	Depth	Weight lb (kg)
Plastic	1/4 – 1/2	2.7 (67)	4.8 (122)	0.6 (16)	2.4 (60)	1.13 (0.51)
Metal	1/4 – 1/2	2.7 (67)	4.9 (123)	0.6 (16)	2.4 (60)	1.50 (0.68)



Port Size	Air Flow scfm (l/s)	Automatic Drain Models Plastic Bowl*	Automatic Drain Models Metal Bowl	Manual Drain Models Plastic Bowl*	Manual Drain Models Metal Bowl
1/4	45 (21.2)	5021B2007	5022B2007	5011B2007	5012B2007
3/8	65 (30.7)	5021B3027	5022B3027	5011B3026	5012B3026
1/2	75 (35.4)	5021B4007	5022B4007	5011B4007	5012B4007

*Plastic bowls include metal bowl guard.

FLOW CHART



REPLACEMENT FILTER ELEMENT KITS & BOWLS

Element Rating/Type	Kit Number
5-µm polyethylene - Standard	933K77
Bowl Type	**Kit Number**
Plastic - Automatic	924K77
Plastic - Manual	925K77
Metal - Automatic	R-AB60FD-12
Metal - Manual	R-AB60F-12

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature:
Polycarbonate 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. For optional internal float drain (on metal bowl only), consult ROSS.

Filter Element: 5-micron rated polyethylene.

Fluid Media: Compressed air.

Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).

Seals: Nitrile.

Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5021B2007.

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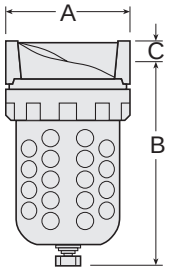
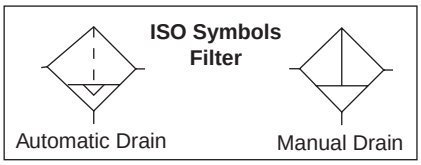
Ports: 1/4 to 3/4
Flow to 155 scfm



FEATURES:
- Modular or inline mounting
- High-strength polycarbonate plastic filter bowl with steel shatterguard; optional metal bowl with clear nylon sight glass
- Optional differential pressure gauge
- Internal automatic drain; optional manual drain or external automatic drain

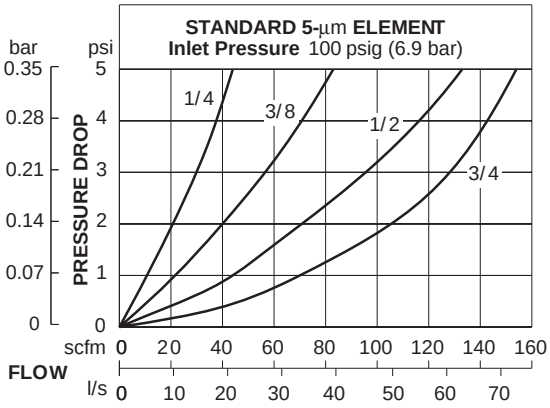
Bowl Type	Port Size	DIMENSIONS inches (mm) A	B †	C	Depth	Weight † lb (kg)
Plastic	1/4 – 3/4	3.5 (89)	5.8 (146)	0.6 (16)	3.5 (89)	1.93 (0.88)
Metal	1/4 – 3/4	3.5 (89)	6.4 (163)	0.6 (16)	3.5 (89)	2.90 (1.32)

† With automatic external drain, dimension B is increased by 8.0 inches (203 mm), and weight is increased by 2.56 pounds (1.16 kg).



Port Size	Air Flow scfm (l/s)	Automatic Drain Models Plastic Bowl	Automatic Drain Models Metal Bowl	Manual Drain Models Plastic Bowl	Manual Drain Models Metal Bowl
1/4	45 (21.3)	5021B2008	5022B2005	5011B2008	5012B2006
3/8	85 (40.1)	5021B3008	5022B3005	5011B3008	5012B3006
1/2	130 (61.3)	5021B4008	5022B4005	5011B4008	5012B4006
3/4	155 (73.1)	5021B5018	5022B5015	5011B5018	5012B5016

FLOW CHART

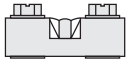


REPLACEMENT FILTER ELEMENT KITS & BOWLS

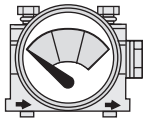
Element Rating/Type	Kit Number
5-µm polyethylene - Standard	933K77
Bowl Type	**Kit Number**
Plastic - Automatic	926K77
Plastic - Manual	927K77
Metal - Automatic	R-ABFD130-117
Metal - Manual	R-ABF130-117

DIFFERENTIAL PRESSURE GAUGES

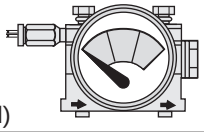
Small Slide Gauge R-K103-151



Large Dual Face Gauge R-106-35



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

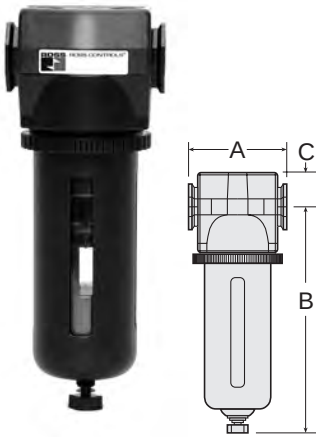


STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 79°C).
Body: Zinc.
Bowl: 8-ounce (240-ml) capacity polycarbonate plastic with steel shatterguard; optional zinc bowl with clear nylon sight glass.
Bowl Drain: Internal automatic drain; optional manual drain or external automatic drain. For optional internal float drain (on polycarbonate plastic bowl only), consult ROSS.
Bowl Ring: Aluminum.
Differential Pressure Gauge: Optional, consult ROSS.
Filter Element: 5-micron rated polyethylene.
Fluid Media: Compressed air.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5021B2008.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

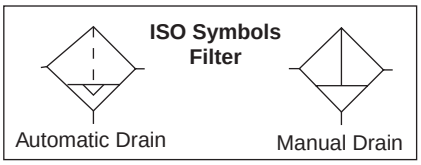
MD4™ Filters

Ports: 3/8, 1/2, 3/4
Flow to 205 scfm



FEATURES:

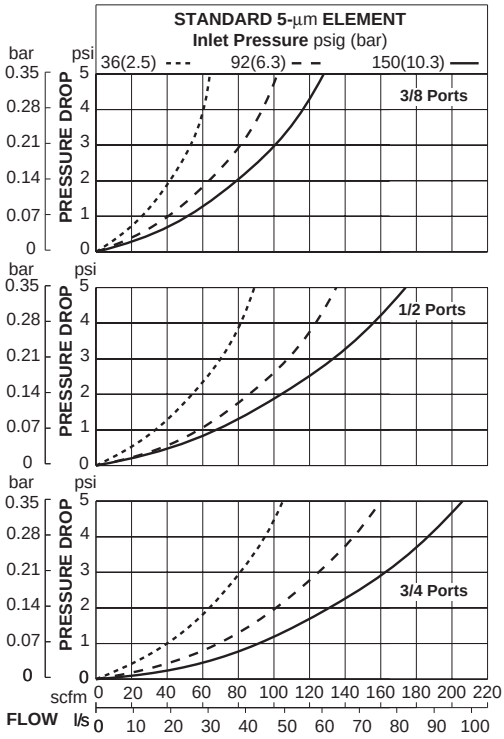
- Modular or inline mounting
- Polycarbonate plastic bowl with steel shatterguard; optional metal bowl with sight glass
- Optional differential pressure gauge
- Gold cap color; optional gray, yellow, red, or blue
- Internal automatic drain; optional manual drain, automatic external drain, or electronic drain



Bowl Type	DIMENSIONS inches (mm) 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).

FLOW CHARTS



REPLACEMENT FILTER ELEMENT KITS

Element Rating/Type	Kit Number
5-µm - Standard	R-A115-106PE5
40-µm - Optional	R-A115-106PE3

HOW TO ORDER

MD4 **50P** **B** **A** **B** **5** **2** **L**

BOWL SIZE
50P - 9 oz Polycarbonate Bowl
50M - 9 oz Metal Bowl

ELEMENT TYPE
A - 40 µm - Optional
B - 5 µm - Standard

BOWL DRAIN
A - Auto Drain
M - Manual Drain
E - Electronic Drain - available in metal bowl version only
H - Automatic External Drain - available in metal bowl version only
L - Less Drain Fitting - 1/4 NPT female instead
F - Internal float drain

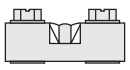
PIPE SIZE
3 - 3/8 NPTF
4 - 1/2 NPTF
5 - 3/4 NPTF
C - 3/8 BSPP
D - 1/2 BSPP
E - 3/4 BSPP
F - 3/4-16 SAE
G - 7/8-14 SAE

COLOR
G - Gray
Y - Yellow
R - Red
B - Blue
2 - Gold - Standard

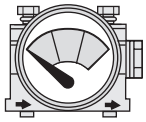
DIFFERENTIAL PRESSURE GAUGE
A - No Gauge
L - Large Gauge
S - Small Gauge
E - Large Gauge with Normally Open Reed Switch
C - Large Gauge with Normally Closed Reed Switch

DIFFERENTIAL PRESSURE GAUGES

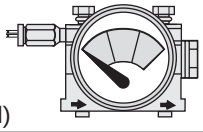
Small Slide Gauge
R-K103-151



Large Dual Face Gauge
R-106-35



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



STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 79°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, external automatic drain, or electronic drain. For optional internal float drain (on polycarbonate plastic bowl only), consult ROSS.
Bowl Ring: Nylon.
Differential Pressure Gauge: Optional.
Filter Element: 5-micron rated polyethylene; for optional 40-micron element, consult ROSS.
Fluid Media: Compressed air.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Seals: Nitrile
Threads: NPT standard, BSPP, SAE.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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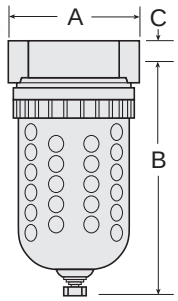
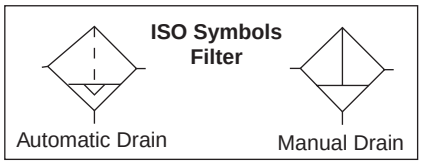
Ports: 3/4 & 1
Flow to 275 scfm



FEATURES:
- Inline mounting
- High-strength polycarbonate plastic filter bowl with steel shatterguard; optional metal bowl with clear nylon sight glass
- Optional differential pressure gauge
- Internal automatic drain; optional manual drain or external automatic drain

Bowl Type	Port Size	DIMENSIONS inches (mm) 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)

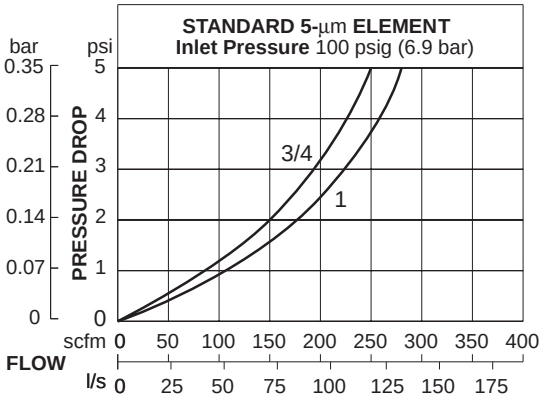
† With automatic external drain, dimension B is increased by 8.0 inches (203 mm), and weight is increased by 2.56 pounds (1.16 kg).



Port Size	Air Flow scfm (l/s)	Automatic Drain Models Plastic Bowl*	Automatic Drain Models Metal Bowl	Manual Drain Models Plastic Bowl*	Manual Drain Models Metal Bowl
3/4	250 (118.0)	5021B5008	5022B5005	5011B5008	5012B5006
1	275 (129.8)	5021B6008	5022B6005	5011B6008	5012B6006

*Plastic bowls include metal bowl guard.

FLOW CHARTS

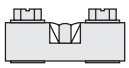


REPLACEMENT FILTER ELEMENT KITS & BOWLS

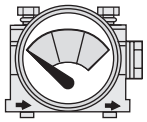
Element Rating/Type	Kit Number
5-µm polyethylene - Standard	1010K77
Bowl Type	**Kit Number**
Plastic - Automatic	928K77
Plastic - Manual	929K77
Metal - Automatic	R-ABFD109-6A
Metal - Manual	R-ABF109-6A

DIFFERENTIAL PRESSURE GAUGES

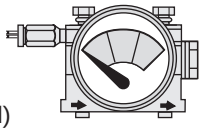
Small Slide Gauge R-K103-151



Large Dual Face Gauge R-106-35



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

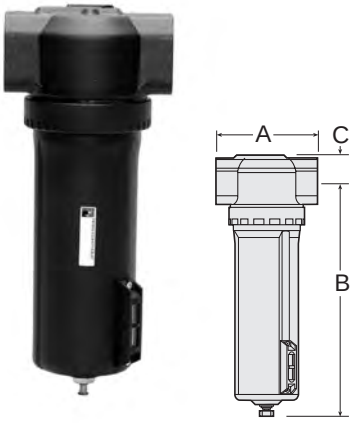


STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal Bowl: 40° to 175°F (4° to 79°C).
Body: Aluminum.
Bowl: 16-ounce (480-ml) capacity polycarbonate plastic with steel shatterguard; optional aluminum bowl with clear nylon sight glass.
Bowl Drain: Internal automatic drain; optional manual drain or external automatic drain. For optional internal float drain (on polycarbonate plastic bowl only), consult ROSS.
Bowl Ring: Aluminum.
Differential Pressure Gauge: Optional, consult ROSS.
Filter Element: 5-micron rated polyethylene.
Fluid Media: Compressed air.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5021B5008.

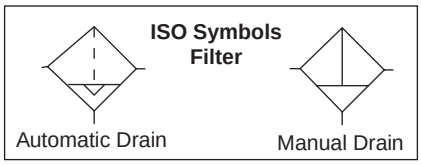
IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

HIGH-CAPACITY Filters

Ports: 1¼ & 1½
Flow to 660 scfm



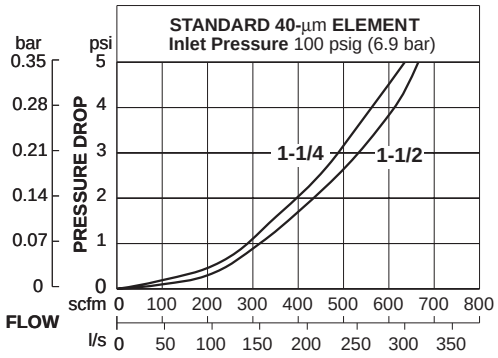
FEATURES:
- Inline mounting
- Aluminum bowl with clear nylon sight glass
- Optional differential pressure gauge
- Internal automatic drain; optional manual drain or external drain

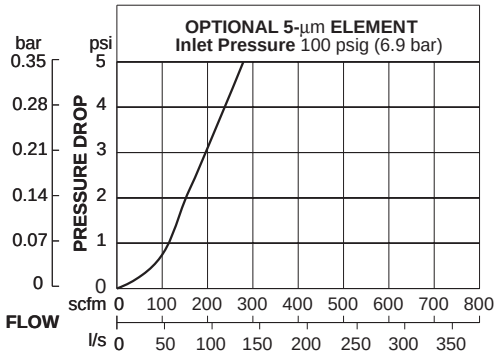


Bowl Type	DIMENSIONS inches (mm) A	B †	C	Depth	Weight † lb (kg)
Plastic	5.5 (140)	10.6 (269)	1.4 (36)	4.2 (106)	4.50 (2.04)
Metal	5.5 (140)	10.7 (271)	1.4 (36)	4.2 (106)	4.50 (2.04)

† With automatic external drain, dimension B is increased by 8.0 inches (203 cm), and weight is increased by 2.56 pounds (1.16 kg).

FLOW CHARTS





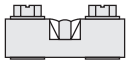
Port Size	Air Flow scfm (l/s)		Automatic Drain Models Metal Bowl	Manual Drain Models Metal Bowl
1¼	290 (136.9)	5-µm	5022B7019	5012B7019
1¼	630 (297.3)	40-µm	5X00B7051	5X00B7052
1½	290 (136.9)	5-µm	5022B8019	5012B8019
1½	660 (311.5)	40-µm	5X00B8037	5X00B8051

REPLACEMENT FILTER ELEMENT KITS

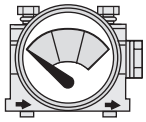
Element Rating/Type	Kit Number
40-µm bronze - Standard	R-A114-106E3
5-µm bronze - Optional	1656K77

DIFFERENTIAL PRESSURE GAUGES

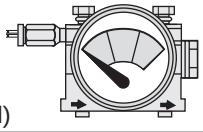
Small Slide Gauge R-K103-151



Large Dual Face Gauge R-106-35



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



STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 175°F (4° to 79°C).
Body: Aluminum, polycarbonate plastic bowl with steel shatterguard.
Bowl: 35-ounce (1 liter) aluminum bowl with clear nylon sight glass.
Bowl Drain: Internal automatic drain; optional manual drain or external automatic drain. For optional internal float drain, consult ROSS.
Bowl Ring: Aluminum.
Differential Pressure Gauge: Optional, consult ROSS.
Filter Element: 40-micron rated; optional 5-micron rated element.
Fluid Media: Compressed air.
Inlet Pressure:
For automatic drain model: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model: 0 to 200 psig (0 to 13.8 bar).
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5022B7019.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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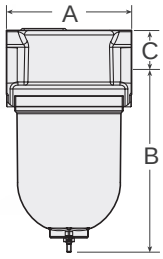
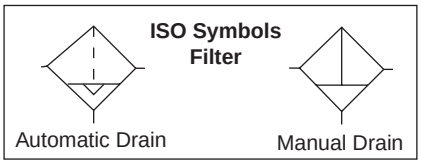
HIGH-CAPACITY Filters

Ports: 1¼, 1½, & 2
Flow to 1000 scfm

FEATURES:
- Inline mounting
- Aluminum bowl
- Optional differential pressure gauge
- Internal float drain; optional manual drain





DIMENSIONS inches (mm)				Weight †
A	B †	C	Depth	lb (kg)
8.0 (203)	13.3 (337)	1.8 (45)	7.3 (186)	14.3 (6.59)

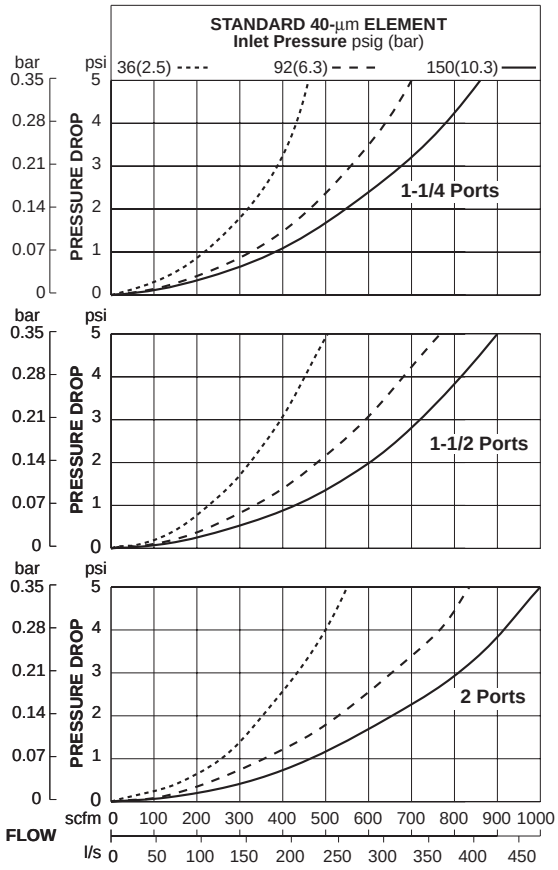
† With external drain, dimension B is increased by 8.0 inches (203 cm), and weight is increased by 2.56 pounds (1.16 kg).

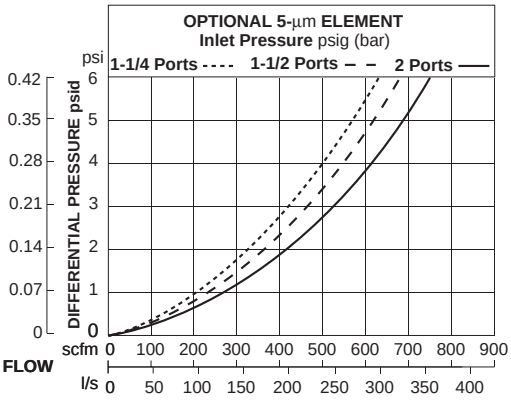
Port Size	Air Flow scfm (l/s)	Internal Float Drain Models: Metal Bowl	Manual Drain Models: Metal Bowl
1¼	630 (297.3) 5-µm	5022B7018	5012B7018
1¼	850 (401.1) 40-µm	5X00B7025	5X00B7054
1½	690 (325.6) 5-µm	5022B8018	5012B8018
1½	900 (424.7) 40-µm	5X00B8018	5X00B8019
2	750 (354.0) 5-µm	5022B9018	5012B9018
2	1000 (471.9) 40-µm	5X00B9004	5X00B9003

REPLACEMENT FILTER ELEMENT KITS

Element Rating/Type	Kit Number
40-µm bronze - Standard	944K77
5-µm bronze - Optional	942K77

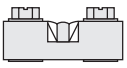
FLOW CHARTS



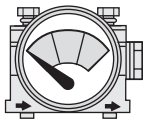


DIFFERENTIAL PRESSURE GAUGES

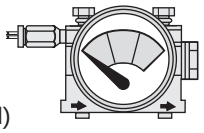
Small Slide Gauge R-K103-151



Large Dual Face Gauge R-106-35



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



STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 175°F (4° to 79°C).
Body: Aluminum.
Bowl: 123-ounce (3700-ml) capacity aluminum bowl.
Bowl Drain: Internal float drain; optional manual drain.
Differential Pressure Gauge: Optional, consult ROSS.
Filter Element: 40-micron rated; optional 5-micron rated element.
Fluid Media: Compressed air.
Inlet Pressure:
For internal float drain model: 30 to 200 psig (2.1 to 13.8 bar).
For manual drain model: 0 to 200 psig (0 to 13.8 bar).
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5022B7018.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

COALESCING Filter Instructional Information

A 0.3-micron rated coalescing filter element is standard in all coalescing units. This filter removes 99.99% of oil and solid contaminants larger than 0.3 micron. An optional 0.01-micron rated element provides extremely fine filtration, but at some reduction in air flow. However, in ROSS' MID-SIZE, FULL-SIZE, and MD4™ filters, there are extended bowls available with higher capacity coalescing elements for significantly increased air flows.

Coalescing filters have epoxy-resin coated, borosilicate, glass-fiber elements. Liquids and solids are removed from the air stream by several different actions, namely:

IMPACTION: Particles larger than 1 micron collide with and adhere to the fibers of the element.

INTERCEPTION: Particles 0.3 micron to 2 micron in size are molecularly attracted to the fibers of the element, and this causes them to adhere.

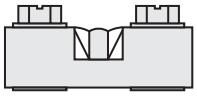
DIFFUSION: Particles 0.001 micron to 0.3 micron in size move by random Brownian motion, thereby contacting and adhering to the fibers of the element.

DRAINING: Tiny droplets of oil coalesce (merge) until they form drops large enough to fall off the filter element and into the bowl sump. The automatic drain then expels them.

The filter element will continue to coalesce liquids until solid contaminants accumulated in the filter element cause the pressure drop across the element to become excessive. At this point the filter element must be changed. A built-in differential pressure gauge (see below) will indicate when the elements must be changed.

DIFFERENTIAL PRESSURE GAUGES

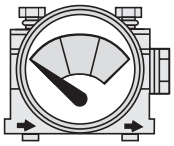
MID-SIZE, MD4™, and FULL-SIZE coalescing filters include a differential pressure gauge which measures the pressure drop across the coalescing filter element. The gauge monitors the condition of the coalescing element and such a gauge should *always* be used with coalescing filters. When the pressure drop increases into the range of 7 to 10 psi (0.5 to 0.7 bar), the gauge indicates that the element must be changed. The types of gauges are shown below.



The FULL-SIZE MD4™ filters use the small R-K103-151 gauge.

Mid-size units use the R-A60F-28 gauge. Both are slide-type gauges, and are color coded to show the condition of the coalescing element.

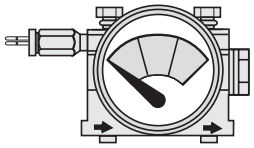
Green – Clean Up to 7 psi (0.5 bar)
Red – Change 7 to 10 psi (0.7 bar)



HIGH-CAPACITY filters employ the large R-106-35 gauge as shown above. It is a dual face gauge color coded to show the condition of the coalescing element.

Optionally available for other units.

Green – Clean Up to 6 psi (0.4 bar)
Yellow – Change 6 to 9 psi (0.4 to 0.6 bar)
Red – Dirty Over 9 psi (0.6 bar)



The large gauge is also available with a reed switch: normally open (R-106-35E) or normally closed (R-106-35EC).

Green – Clean Up to 6 psi (0.4 bar)
Yellow – Change 6 to 9 psi (0.4 to 0.6 bar)
Red – Dirty Over 9 psi (0.6 bar)

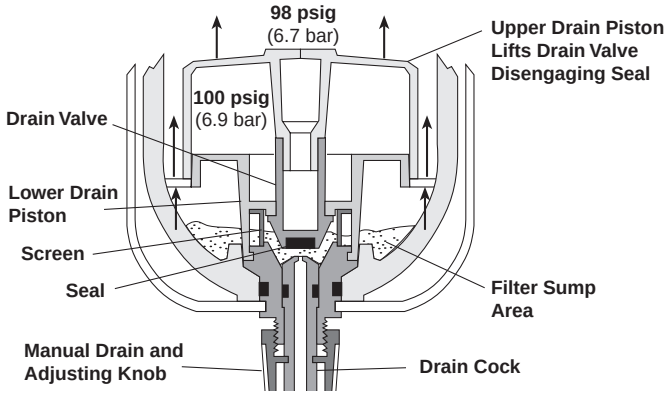
IMPORTANT NOTE: A general purpose filter must be installed ahead of a coalescing filter to ensure good performance and to extend the life of the coalescing element. A coalescing filter must be installed ahead of an oil vapor removal (adsorbing) filter to ensure good performance.

INTERNAL AUTOMATIC BOWL DRAIN

Automatic drains are standard on ROSS coalescing filters and we strongly recommend their use to improve filter effectiveness, lengthen service life, and reduce maintenance needs.

The ROSS automatic drain operates when liquids have accumulated in the filter bowl and a pressure drop of 2 psi (0.1 bar) or more occurs (e.g., when a valve or other device is actuated). The pressure drop triggers the automatic drain to expel accumulated liquid.

The drain is also activated whenever the air supply is shut down and exhausted. Although the unit is set at the factory, an adjusting knob at the bottom of the filter can be manually set for optimum performance throughout the air flow range.



Full-size Internal Automatic Bowl Drain

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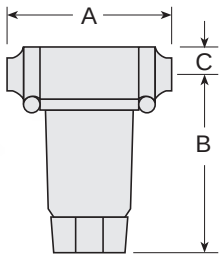
Ports: 1/8 & 1/4
Flow to 11 scfm

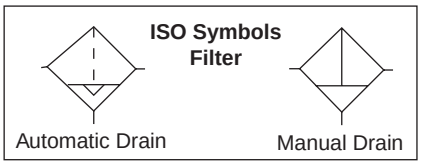


FEATURES:
- Modular assembly and mounting
- Threaded ports or quick-connect fittings for tubing up to 10 mm in diameter
- 0.3-micron rated coalescing filter element; optional 0.01-micron rated filter element
- Automatic drain; optional manual drain
- High-strength polycarbonate plastic filter bowl; optional aluminum bowl

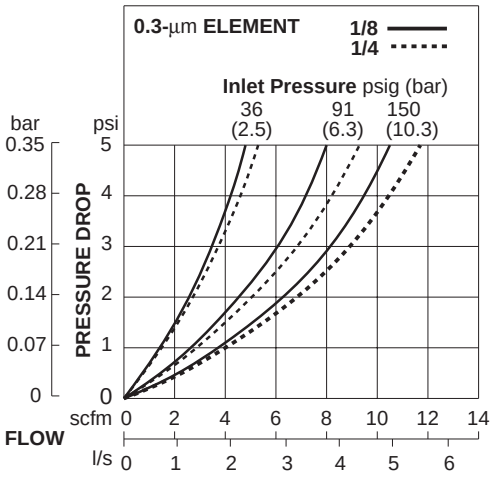
APPLICATION NOTE:
A general purpose filter must be installed ahead of a coalescing filter to ensure good performance and to extend the life of the coalescing element.

Port Size	DIMENSIONS inches (mm) A	B †	C	Depth	Weight lb (kg)
No Port	1.7 (43)	3.6 (92)	0.5 (13)	1.8 (45)	0.27 (0.12)
1/8, 1/4	3.0 (76)	3.6 (92)	0.5 (13)	1.8 (45)	0.49 (0.22)
Models below have quick-connect fittings for tubing.					
1/4	3.4 (86)	3.6 (92)	0.5 (13)	1.8 (45)	0.47 (0.21)
3/8	3.9 (99)	3.6 (92)	0.5 (13)	1.8 (45)	0.47 (0.21)
4 mm	3.4 (86)	3.6 (92)	0.5 (13)	1.8 (45)	0.47 (0.21)
6 mm	3.4 (86)	3.6 (92)	0.5 (13)	1.8 (45)	0.47 (0.21)
8 mm	3.1 (79)	3.6 (92)	0.5 (13)	1.8 (45)	0.47 (0.21)
10 mm	3.9 (99)	3.6 (92)	0.5 (13)	1.8 (45)	0.47 (0.21)

† Dimension for polycarbonate plastic bowl; metal bowl is 3.8 (97).



FLOW CHART



Port Size	Air Flow scfm (l/s)	Automatic Drain Models Plastic Bowl	Automatic Drain Models Metal Bowl	Manual Drain Models Plastic Bowl	Manual Drain Models Metal Bowl
1/8	8 (3.8)	5B01B0700	5B01B0800	5B01B0500	5B01B0600
1/4	9 (4.2)	5B02B0700	5B02B0800	5B02B0500	5B02B0600
WITH TUBE FITTINGS					
1/4	8 (3.8)	5B03B0700	5B03B0800	5B03B0500	5B03B0600
3/8	8 (3.8)	5B04B0700	5B04B0800	5B04B0500	5B04B0600
4mm	8 (3.8)	5B05B0700	5B05B0800	5B05B0500	5B05B0600
6mm	8 (3.8)	5B06B0700	5B06B0800	5B06B0500	5B06B0600
8mm	8 (3.8)	5B07B0700	5B07B0800	5B07B0500	5B07B0600
10mm	8 (3.8)	5B08B0700	5B08B0800	5B08B0500	5B08B0600

REPLACEMENT FILTER ELEMENT KITS & BOWLS

Element Rating/Type	Kit Number
3-µm - Standard	945K77
0.01-µm - Optional	R-A-10F-16E8
Bowl Type	**Kit Number**
Plastic	921K77

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 150°F (4° to 66°C).
Body: Acetal.
Bowl: 2-ounce (60-ml) capacity polycarbonate plastic; optional aluminum bowl.
Filter Element: 0.3-micron rated borosilicate-glass-fiber coalescing element; optional 0.01-micron rated element. For 0.01-micron rated filter element, consult ROSS.
Fluid Media: Compressed air.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5B01B0700.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

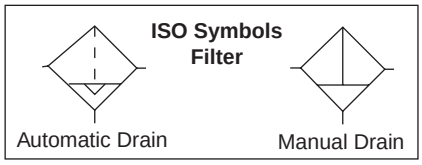
MINIATURE Coalescing Filters

Ports: 1/8 & 1/4
Flow to 10 scfm

FEATURES:

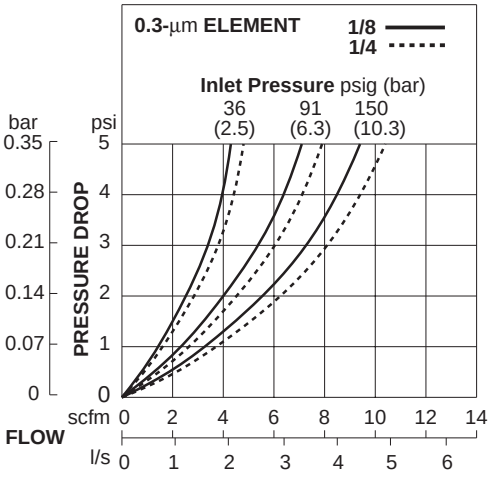
- Inline mounting
- 0.3-micron rated coalescing filter element; optional 0.01-micron rated filter element
- High-strength polycarbonate plastic filter bowl; optional metal bowl
- Automatic drain; optional manual drain

APPLICATION NOTE:
A general purpose filter must be installed ahead of a coalescing filter to ensure good performance and to extend the life of the coalescing element.



Bowl Type	Port Size	DIMENSIONS inches (mm) A	B	C	Depth	Weight lb (kg)
Plastic	1/8, 1/4	1.6 (41)	3.6 (92)	0.4 (9.5)	1.6 (41)	0.33 (0.15)
Metal	1/8, 1/4	1.6 (41)	4.3 (97)	0.4 (9.5)	1.6 (41)	0.35 (0.16)

FLOW CHART



Port Size	Air Flow scfm (l/s)	Automatic Drain Models Plastic Bowl	Automatic Drain Models Metal Bowl	Manual Drain Models Plastic Bowl	Manual Drain Models Metal Bowl
1/8	7 (3.3)	5031B1128	5032B1118	5031B1028	5032B1028
1/4	8 (3.8)	5031B2128	5032B2128	5031B2028	5032B2028

REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	Kit Number
0.3-µm - Standard	945K77
0.01-µm - Optional	R-A10F-16E8

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature:

Polycarbonate 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: Manual drain; optional automatic drain. For optional automatic drain, consult ROSS.

Filter Element: 0.3-micron rated borosilicate-glass-fiber coalescing element; optional 0.01-micron rated element. For 0.01-micron rated filter element, consult ROSS.

Fluid Media: Compressed air.

Inlet Pressure:

For automatic drain model:

With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).

With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).

For manual drain model:

With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).

With metal bowl: 0 to 200 psig (0 to 13.8 bar).

Seals: Nitrile.

Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5031B1128.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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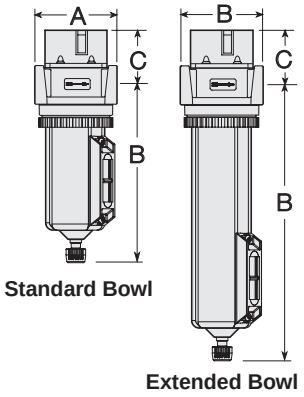
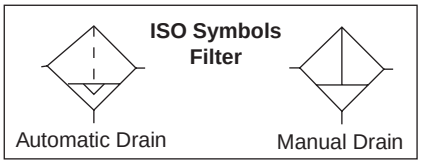
MID-SIZE Coalescing Filters

Ports: 1/4, 3/8, 1/2
Flow to 100 scfm



FEATURES:
- Modular or inline mounting
- 0.3-micron rated coalescing filter element; optional 0.01-micron rated filter element
- Differential pressure gauge
- Aluminum bowl with clear nylon sight glass
- Optional extended bowl with higher flow filter element
- Internal automatic drain; optional manual drain

APPLICATION NOTE:
A general purpose filter must be installed ahead of a coalescing filter to ensure good performance and to extend the life of the coalescing element.



Bowl Type	DIMENSIONS inches (mm) A	B	C	Depth	Weight lb (kg)
Standard	2.7 (67)	5.9 (151)	1.8 (45)	2.4 (60)	1.75 (0.80)
Extended	2.7 (67)	8.9 (227)	1.8 (45)	2.4 (60)	2.00 (0.91)

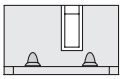
Port Size	Air Flow scfm (l/s)	Automatic Drain Models: Standard Bowl	Automatic Drain Models: Extended Bowl	Manual Drain Models: Standard Bowl	Manual Drain Models: Extended Bowl
1/4	70 (33.0)	5032B2138	5032B2148	5032B2038	5032B2048
3/8	70 (33.0)	5032B3138	5032B3148	5032B3038	5032B3048
1/2	80 (37.7)	5032B4138	5032B4148	5032B4038	5032B4048

REPLACEMENT FILTER ELEMENT KITS

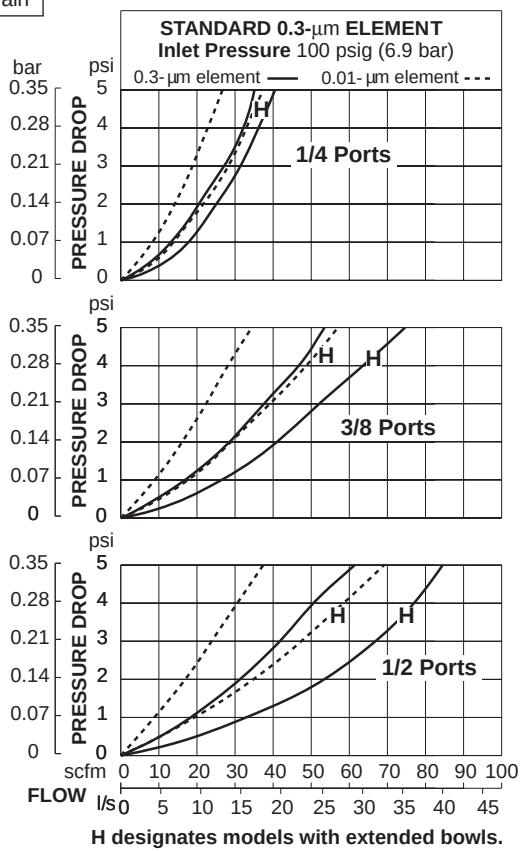
Bowl Type	Element Rating/Type	Kit Number
Standard	0.3-µm - Standard	R-A60F-29
Extended	0.3-µm - Standard	R-A60F-32
Standard	0.01-µm - Optional	R-A60F-29E8
Extended	0.01-µm - Optional	R-A60F-32E8

DIFFERENTIAL PRESSURE GAUGE

Standard Small Slide Gauge R-A60F-28



FLOW CHARTS



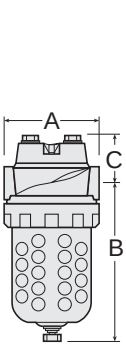
H designates models with extended bowls.

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 175°F (4° to 79°C).
Body: Zinc.
Bowl: 6-ounce (180-ml) capacity aluminum with clear nylon sight glass. Bowl can be rotaded for easy readability. Optional 10-ounce (300-ml) extended aluminum bowl has higher flow filter element.
Bowl Drain: Internal automatic drain; optional manual drain.
Bowl Ring: Nylon.
Differential Pressure Gauge: R-A60F-28 standard.
Filter Element: 0.3-micron rated borosilicate-glass-fiber coalescing element; optional 0.01-micron rated element. For 0.01-micron filter element replace the seventh digit from the model number with a "2", e.g., 5032B2238.
Fluid Media: Compressed air.
Inlet Pressure:
For automatic drain model: 15 to 150 psig (1.0 to 10.3 bar).
For manual drain model: 0 to 150 psig (0 to 10.3 bar).
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5032B2138.

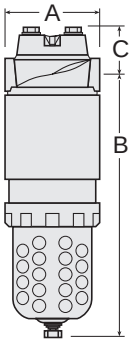
IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

FULL-SIZE Coalescing Filters

Ports: 1/4, 3/8, 1/2
Flow to 100 scfm



Standard Bowl

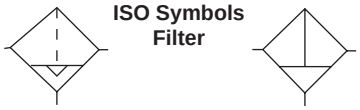


Extended Bowl

FEATURES:
- Modular or inline mounting
- 0.3-micron rated coalescing filter element; optional 0.01-micron rated filter element
- Differential pressure gauge
- High-strength polycarbonate plastic filter bowl with steel shatterguard; optional metal bowl with clear nylon sight glass
- Optional extended bowl with higher flow filter element
- Manual drain; optional internal automatic drain

APPLICATION NOTE:
A general purpose filter must be installed ahead of a coalescing filter to ensure good performance and to extend the life of the coalescing element.

ISO Symbols
Filter



Bowl Type	DIMENSIONS inches (mm) A	B	C	Depth	Weight lb (kg)
Standard	3.5 (89)	5.8 (146)	1.8 (45)	3.5 (89)	2.13 (0.95)
Extended	3.5 (89)	10.3 (260)	1.8 (45)	3.5 (89)	3.25 (1.54)

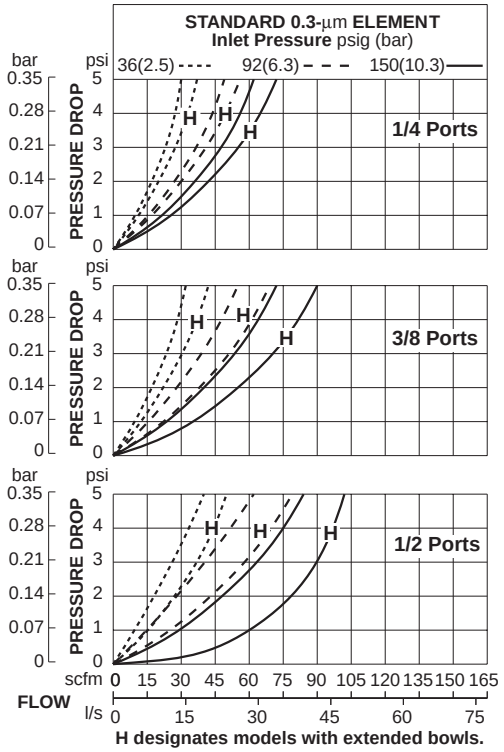
Port Size	Air Flow scfm (l/s)	Automatic Drain Models Plastic Bowl	Automatic Drain Models Metal Bowl	Manual Drain Models Plastic Bowl	Manual Drain Models Metal Bowl
1/4	70 (33.0)	5031B2108	5032B2118	5031B2008	5032B2018
3/8	70 (33.0)	5031B3108	5032B3118	5031B3008	5032B3018
1/2	80 (37.7)	5031B4108	5032B4118	5031B4008	5032B4018
1/2	77 (36.3)	5031B4128*	5032B4128*	5031B4028*	5032B4028*

*Models with extended bowl.

REPLACEMENT FILTER ELEMENT KITS

Bowl Type	Element Rating/Type	Kit Number
Standard	0.3-µm - Standard	947K77
Extended	0.3-µm - Standard	R-A103-133L
Standard	0.01-µm - Optional	948K77
Extended	0.01-µm - Optional	R-A103-133LE8

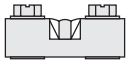
FLOW CHARTS



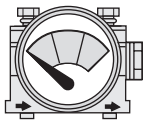
H designates models with extended bowls.

DIFFERENTIAL PRESSURE GAUGES

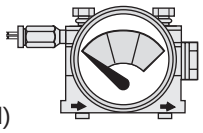
Small Slide Gauge R-K103-151



Large Dual Face Gauge R-106-35



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



STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 79°C).
Body: Zinc.
Bowl: 8-ounce (240-ml) capacity polycarbonate plastic with steel shatterguard; optional zinc bowl with clear nylon sight glass. Optional 20-ounce (600-ml) extended polycarbonate or zinc bowl has higher flow filter element.
Bowl Drain: Manual; optional internal automatic drain only on extended aluminum bowl. For optional internal flow drain (on polycarbonate plastic bowl only), consult ROSS.
Bowl Ring: Aluminum.
Differential Pressure Gauge: Small Slide Gauge R-K103-151 standard; optional Large Dual Face Gauges, consult ROSS.
Filter Element: 0.3-micron rated borosilicate-glass-fiber coalescing element; optional 0.01-micron rated element. For 0.01-micron filter element replace the seventh digit from the model number with a "2", e.g., 5031B2208.
Fluid Media: Compressed air.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5031B2108.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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MD4™ Coalescing Filters

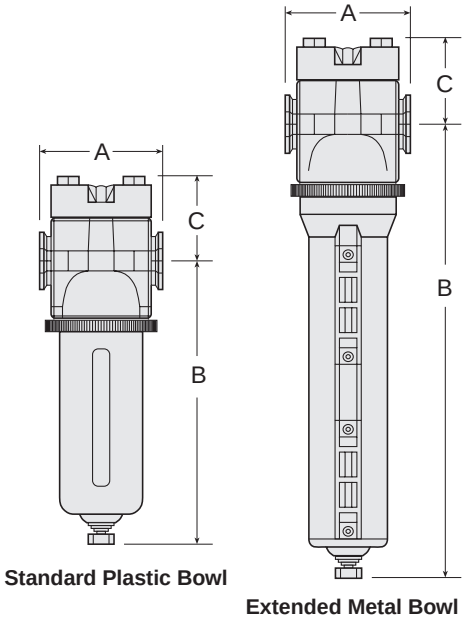
Ports: 3/8, 1/2, 3/4
Flow to 158 scfm

FEATURES:

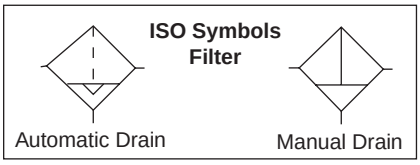
- Modular or inline mounting
- 0.3-micron rated coalescing filter element; ; optional 0.01-micron rated element
- Polycarbonate plastic bowl with steel shatterguard; optional metal bowl with sight glass
- Gold cap color; optional gray, yellow, red, and blue
- Optional extended metal bowl with higher flow filter element
- Differential pressure gauge indicates when filter element needs changing
- Internal automatic bowl drain; optional manual drain or electronic drain

APPLICATION NOTE:

A general purpose filter must be installed ahead of a coalescing filter to ensure good performance and to extend the life of the coalescing element.



Standard Plastic Bowl **Extended Metal Bowl**



Bowl Type	DIMENSIONS inches (mm) A	B †	C	Depth	Weight lb (kg)
Plastic	3.5 (88)	7.7 (195)	2.2 (55)	2.9 (73)	2.13 (0.97)
9-ounce Metal	3.5 (88)	7.6 (193)	2.2 (55)	3.1 (79)	2.13 (0.97)
Extended Metal	3.5 (88)	11.2 (284)	2.2 (55)	3.1 (79)	2.31 (1.05)

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

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature:

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

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

Body: Die-cast zinc.

Bowl: 9-ounce (270-ml) capacity polycarbonate plastic with steel shatterguard; optional aluminum bowl with clear nylon sight glass. Optional 15-ounce (450-ml) extended aluminum bowl with a clear nylon sight glass and higher flow filter element.

Bowl Drain: Internal automatic drain; optional manual drain or electronic drain. For optional internal float drain (on polycarbonate plastic bowl only), consult ROSS.

Bowl Ring: Nylon.

Differential Pressure Gauge (options): Small Slide Gauge, Large Dual Face Gauge and Large Dual Face Gauges with Reed Switch.

Filter Element: 0.3-micron rated borosilicate-glass-fiber; optional 0.01-micron rated element (reduces flow by 20%).

Fluid Media: Compressed air.

Inlet Pressure:

For automatic drain model:

With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).

With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).

For manual drain model:

With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).

With metal bowl: 0 to 200 psig (0 to 13.8 bar).

Seals: Nitrile.

Threads: NPT standard, BSPP, SAE.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

MD4™ Coalescing Filters

HOW TO ORDER

MD4 — 50P — C — A — B — 5 — 2 — L

BOWL SIZE
50P - 9 oz Polycarbonate Bowl
50E - 15 oz Metal Bowl
50M - 9 oz Metal Bowl

ELEMENT TYPE
C - 0.3 µm - Standard
D - 0.01 µm - Optional

BOWL DRAIN
A - Auto Drain
M - Manual Drain
E - Electronic Drain - available in manual bowl version only
H - Automatic External Drain - available in manual drain version only
L - Less Drain Fitting - 1/4 NPT female instead
F - Intenal float drain

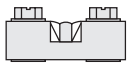
PIPE SIZE
3 - 3/8 NPTF
4 - 1/2 NPTF
5 - 3/4 NPTF
C - 3/8 BSPP
D - 1/2 BSPP
E - 3/4 BSPP
F - 3/4-16 SAE
G - 7/8-14 SAE

COLOR
G - Gray
Y - Yellow
R - Red
B - Blue
2 - Gold - Standard

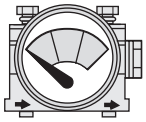
DIFFERENTIAL PRESSURE GAUGE
A - No Gauge
L - Large Gauge
S - Small Gauge
E - Large Gauge with Normally Open Reed Switch
C - Large Gauge with Normally Closed Reed Switch

DIFFERENTIAL PRESSURE GAUGES

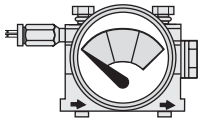
Small Slide Gauge R-K103-151



Large Dual Face Gauge R-106-35



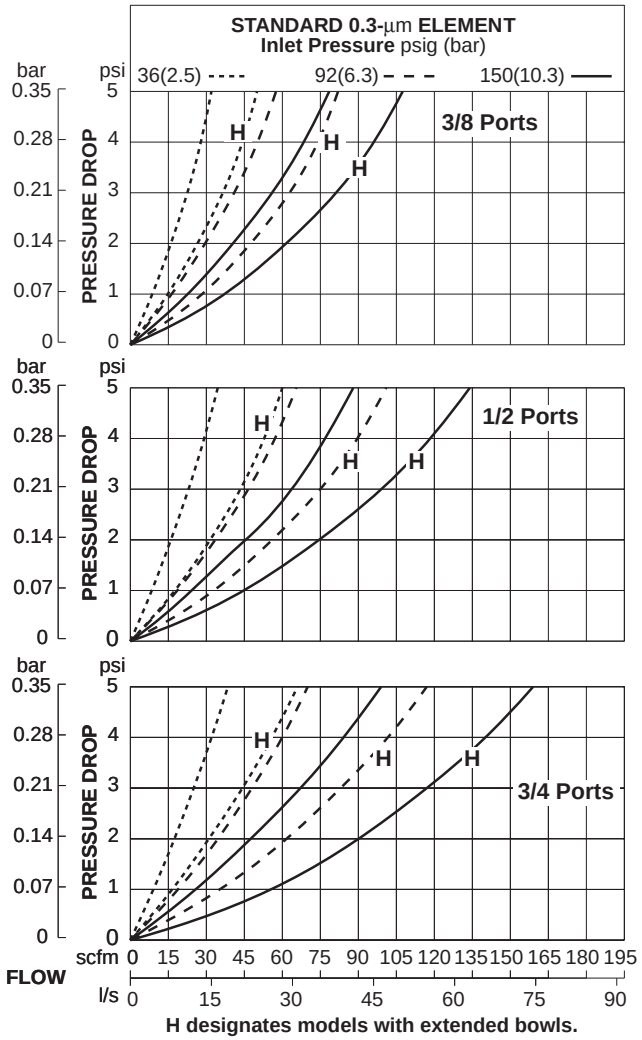
Large Dual Face Gauge with Reed Switch
R-106-35E (Normally Open)
R-106-35EC (Normally Closed)



REPLACEMENT FILTER ELEMENT KITS

Bowl Type	Element Rating/Type	Kit Number
Standard	0.3-µm - Standard	R-A115-117
Extended	0.3-µm - Standard	R-A115-118
Standard	0.01-µm - Optional	R-A115-117E8
Extended	0.01-µm - Optional	R-A115-118E8

FLOW CHARTS



H designates models with extended bowls.

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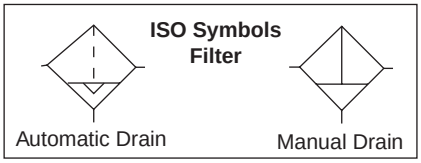
HIGH-CAPACITY Coalescing Filters

Ports: 3/4 & 1
Flow to 220 scfm

FEATURES:

- Inline mounting
- 0.3 micron rated coalescing filter element; optional 0.01-micron rated element
- Differential pressure gauge
- High-strength polycarbonate plastic filter bowl with steel shatterguard; optional aluminum bowl with clear nylon sight glass
- Internal automatic drain; optional manual drain

APPLICATION NOTE:
A general purpose filter must be installed ahead of a coalescing filter to ensure good performance and to extend the life of the coalescing element.



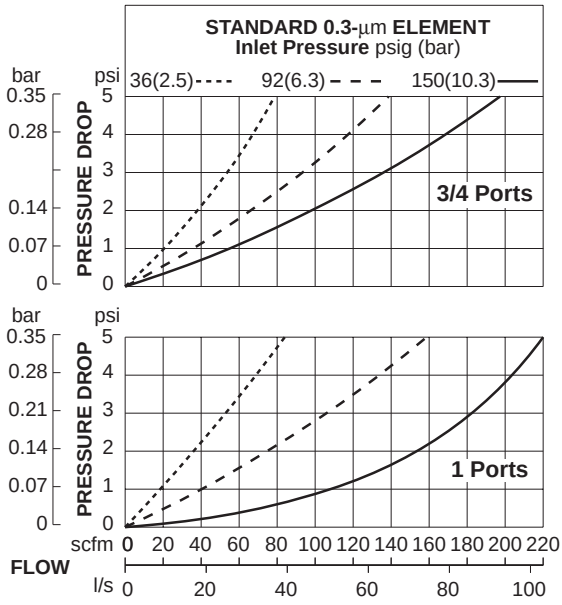
Bowl Type	DIMENSIONS inches (mm) A	B	C	Depth	Weight lb (kg)
Polycarbonate	4.5 (114)	8.0 (203)	3.1 (78)	4.5 (114)	2.38 (1.09)
Metal	4.5 (114)	8.3 (210)	3.1 (78)	4.5 (114)	3.20 (1.46)

Port Size	Air Flow scfm (l/s)	Automatic Drain Models: Plastic Bowl	Automatic Drain Models: Metal Bowl	Manual Drain Models: Plastic Bowl	Manual Drain Models: Metal Bowl
3/4	140 (68)	5X00B5099	5X00B5076	5031B5008	5032B5018
1	160 (76)	5X00B6027	5X00B6054	5031C6008	5032B6117

REPLACEMENT FILTER ELEMENT KIT

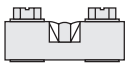
Element Rating/Type	Kit Number
0.3-µm - Standard	949K77
0.01-µm - Optional	R-A109-106E8

FLOW CHARTS

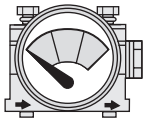


DIFFERENTIAL PRESSURE GAUGES

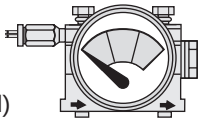
Small Slide Gauge R-K103-151



Large Dual Face Gauge R-106-35



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

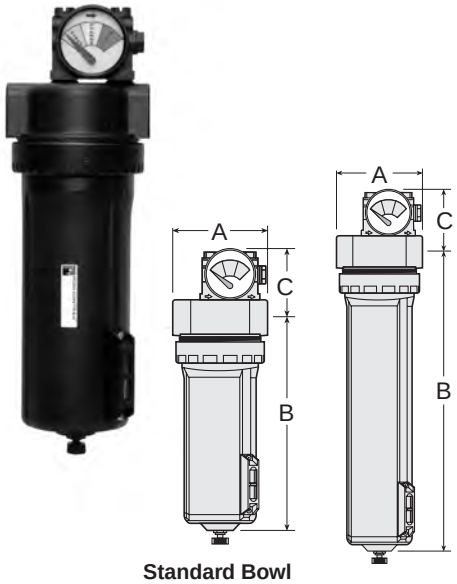


STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal Bowl: 40° to 175°F (4° to 79°C).
Body: Aluminum.
Bowl: 16-ounce (480-ml) capacity polycarbonate plastic with steel shatterguard; optional aluminum bowl with clear nylon sight glass.
Bowl Drain: Bowl Drain: Internal automatic drain; optional manual drain. For optional internal flow drain (on polycarbonate plastic bowl only), consult ROSS.
Bowl Ring: Aluminum.
Differential Pressure Gauge: Large Dual Face Gauge R-106-35 standard; optional Small Slide Gauge and Large Dual Face Gauges with Reed Switch, consult ROSS.
Filter Element: 0.3-micron rated borosilicate-glass-fiber coalescing element; optional 0.01-micron rated filter element. For 0.01-micron rated filter element, consult ROSS.
Fluid Media: Compressed air.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5X00B5099.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

HIGH-CAPACITY Coalescing Filters

Ports: 3/4, 1
Flow to 295 scfm



Standard Bowl

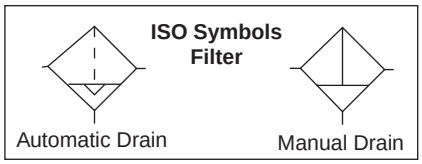
Extended Bowl

FEATURES:

- Inline mounting
- 0.3-micron rated coalescing filter element; optional 0.01-micron rated filter element
- Differential pressure gauge
- Aluminum bowl; optional extended aluminum bowl with higher flow filter element
- Internal automatic drain; optional manual drain

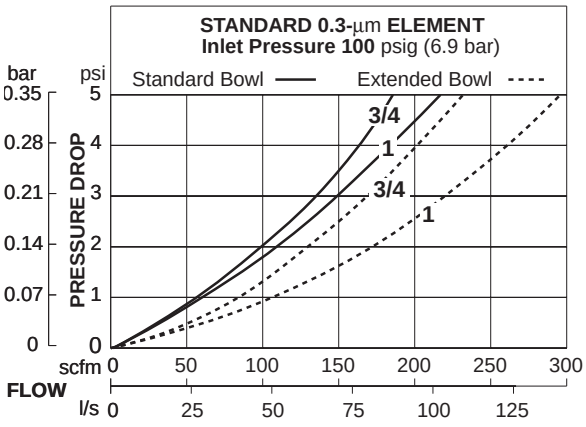
APPLICATION NOTE:

A general purpose filter must be installed ahead of a coalescing filter to ensure good performance and to extend the life of the coalescing element.



Bowl Type	DIMENSIONS inches (mm) A	B	C	Depth	Weight lb (kg)
Standard	4.5 (114)	10.1 (257)	3.3 (83)	4.2 (106)	3.50 (1.59)
Extended	4.5 (114)	15.7 (399)	3.3 (83)	4.2 (106)	4.25 (1.91)

FLOW CHART



Port Size	Air Flow* scfm (l/s)	Automatic Drain Models: Standard Bowl	Automatic Drain Models: Extended Bowl	Manual Drain Models: Standard Bowl	Manual Drain Models: Extended Bowl
3/4	225 (106.2)	5X00B5086	5X00B5087	5032B5019	5032B5029
1	295 (139.2)	5X00B6064	5X00B6065	5032B6019	5032C6028

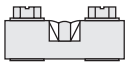
*Flow ratings are for standard bowl.

REPLACEMENT FILTER ELEMENT KITS

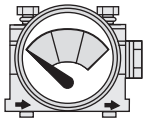
Bowl Type	Element Rating/Type	Kit Number
Standard	0.3-µm - Standard	R-A114-112
Extended	0.3-µm - Standard	R-A114-113
Standard	0.01-µm - Optional	R-A114-112E8
Extended	0.01-µm - Optional	R-A114-113E8

DIFFERENTIAL PRESSURE GAUGES

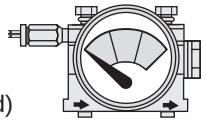
Small Slide Gauge R-K103-151



Large Dual Face Gauge R-106-35



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



STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature: 40° to 175°F (4° to 79°C).
Body: Aluminum.
Bowl: 35-ounce (1050-ml) capacity aluminum bowl. Optional 62-ounce (1860-ml) extended aluminum bowl has higher capacity filter element for increased air flow.
Bowl Drain: Internal automatic drain or manual drain available. For optional internal float drain, consult ROSS.
Bowl Ring: Aluminum.
Differential Pressure Gauge: Large Dual Face Gauge R-106-35 standard; optional Small Slide Gauge and Large Dual Face Gauges with Reed Switch, consult ROSS.
Filter Element: 0.3-micron rated borosilicate-glass-fiber coalescing element; optional 0.01-micron rated filter element. For 0.01-micron rated filter element, consult ROSS.
Fluid Media: Compressed air.
Inlet Pressure:
For automatic drain model: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model: 0 to 200 psig (0 to 13.8 bar).
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5X00B5086.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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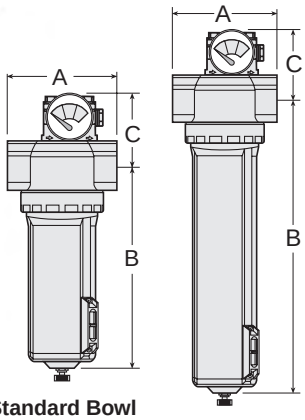
HIGH-CAPACITY Coalescing Filters

Ports: 1¼ & 1½
Flow to 450 scfm

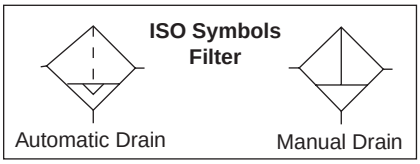


Standard Bowl

Extended Bowl

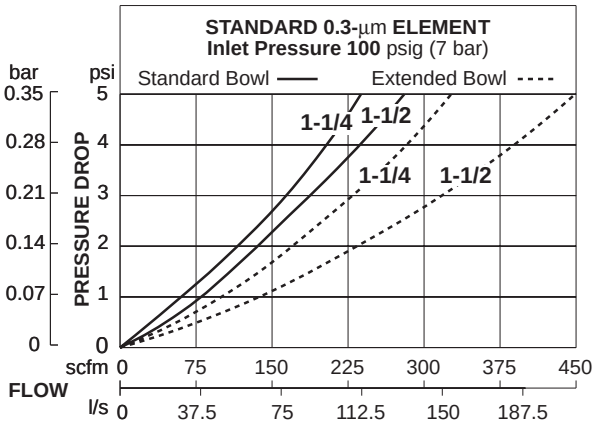
FEATURES:
- Inline mounting
- 0.3-micron rated coalescing filter element; optional 0.01-micron rated filter element
- Differential pressure gauge
- Aluminum bowl; optional extended bowl with higher flow filter element
- Internal automatic drain; optional manual drain

APPLICATION NOTE:
A general purpose filter must be installed ahead of a coalescing filter to ensure good performance and to extend the life of the coalescing element.



Bowl Type	DIMENSIONS inches (mm) A	B	C	Depth	Weight lb (kg)
Standard	5.5 (140)	10.6 (270)	3.7 (94)	4.2 (106)	4.31 (1.94)
Extended	5.5 (140)	16.2 (412)	3.7 (94)	4.2 (106)	5.00 (2.27)

FLOW CHART



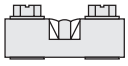
Port Size	Air Flow scfm (l/s)	Automatic Drain Models: Standard Bowl	Automatic Drain Models: Extended Bowl	Manual Drain Models: Standard Bowl	Manual Drain Models: Extended Bowl
1¼	230 (108.5)	5X00B7034	5X00B7036	5032B7019	5032B7029
1½	270 (127.4)	5X00B8035	5X00B8036	5032B8019	5032B8029

REPLACEMENT FILTER ELEMENT KITS

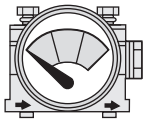
Bowl Type	Element Rating/Type	Kit Number
Standard	0.3-µm - Standard	R-A114-112
Extended	0.3-µm - Standard	R-A114-113
Standard	0.01-µm - Optional	R-A114-112E8
Extended	0.01-µm - Optional	R-A114-113E8

DIFFERENTIAL PRESSURE GAUGES

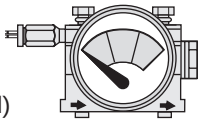
Small Slide Gauge R-K103-151



Large Dual Face Gauge R-106-35



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

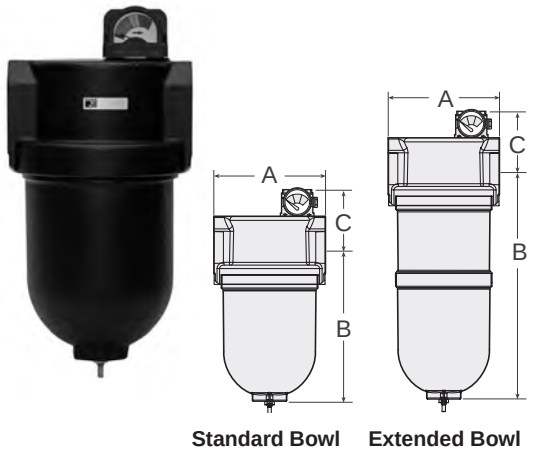


STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 175°F (4° to 79°C).
Body: Aluminum.
Bowl: 35-ounce (1050-ml) capacity aluminum bowl. Optional 62-ounce (1860-ml) extended aluminum bowl has higher capacity filter element for increased air flow.
Bowl Drain: Internal automatic drain or manual drain available. For optional internal float drain (on polycarbonate plastic bowl only), consult ROSS.
Bowl Ring: Aluminum.
Differential Pressure Gauge: Large Dual Face Gauge R-106-35 standard; optional Small Slide Gauge and Large Dual Face Gauges with Reed Switch, consult ROSS.
Filter Element: 0.3-micron rated borosilicate-glass-fiber coalescing element; optional 0.01-micron rated filter element. For 0.01-micron rated filter element, consult ROSS.
Fluid Media: Compressed air.
Inlet Pressure:
For automatic drain model: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model: 0 to 200 psig (0 to 13.8 bar).
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5X00B7034.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

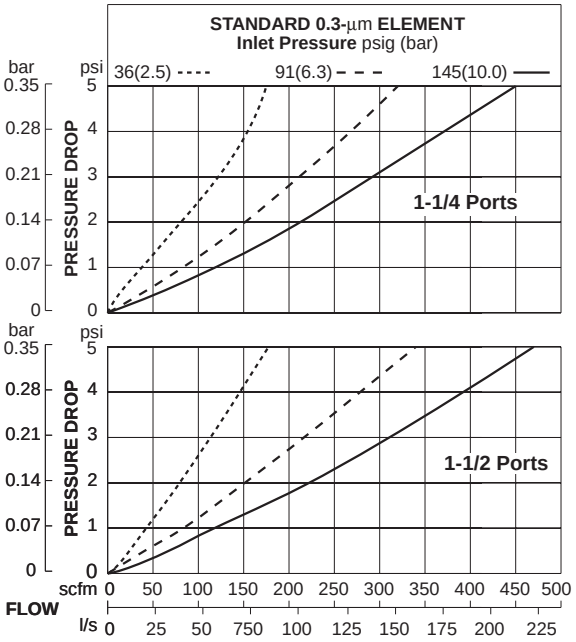
HIGH-CAPACITY Coalescing Filters

Ports: 1¼ & 1½
Flow to 465 scfm



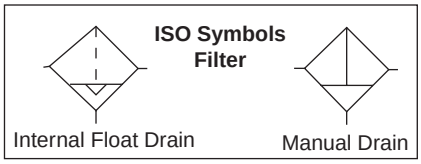
Standard Bowl Extended Bowl

FLOW CHARTS



FEATURES:
- Inline mounting
- 0.3-micron rated coalescing filter element; optional 0.01-micron rated filter element
- Differential pressure gauge
- Metal bowl; optional extended bowl with higher flow filter element
- Internal float drain; optional manual drain

APPLICATION NOTE:
A general purpose filter must be installed ahead of a coalescing filter to ensure good performance and to extend the life of the coalescing element.



Bowl Type	DIMENSIONS inches (mm) A	B	C	Depth	Weight lb (kg)
Standard	7.8 (197)	15 (381)	3.9 (99)	7.8 (197)	14.6 (6.6)
Extended	7.8 (197)	22 (559)	3.9 (99)	7.8 (197)	19.7 (8.9)

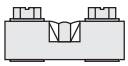
Port Size	Air Flow scfm (l/s)	Internal Float Drain Models: Standard Bowl	Internal Float Drain Models: Extended Bowl	Manual Drain Models: Standard Bowl	Manual Drain Models: Extended Bowl
1¼	320 (151.0)	5X00B7019	—	5032B7018	5032B7028
1½	345 (162.8)	5X00B8008	—	5032B8018	5032B8028

REPLACEMENT FILTER ELEMENT KITS

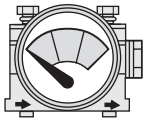
Bowl Type	Element Rating/Type	Kit Number
Standard	0.3-µm - Standard	952K77
Extended	0.3-µm - Extended	953K77
Standard	0.01-µm - Optional	R-A106-24E8
Extended	0.4-µm - Optional	R-A106-24LE8

DIFFERENTIAL PRESSURE GAUGES

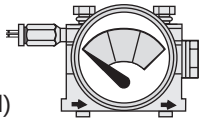
Small Slide Gauge R-K103-151



Large Dual Face Gauge R-106-35



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



STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 175°F (4° to 79°C).
Body: Aluminum.
Bowl: 123-ounce (3.7-liter) capacity aluminum bowl. Optional 233-ounce (7-liter) extended aluminum bowl has higher flow filter element.
Bowl Drain: Internal float drain; optional manual drain.
Differential Pressure Gauge: Large Dual Face Gauge R-106-35 standard; optional Small Slide Gauge and Large Dual Face Gauges with Reed Switch, consult ROSS.
Filter Element: 0.3-micron rated borosilicate-glass-fiber coalescing element; optional 0.01-micron rated filter element. For 0.01-micron rated filter element, consult ROSS.
Fluid Media: Compressed air.
Inlet Pressure:
For internal float drain model: 30 to 200 psig (2.1 to 13.8 bar).
For manual drain model: 0 to 200 psig (0 to 13.8 bar).
Seals: Nitrile.
V-Band: Stainless steel.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5X00B7019.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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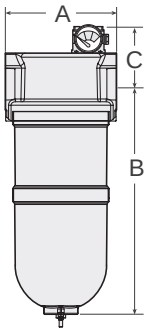
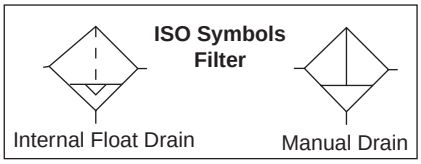
HIGH-CAPACITY Coalescing Filters

Port: 2
Flow to 840 scfm

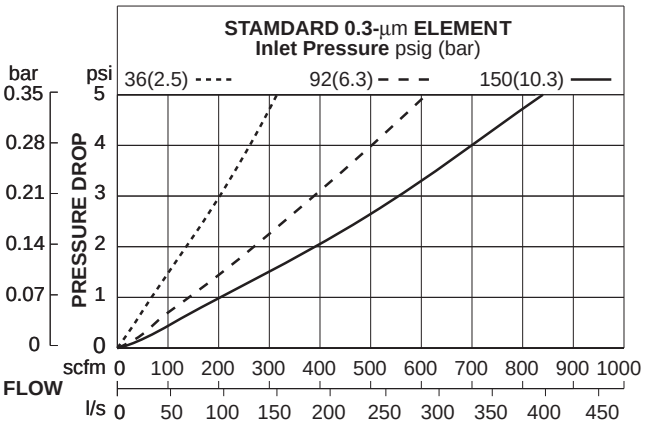


FEATURES:
- Inline mounting
- 0.3-micron rated coalescing filter element; optional 0.01-micron rated filter element
- Differential pressure gauge
- Metal bowl
- Internal float drain; optional manual drain

APPLICATION NOTE:
A general purpose filter must be installed ahead of a coalescing filter to ensure good performance and to extend the life of the coalescing element.



FLOW CHART



	DIMENSIONS inches (mm)			Weight
A	B	C	Depth	lb (kg)
7.8 (197)	22 (559)	3.9 (99)	7.8 (197)	19.7 (8.9)

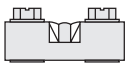
Port Size	Air Flow scfm (l/s)	Models	
		Internal Float Drain	Manual Drain
2	600 (283.2)	5X00B9009	5032B9018

REPLACEMENT FILTER ELEMENT KIT

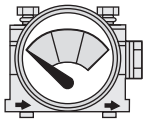
Element Rating/Type	Kit Number
0.3 µm - Standard	953K77
0.01-µm - Optional	R-A-106-24LE8

DIFFERENTIAL PRESSURE GAUGES

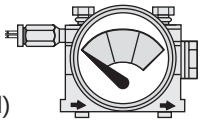
Small Slide Gauge R-K103-151



Large Dual Face Gauge R-106-35



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



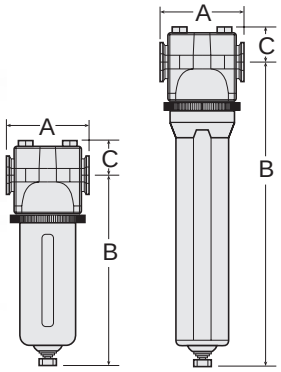
STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 175°F (4° to 79°C).
Body: Aluminum.
Bowl: 233-ounce (7-liter) capacity aluminum bowl.
Bowl Drain: Internal float drain or manual drain available.
Differential Pressure Gauge: Large Dual Face Gauge R-106-35 standard; optional Small Slide Gauge and Large Dual Face Gauges with Reed Switch, consult ROSS.
Filter Element: 0.3-micron rated borosilicate-glass-fiber coalescing element; optional 0.01-micron rated element. For 0.01-micron rated filter element, consult ROSS.

Fluid Media: Compressed air.
Inlet Pressure:
For internal float drain model: 30 to 200 psig (2.1 to 13.8 bar).
For manual drain model: 0 to 200 psig (0 to 13.8 bar).
Seals: Nitrile.
V-Band: Stainless steel.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5X00B9009.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

MD4™ Modular Oil Vapor Removal (Adsorbing) Filters

Ports: 3/8, 1/2, 3/4
Flow to 165 scfm



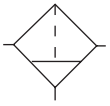
Standard Plastic Bowl — Extended Metal Bowl

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 is recognized as a *Clean Air Package* as shown on page 27-28.

FEATURES:

- Modular or inline mounting
- Filter cartridge contains activated carbon
- Polycarbonate plastic bowl with steel shatterguard; optional aluminum bowl, optional extended aluminum bowl with higher flow filter element
- Manual drain

ISO Symbol
Filter

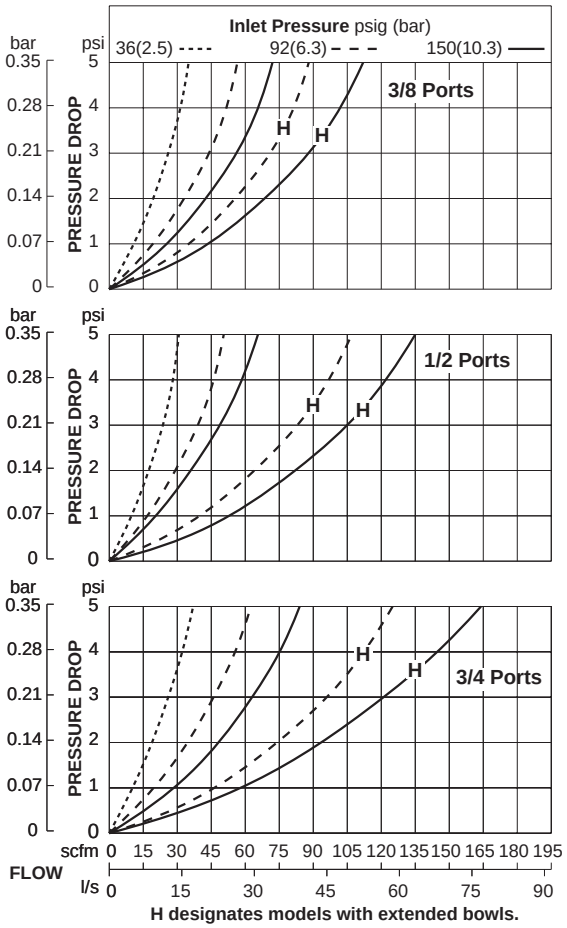


Manual Drain

Bowl Type	DIMENSIONS inches (mm) 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.

FLOW CHARTS



H designates models with extended bowls.

HOW TO ORDER

MD4 — 50P — B — 5 — 2

BOWL SIZE
50P - 9 oz Polycarbonate Bowls
50E - 15 oz Metal Bowls
50M - 9 oz Metal Bowls

PIPE SIZE
3 - 3/8 NPTF
4 - 1/2 NPTF
5 - 3/4 NPTF
C - 3/8 BSPP
D - 1/2 BSPP
E - 3/4 BSPP
F - 3/4-16 SAE
G - 7/8-14 SAE

COLOR
G - Gray
Y - Yellow
R - Red
B - Blue
2 - Gold (standard)

REPLACEMENT FILTER ELEMENT KITS

Bowl Type	Element Type	Kit Number
Standard	Standard	R-A115-117E9
Extended	Extended standard	R-A115-118E9

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate 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: Gold standard; optional gray, yellow, red, blue.
Filter Cartridge: Activated carbon with urethane seals.
Fluid Media: Compressed air.
Inlet Pressure: *Manual drain:*
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Seals: Nitrile.
Threads: NPT standard, BSPP, SAE.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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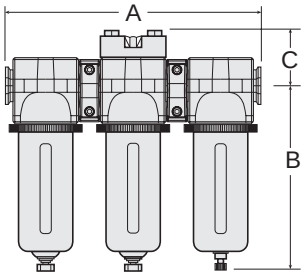
MD4™ Modular *Clean Air Package*

Ports: 3/8, 1/2, 3/4

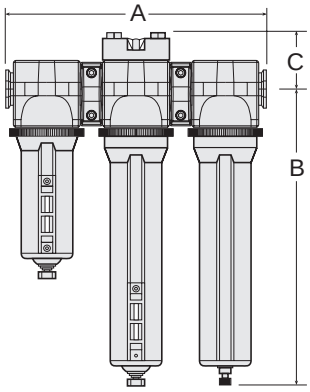
The general purpose filter in this assembly removes gross contaminants, while the coalescing filter removes oil mists, aerosols, and minute particles. Finally, the adsorbing filter effectively eliminates odors from Freons, alcohols, esters, ketones, and up to 99% of most hydrocarbons.

FEATURES:

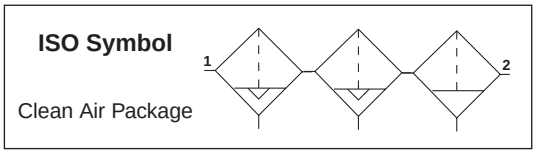
- General purpose filter with 5-micron rated polyethylene filter element
- Coalescing filter with 0.3-micron rated coalescing element; optional 0.01-micron element
- Adsorbing filter with activated carbon element
- Modular or inline mounting
- Polycarbonate plastic bowls with steel shatterguards; optional metal bowls
- Gold cap color; optional gray, yellow, red or blue
- Optional extended metal bowls for coalescing and adsorbing filters with higher flow filter element
- Internal automatic drains for general purpose and coalescing filters; internal float drain; manual drain for adsorbing filter
- Differential pressure gauge on coalescing filter indicates when element needs changing



Standard Polycarbonate Plastic Bowls



Extended Metal Bowls



Bowl	DIMENSIONS inches (mm) A	B †	C	Depth	Weight lb (kg)
Standard	10.9 (276)	7.7 (195)	2.2 (55)	2.9 (73)	6.63 (3.01)
Extended	10.9 (276)	11.2 (284)	2.2 (55)	2.9 (73)	7.00 (3.18)

† Bowl removal clearance: add 3.4 (86) for 9-ounce bowl; 6.1 (155) for extended bowl.

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature:

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

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

Bowls: 9-ounce (270-ml) capacity polycarbonate plastic bowls with steel shatterguards.
Optional aluminum bowls; clear nylon sight glasses on general purpose and coalescing units.
Optional 15-ounce (450-ml) extended aluminum bowls with higher flow elements for coalescing and adsorbing filters.

Cap Color: Gold; optional gray, yellow, red, blue.

Filter Drains: Internal automatic drains for general purpose and coalescing filters; manual drain for adsorbing filter.
For optional internal float drain on polycarbonate plastic bowl only, consult ROSS.

Differential Pressure Gauge: Small Slide Gauge, Large Dual Face Gauge and Large Dual Face Gauges with Reed Switch.

Filter Elements: General Purpose: 5-micron rated polyethylene.
Coalescing: 0.3-micron rated borosilicate glass-fiber; optional 0.01-micron rated element.
Adsorbing: Activated carbon with urethane seals.

Fluid Media: Compressed air.

Inlet Pressure:

For automatic drain model:
With polycarbonate plastic bowl: 15 to150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).

For internal float drain model:
With polycarbonate plastic bowl: 30 to 150 psig (2.1 to 10.3 bar).
With metal bowl: 30 to 200 psig (2.1 to 13.8 bar).

For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).

Threads: NPT standard, BSPP, SAE.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

MD4™ Modular *Clean Air Package*

Ports: 3/8, 1/2, 3/4

HOW TO ORDER

MD4 CAP **1** **A** **B** **1** **5** **2** **L** **-**

BOWL SIZE
1 - Three 9 oz Polycarbonate Bowls
2 - Three 9 oz Metal Bowls
3 - One 9 oz and Two 15 oz Metal Bowls

COALESCING FILTER ELEMENT TYPE
A - 0.3-µm - Standard
B - 0.01-µm - Optional

DRAIN TYPES
1 - Manual
2 - Internal Automatic (not available on adsorber)
F - Internal Foat drain

PIPE SIZE
3 - 3/8 NPTF
4 - 1/2 NPTF
5 - 3/4 NPTF
C - 3/8 BSPP
D - 1/2 BSPP
E - 3/4 BSPP
F - 3/4-16 SAE
G - 7/8-14 SAE

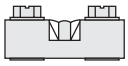
COLOR
G - Gray
Y - Yellow
R - Red
B - Blue
2 - Gold (standard)

GAUGE
A- No Gauge
L- Large Gauge
S- Small Gauge
E- Large Gauge with Normally Open Reed Switch
C- Large Gauge with Normally Closed Reed Switch

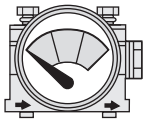
Add on L-O-X® - optional
1 - Yellow
2 - Gold
Blank - No L-O-X®

DIFFERENTIAL PRESSURE GAUGES

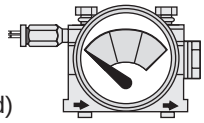
Small Slide Gauge R-K103-151



Large Dual Face Gauge R-106-35



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

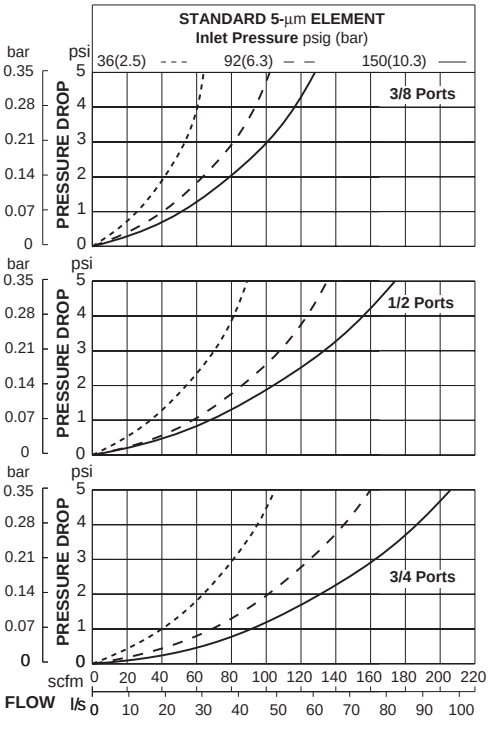


REPLACEMENT FILTER ELEMENT KITS

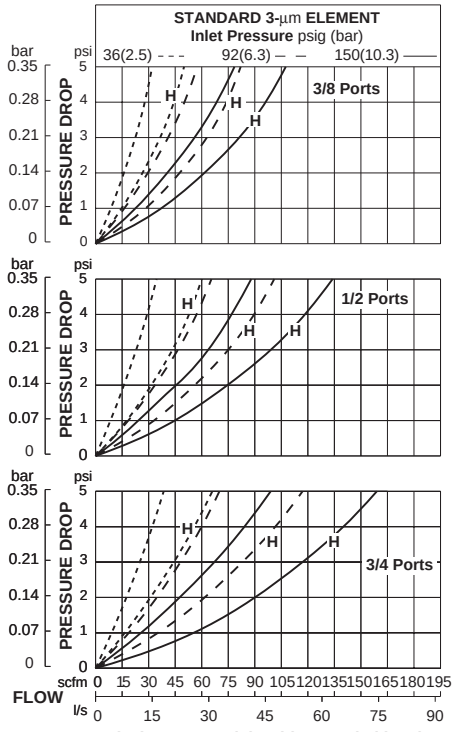
Filter Type	Bowl Type	Element Rating/Type	Kit Number
General Purpose	Standard	5-µm - Standard	R-A115-106PE5
Coalescing	Standard	0.3-µm - Standard	R-A115-117
Coalescing	Extended	0.3-µm - Standard	R-A115-118
Coalescing	Standard	0.01-µm - Optional	R-A115-117E8
Coalescing	Extended	0.01-µm - Optional	R-A115-118E8
Absorbing	Standard	Standard cartridge	R-A115-117E9
Coalescing	Extended	Extended standard cartridge	R-A115-118E9

FLOW CHARTS for INDIVIDUAL ASSEMBLY COMPONENTS

MD4™ General Purpose Filter

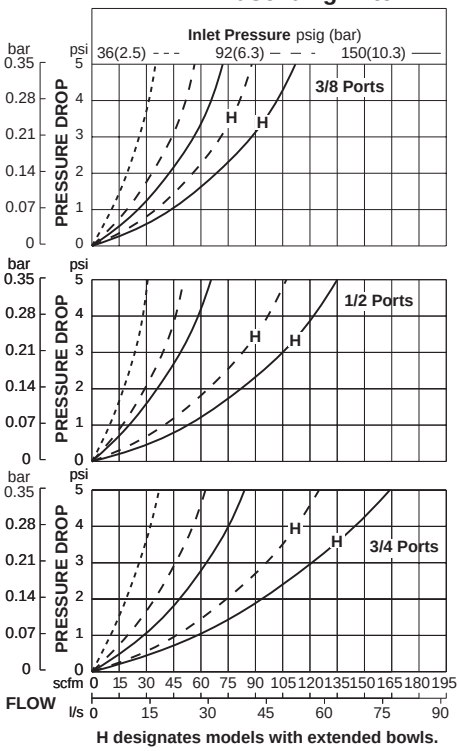


MD4™ Coalescing Filter



H designates models with extended bowls.

MD4™ Adsorbing Filter



H designates models with extended bowls.

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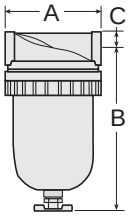
SILENCERS/RECLASSIFIERS

Ports: 1/2 to 1

1/2 Model

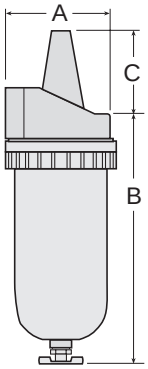


Silencer/reclassifiers are integral silencer and oil separation devices.
When installed at the exhaust ports of pneumatic valves they reduce exhaust noise and capture lubricants contained in the exhausting air.
They are used on valve-cylinder applications and on air tools with piped exhausts.

FEATURES:

- Exhaust noise is reduced to 80 to 85 dBA under standard steady-state test conditions
- Peak impact noise is reduced to 106 to 108 dBA
- Both a drain cock and a 1/8 tube fitting are supplied for the manual or automatic draining of accumulated liquids

3/4 & 1 Model



Port Size	Model Numbers
1/2	5055B4009
3/4	5055B5009
1	5055B6009

Port Size	Model Number	DIMENSIONS inches (mm) A	B	C	Depth	Weight lb (kg)
1/2	5055B4009	3.5 (89)	5.5 (140)	0.7 (18)	3.5 (89)	1.3 (0.59)
3/4	5055B5009	4.2 (107)	8.4 (213)	2.7 (69)	4.2 107)	2.8 (1.27)
1	5055B6009	4.2 (107)	8.4 (213)	2.7 (69)	4.2 (107)	2.8 (1.27)

REPLACEMENT FILTER ELEMENT KITS & BOWLS

Port Size	Element Rating/Type	Kit Number
1/2	20-µm - Standard	940K77
3/4 - 1	100-µm - Standard	981K77
Port Size	**Bowl Type**	**Kit Number**
1/2	Polycarbonate	982K77
3/4 - 1	Polycarbonate	983K77

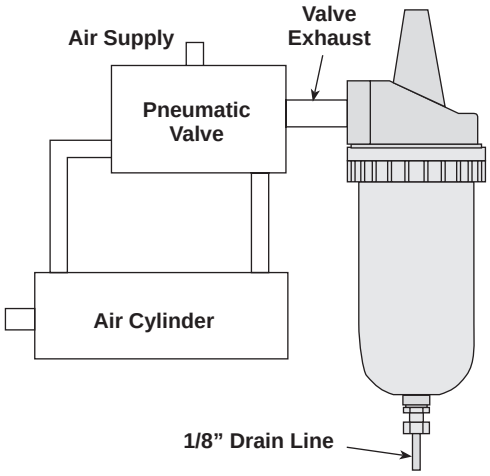
STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 125°F (4° to 51°C).
Bowl: Polycarbonate plastic.
Element: Sintered bronze.
Fluid Media: Compressed air.

Inlet Pressure:
For automatic drain model: 5 to 150 psig (0.3 to 10.3 bar).
For manual drain model: 0 to 150 psig (0 to 10.3 bar).
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5055B4009.

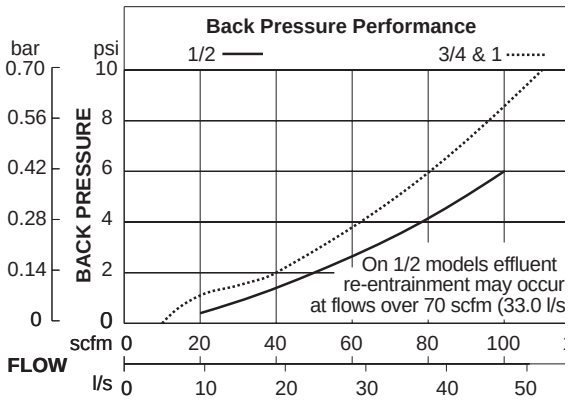
IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

Ports: 1/2 to 1

Typical Installation In A Valve-Cylinder Circuit

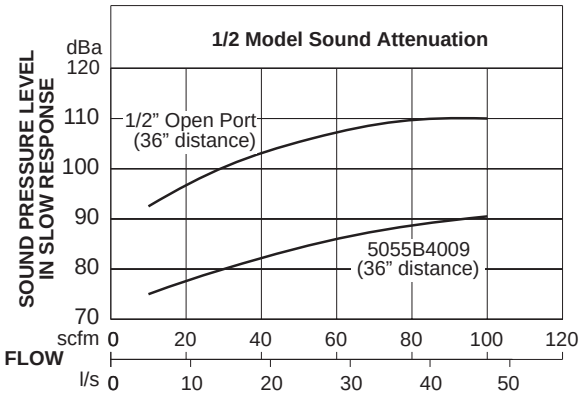


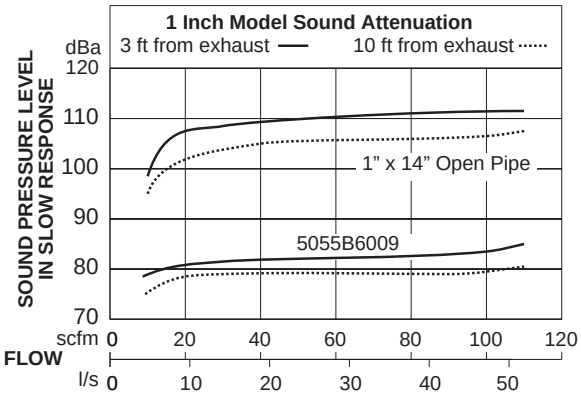
FLOW CHART



SOUND ATTENUATION DATA

Constant-flow tests were conducted in a 14' x 22' room with a 14' ceiling. Sound pressure levels were recorded using a B & K precision impulse sound meter (model 22045), a 1-inch microphone (DB0375), a flexible extension rod (UA0196), and a random incidence corrector (UA0055). Test system as mounted on the 14-foot wall with exhaust port 4 feet from the 14-foot wall.





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PRESSURE REGULATOR Instructional Information

ROSS regulators are made in a wide range of sizes to suit nearly all industrial requirements for pneumatic pressure regulation. Good pressure regulation is essential to the efficient use of pneumatic equipment. A compressor may supply air at 150 psig (10.3 bar), but most of the equipment will operate best at lower pressures. A cylinder, for example, may develop sufficient force for its purpose with 50 psig (3.4 bar) air. Remember that compressed air is costly, so using higher air pressure than necessary is wasteful, and may also shorten the life of the cylinder.

A general purpose pressure regulator is the answer for greater economy and efficiency.

Regulators are of two basic designs. Piston design provides highest air flow; diaphragm design provides high sensitivity and quick response. All regulators are self-relieving, but a non-relieving option is available. A pressure gauge is standard, and gauge ports are at the front and the rear of each unit.

In addition there are precision regulators in all port sizes for applications demanding extra precision in the regulation of air pressure, plus regulators for remote piloting.

MODULAR or INLINE MOUNTING

Regulators are connected to filters or lubricators by special modular connectors which seal the faces between units. They may also be inline mounted with pipe nipples. MINIATURE and HIGH-CAPACITY regulators are inline mounted only.

BANTAM REGULATORS

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

MINIATURE REGULATORS

Port sizes 1/8, 1/4. Aluminum-bodied units for inline mounting. Same performance characteristics as the BANTAM models. Brass or stainless steel bodies, and water pressure models are also available.

MINIATURE regulators are available to provide outstanding pressure control at relatively low cost. A large diaphragm area gives high sensitivity, and a small valve seat gives greater precision and little variation in outlet pressure from fluctuations in supply pressure. With an inlet pressure of 100 psig (6.9 bar), repeatability is within 1/4 psig. Regulated pressure range is 0 to 60 psig (0 to 4.1 bar). Optional springs allow other pressure ranges.

MID-SIZE REGULATORS

Port sizes 1/4, 3/8, 1/2. Modular units in a balanced-valve, piston design with very quick response for fast-cycling valves and cylinders. Two sub-series: models with durable plastic dome, and models with high-strength metal dome for more severe environments. Regulation performance is essentially the same.

FULL-SIZE REGULATORS

Port sizes 1/4 to 3/4. Modular units with diaphragm design for sensitivity and accurate pressure regulation. An adjustment-locking key to impede tampering is standard.

FULL-SIZE Diaphragm Regulators are also available. They were developed to give superior torque control with pneumatic tools. However, they are well suited to many other applications because of their ability to regulate very high air flows with great precision. They will hold regulated pressure within 3 psig (0.2 bar) and repeatability is within 0.5 psig (0.034 bar). For torque control and applications that cannot tolerate over-pressurization, regulated pressure can be limited to 85 psig (5.9 bar). Air from a constant bleed, which is important to the precision of these units, is normally inaudible.

HIGH-CAPACITY REGULATORS

Port sizes 3/4 to 1½. Inline mounting and piston design are featured in these high air-flow models. An adjustment-locking key to impede tampering is standard.

HIGH-CAPACITY Regulators are also of diaphragm design and have essentially the same precise operating characteristics as the FULL-SIZE precision regulators described above. Their larger port sizes, however, make them the choice for very high air-flow applications.

REMOTE PILOT REGULATORS

Regulators with remote pilots operate as precisely as the remote pilot regulators used. A 1/4 inch pilot regulator (or precision model) provides an accurately controlled air spring for excellent regulation. The pilot control regulator can be installed at a distance from the main regulator for convenience in making adjustments.

FULL-SIZE Regulators are of diaphragm design for high sensitivity. They provide air flow up to 160 scfm (75.5 l/s) in applications where low pressure drop and/or remote adjusting are desired.

HIGH-CAPACITY Regulators are of diaphragm design, and provide air flow up to 600 scfm (283.2 l/s).

HIGH-CAPACITY Regulators provide air flow up to 1000 scfm (471.9 l/s). For fast response, good sensitivity, and long service life they employ a piston traveling in a hard-anodized, Teflon-impregnated, metal cylinder. A high-flow, self-relieving valve is built into the main regulator.

RELIEF VALVES

Relief valves are set for a desired maximum system pressure and inserted in a tee downstream of regulated pressure to prevent over-pressurization of the system beyond the relief valve setting. Relief valves are adjustable from 1 to 125 psig (0.07 to 8.6 bar). Optional springs are available for other pressure ranges. If pressure exceeds the relief valve setting it will dump system air to atmosphere or to a valve to provide a warning signal.

Port sizes 1/8 and 1/4. A pressure gauge is standard equipment.

REVERSE FLOW REGULATOR

ROSS reverse-flow regulators provide regulated pressure control from in-to-out, and quick exhausting from out-to-in. When the inlet side of the regulator is exhausted, the regulator piston or diaphragm snaps open to allow the immediate exhaust of secondary pressure.

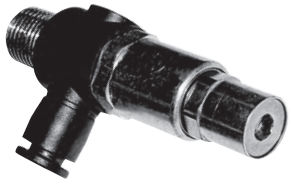
PRECISION REGULATORS

Provide improved torque control for pneumatic tools; diaphragm type. Pressure settings held within 3 psig (0.2 bar).

When the inlet side of the regulator is exhausted, the regulator piston or diaphragm snaps open to allow the immediate exhaust of secondary pressure.

RIGHT-ANGLE Pressure Regulators

Ports: 1/8 to 1/2

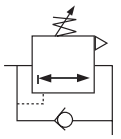


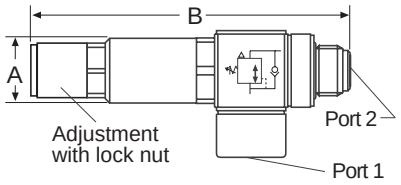
FEATURES:

- Right-angle regulators used to control outlet pressure to work devices
- Right angle design with threaded Banjo for easy positioning of pipe or tubing
- Quick and easy installation
- Galvanized zinc plated brass body construction
- Lube or non-lube operation

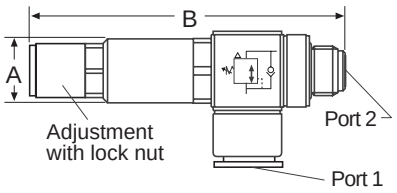
ISO Symbol Regulator

Self-Relieving





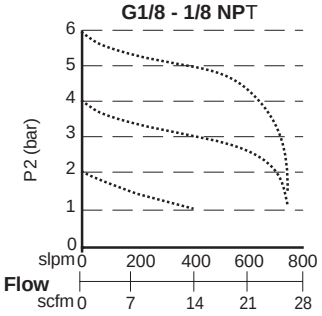
Threaded Banjo



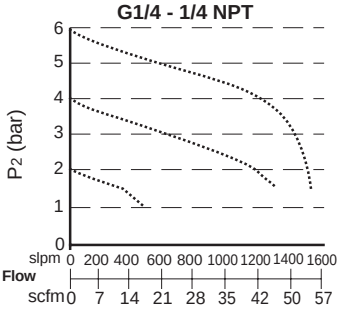
Push-to-connect Fitting

FLOW CHARTS

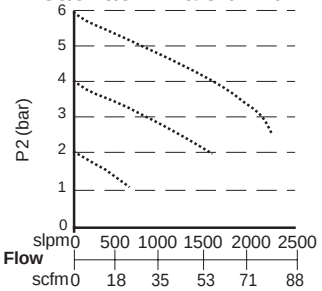
G1/8 - 1/8 NPT



G1/4 - 1/4 NPT



G3/8 - 3/8 NPT & G1/2 - 1/2 NPT



Models with Threaded Banjo

Port Size		Valve Model Numbers	Dimensions inches (mm)		Tightening Torque Max.
Port 1*	**Port 2****		**A**	**B**	Ft-lb (Nm)
1/8	1/8	5214A1010	0.7 (17)	2.9 (74)	7.38 (10)
1/4	1/4	5214A2010	0.7 (17)	3.2 (81)	8.85 (12)
3/8	3/8	5214A3010	0.9 (22)	3.5 (88)	14.75 (20)
1/2	1/2	5214A4010	1.1 (27)	3.5 (89)	22.13 (30)
G1/8	G1/8	D5214A1010	0.7 (17)	2.9 (74)	11.06 (15)
G1/4	G1/4	D5214A2010	0.7 (17)	3.2 (81)	14.75 (20)
G3/8	G3/8	D5214A3010	0.9 (22)	3.5 (88)	22.13 (20)
G1/2	G1/2	D5214A4010	1.1 (27)	3.5 (89)	22.50 (30)

* Threads in port 1 are female. ** Port 2 threads are male.

Models with Push-to-Connect Fitting

Port Size		Valve Model Number	Dimensions inches (mm)		Tightening Torque Max.
Port 1#	**Port 2****		**A**	**B**	Ft-lb (Nm)
(tube size)	(thread size)				
5/32"	1/8	5214A1115	0.7 (17)	2.9 (73)	11.06 (15)
1/4"	1/8	5214A1120	0.7 (17)	2.9 (73)	11.06 (15)
1/4"	1/4	5214A2120	0.7 (17)	3.2 (81)	14.75 (20)
3/8"	1/4	5214A2130	0.7 (17)	3.2 (81)	14.75 (20)
3/8"	3/8	5214A3130	0.9 (22)	3.5 (88)	22.13 (30)
4 mm	G1/8	D5214A1140	0.5 (13)	2.9 (73)	7.38 (10)
6 mm	G1/8	D5214A1160	0.5 (13)	2.9 (73)	7.38 (10)
8 mm	G1/8	D5214A1180	0.5 (13)	2.9 (73)	7.38 (10)
6 mm	G1/4	D5214A2160	0.7 (17)	3.2 (81)	8.85 (12)
8 mm	G1/4	D5214A2180	0.7 (17)	3.2 (81)	8.85 (12)
10 mm	G1/4	D5214A2110	0.7 (17)	3.2 (81)	8.85 (12)
8 mm	G3/8	D5214A3180	0.9 (22)	3.5 (88)	14.75 (20)
10 mm	G3/8	D5214A3110	0.9 (22)	3.5 (88)	14.75 (20)

Port 1 tubing size in inches (") or millimeters (mm). ** Port 2 threads are male.

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 15° to 160°F (-10° to 70°C).
Flow Media: Filtered air, 5 micron recommended.
Inlet Pressure: 15 to 240 psig (1.0 to 16.5 bar).
Regulated Pressure Range: 15 to 120 psig (1.0 to 8.3 bar).

Threads: NPT standard; BSPP, mm, inches.
Inlet Ports: Available with NPTF threaded or push-to-connect fittings.
Outlet Ports: Available with NPT or G threads.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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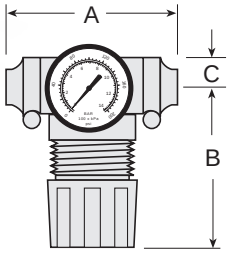
BANTAM Modular General Purpose Regulators

Ports: 1/8, 1/4, 3/8
Flow to 23 scfm

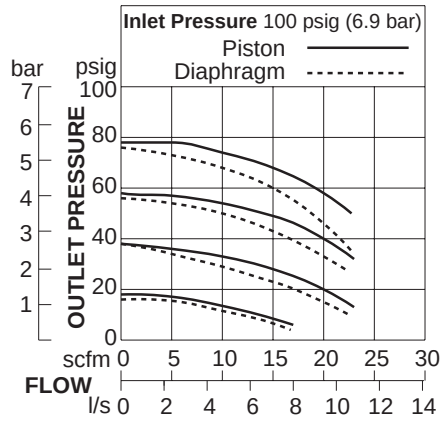


FEATURES:
- Modular assembly and mounting
- Threaded ports or quick-connect fittings for tubing up to 10 mm in diameter
- Piston-type or diaphragm-type
- Self-relieving; optional non-relieving
- Pressure gauge
- NPTF port threads; optional BSPP threads or fittings for tubing up to 10 mm
- Adjusting knob is removable for tamper resistance

Port Size	DIMENSIONS inches (mm) A	B	C	Depth †	Weight † lb (kg)
No Port	1.7 (43)	2.6 (67)	0.5 (13)	1.8 (45)	0.21 (0.09)
1/8, 1/4	3.0 (76)	2.6 (67)	0.5 (13)	1.8 (45)	0.43 (0.19)
Models below have quick-connect fittings for tubing.					
1/4	3.4 (86)	2.6 (67)	0.5 (13)	1.8 (45)	0.21 (0.09)
3/8	3.9 (99)	2.6 (67)	0.5 (13)	1.8 (45)	0.21 (0.09)
4 mm	3.4 (86)	2.6 (67)	0.5 (13)	1.8 (45)	0.41 (0.18)
6 mm	3.4 (86)	2.6 (67)	0.5 (13)	1.8 (45)	0.41 (0.18)
8 mm	3.1 (79)	2.6 (67)	0.5 (13)	1.8 (45)	0.41 (0.18)
10 mm	3.9 (99)	2.6 (67)	0.5 (13)	1.8 (45)	0.41 (0.18)

† Less gauge.

FLOW CHARTS



Port Size	Regulated Pressure* psig (bar)	Piston Type Models Pipe Ports	Piston Type Models Tube Fittings	Diaphragm Type Models Pipe Ports	Diaphragm Type Models Tube Fittings
1/8	0-100 (0-6.9)	5B01C0010	—	5B01C0020	—
1/4	0-100 (0-6.9)	5B02C0010	5B03C0010	5B02C0020	5B03C0020
3/8	0-100 (0-6.9)	—	5B04C0010	—	5B04C0020
4mm	0-100 (0-6.9)	—	5B05C0010	—	5B05C0020
6mm	0-100 (0-6.9)	—	5B06C0010	—	5B06C0020
8mm	0-100 (0-6.9)	—	5B07C0010	—	5B07C0020
10mm	0-100 (0-6.9)	—	5B08C0010	—	5B08C0020

*For other regulated pressure ranges, change the next to last digit in the model number as indicated below:

0-50 psig (0-3.4 bar): Piston type: Change 1 to 3 Diaphragm type: Change 2 to 4

0-125 psig (0-8.6 bar): Piston type: Change 1 to 5 Diaphragm type: Change 2 to 6

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature: 40° to 125°F (4° to 52°C).

Body: Acetal.

Dome and Knob: Acetal

Fluid Media: Compressed air.

Inlet Pressure: 150 psig (10.3 bar) maximum.

Outlet Pressure: Adjustable up to 100 psig (6.9 bar).

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

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

Seals: Nitrile.

Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5B01C0010.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

MINIATURE Regulators & Relief Valves

Ports: 1/8 & 1/4
Flow to 40 scfm

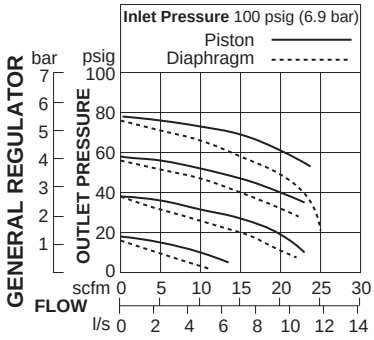
FEATURES:

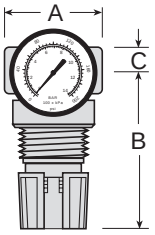
- Inline mounting
- Piston-type or diaphragm-type
- Self-relieving; optional non-relieving
- Pressure gauge
- Adjusting knobs are removable making the regulators tamper-resistant

Port Size	DIMENSIONS inches (mm) A	B	C	Depth †	Weight † lb (kg)
1/8	1.6 (41)	2.6 (65)	0.4 (10)	1.6 (41)	0.24 (0.11)
1/4	1.8 (44)	3.4 (86)	0.4 (10)	1.8 (44)	0.38 (0.16)

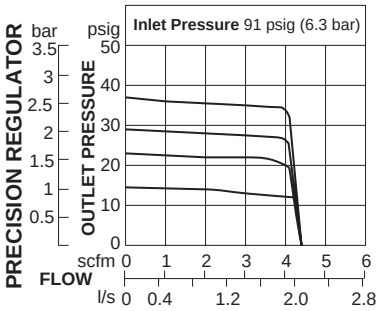
† Less gauge.

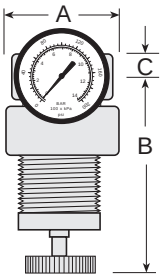
FLOW CHARTS





General Purpose Regulator

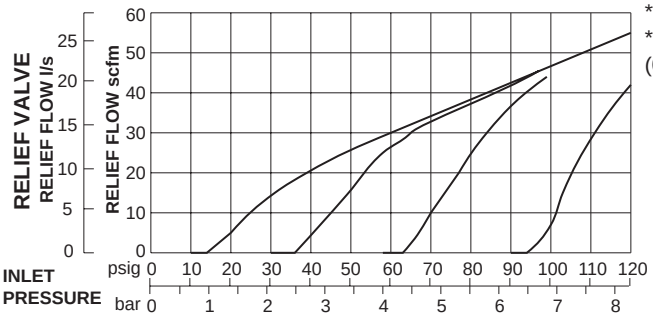




Precision Regulator

Port Size	Service	Flow Rating** scfm (l/s)	Regulated Pressure psig (bar)	Piston Type Models	Diaphragm Type Models
1/8	General	20 (9.4)	0-50 (0-3.4)	5212C1004	5212C1005
	General	20 (9.4)	0-100 (0-6.9)	5211C1004	5211C1005
	General	20 (9.4)	0-125 (0-8.6)	5213C1004	5213C1005
	Precision*	4 (1.9)	0-50 (0-3.4)*	—	5212C1006
	Relief	40 (18.9)	1-140 (0.07-9.6)	—	5210B1001
	Relief	40 (18.9)	1-15 (0.07-1.0)	—	5210B1002
	Relief	40 (18.9)	1-30 (0.07-2.1)	—	5210B1003
	Relief	40 (18.9)	1-50 (0.07-3.4)	—	5210B1004
1/4	General	20 (9.4)	0-50 (0.07-3.4)	5212C2004	5212C2005
	General	20 (9.4)	0-100 (0.07-6.9)	5211C2004	5211C2005
	General	20 (9.4)	0-125 (0.07-8.6)	5213C2004	5213C2005
	Precision*	4 (1.9)	0-50 (0.07-3.4)*	—	5212C2006
	Relief	40 (18.9)	1-140 (0.07-9.6)	—	5210B2001
	Relief	40 (18.9)	1-15 (0.07-1.0)	—	5210B2002
	Relief	40 (18.9)	1-30 (0.07-2.1)	—	5210B2003
	Relief	40 (18.9)	1-50 (0.07-3.4)	—	5210B2004

** For comparison with filters and lubricators.
* For 0-5 psig (0-0.34 bar), 0-10 psig (0-0.7 bar), 0-20 psig (0-1.4 bar), and 0-60 psig (0-4.1 bar) ranges, consult ROSS.



Precision Regulators have a small valve seat and a large diaphragm area, a combination that allows greater precision, sensitivity, adjustment resolution, and less variation in regulated pressure.

Relief Valves have maximum relief flows of 10 to 20 scfm (4.7 to 9.4 l/s). For models with increased sensitivity at lower pressure, consult ROSS.

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 125°F (4° to 52°C).
Body: Aluminum.
Dome and Knob: Acetal.
Fluid Media: Compressed air.
Inlet Pressure: 300 psig (20.7 bar) maximum.
Outlet Pressure: Adjustable up to 100 psig (6.9 bar).
Pressure Gauge: 0 to 160 psig (0 to 11 bar); 1/8 NPT gauge ports front and rear.
Panel Mounting: 1-3/16 inch (30 mm) hole required.
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5212C1004.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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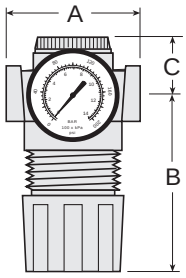
MID-SIZE Regulators

Ports: 1/4, 3/8, 1/2
Flow to 100 scfm



FEATURES:
- Modular or inline mounting
- Piston-type design
- Self-relieving; optional non-relieving
- Pressure gauge
- Adjustment knob is removable for tamper-resistance

Reverse-Flow Regulators are also available. They provide regulated in-to-out pressure control, plus quick exhausting from out-to-in.

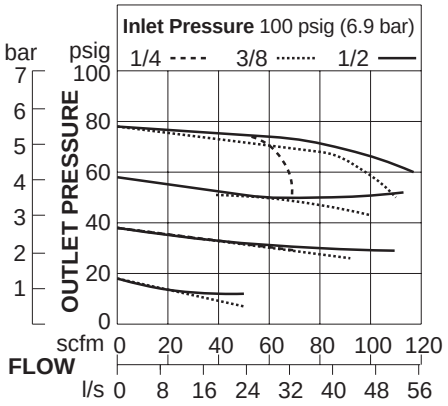
Used for downstream pressure regulation of weld guns and other applications requiring quick exhausting through the regulator.

Available with adjustment knob or T-handle.

DIMENSIONS inches (mm)				Weight †
A	**B**	**C**	**Depth †**	lb (kg)
2.7 (68)	3.3 (83)	1.3 (33)	2.1 (52)	1.0 (0.46)

† Less gauge.

FLOW CHART



REGULATORS — General Purpose

Port Size	Flow Rating* scfm (l/s)	0-50 psig (0-3.4 bar)	0-100 psig (0-6.9 bar)	0-150 psig (0-10.3 bar)
1/4	45 (21.2)	5212B2015	5211B2015	5213B2015
3/8	65 (30.7)	5212B3015	5211B3015	5213B3015
1/2	75 (35.4)	5212B4015	5211B4015	5213B4015

* For comparison with filters and lubricators.

REGULATORS — Reverse Flow
Regulated Pressure Range 0-100 psig (0-6.9 bar)

Port Size	Flow Rating* scfm (l/s)	Knob Adjustment	T-Handle Adjustment
1/4	65 (30.7)	5X00B2035	5X00B2039
3/8	65 (30.7)	5X00B3024	5X00B3021
1/2	75 (35.4)	5X00B4023	5X00B4041

* For comparison with filters and lubricators.

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature: 40° to 125°F (4° to 52°C).

Body: Zinc.

Cap: Nylon.

Dome and Knob: Acetal.

Fluid Media: Compressed air.

Inlet Pressure: 250 psig (17.2 bar) maximum.

Outlet Pressure: Adjustable up to 100 psig (6.9 bar).

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

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

Seals: Nitrile.

Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5212B2015.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

FULL-SIZE Regulators

Ports: 1/4, 3/8, 1/2, 3/4
Flow to 155 scfm

FEATURES:
- Modular or inline mounting
- Diaphragm-type design
- Self-relieving; optional non-relieving
- Pressure gauge
- Pressure adjustment locking key
- Reverse flow optional

Precision internal Pilot Regulators provide improved torque control for pneumatic tools; diaphragm type. Pressure settings held within 3 psig (0.2 bar).

Remote Pilot Regulators use any small regulator to provide remote adjustment and to ensure accurate pressure control. Diaphragm type.

Reverse-Flow Regulators provide regulated in-to-out pressure control, plus quick exhausting from out-to-in. Used for applications, such as weld guns, requiring quick exhausting through the regulator.

Type	DIMENSIONS inches (mm) A	B*	C**	Depth †	Weight † lb (kg)
Gen. Purp.Reg.	3.5 (89)	5.8 (146)	1.3 (33)	2.8 (71)	2.06 (0.92)
Precision Reg.	3.5 (89)	4.2 (106)	1.3 (33)	2.8 (71)	2.06 (0.92)
Rem. Pilot Reg.	3.5 (89)	2.4 (62)	1.3 (33)	2.8 (71)	2.06 (0.92)

* Dome removal clearance: add 0.63 (16).
** Cap removal clearance: add 0.5 (13).
† Less gauge.

REGULATORS — General Purpose

Port Size	Flow Rating* scfm (l/s)	0-50 psig (0-3.4 bar)	0-125 psig (0-8.6 bar)	0-175 psig (0-12.1 bar)
1/4	70 (33.0)	5212B2017	5211B2017	5213B2017
3/8	80 (37.7)	5212B3017	5211B3017	5213B3017
1/2	145 (68.4)	5212B4017	5211B4017	5213B4017
3/4	155 (73.1)	5212B5027	5211B5027	5213B5027

REGULATORS — Precision Internal Pilot

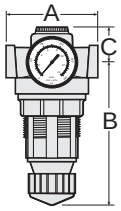
Port Size	Flow Rating* scfm (l/s)	15-200 psig (1.0-13.8 bar)	15-250 psig (1.0-17.2 bar)
1/4	75 (35.4)	5213C2018	5214C2018
3/8	75 (35.4)	5213C3018	5214C3018
1/2	130 (61.3)	5213C4018	5214C4018
3/4	155 (73.1)	5213C5018	5214C5018

REGULATORS — Remote Pilot and Reverse-Flow

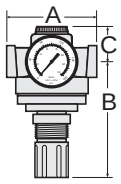
Port Size	Flow Rating* scfm (l/s)	Remote Pilot 0-200 psig (0-13.8 bar)	Reverse Flow 0-125 psig (0-8.6 bar) Knob	Reverse Flow 0-125 psig (0-8.6 bar) T-Handle
1/4	50 (23.6)	5211C2007	–	–
1/4	50 (23.6)	–	5X00B2010	–
3/8	105 (49.6)	5211C3007	–	–
3/8	105 (49.6)	–	5X00B3004	5X00B3012
1/2	130 (61.3)	5211C4007	–	–
1/2	130 (61.3)	–	5X00B4004	5X00B4047
3/4	155 (73.1)	5211C5007	–	–
3/4	155 (73.1)	–	5X00B5034	5X00B5044

*For comparison with filters and lubricators.

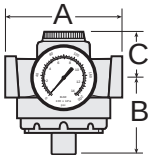
General Purpose Regulator



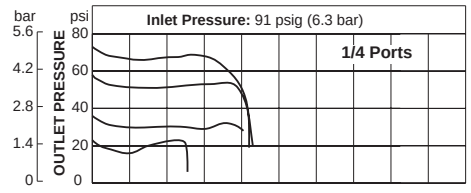
Precision Internal Pilot Regulator

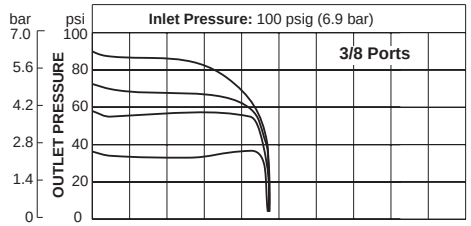


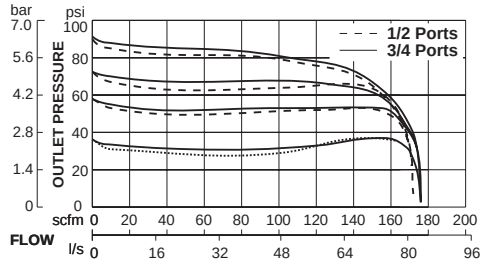
Remote Pilot Regulator

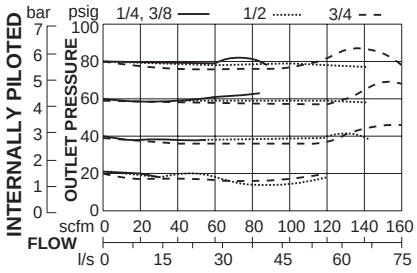


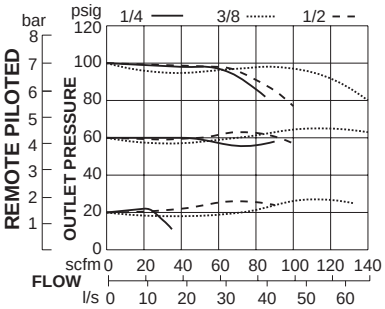
FLOW CHARTS











STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
General Purpose and Remote Pilot: 40° to 175°F (4° to 79°C).
Precision Internal Pilot: 40° to 125°F (4° to 52°C).
Body: Zinc.
Dome: Nylon; aluminum with optional 0 to 175 psig (0 to 12.1 bar) spring.
Fluid Media: Compressed air.
Inlet Pressure: 300 psig (20.7 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 (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Panel Mounting: 2-**1/16** inch (52 mm) hole required.
Seals: Nitrile. **Valve:** Brass. **Valve Cap:** Nylon.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5212B2017.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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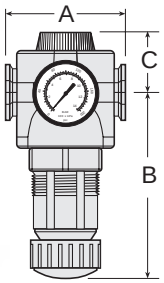
MD4™ Modular General Purpose Regulators

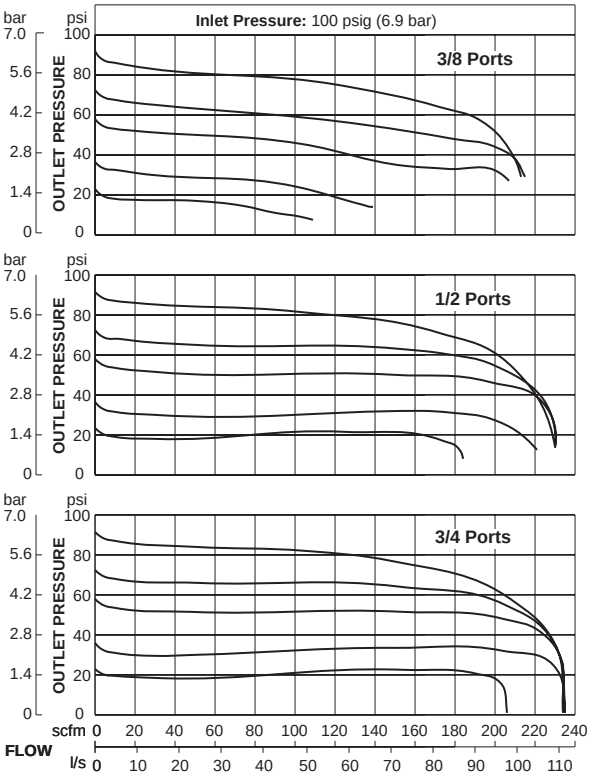
Ports: 3/8, 1/2, 3/4
Flow to 220 scfm



FEATURES:

- Modular or inline mounting; modular mounting allows regulators to be positioned at increments of 45° for ease in adjustment
- Self-relieving diaphragm design, with large diaphragm sensing ratio
- Non-relieving - optional
- Pressure adjustment locking key; tamper-resistant pressure setting
- Reverse flow - optional

FLOW CHARTS



DIMENSIONS inches (mm)				Weight †
A	**B***	**C****	**Depth †**	lb (kg)
3.5 (87)	5.6 (142)	1.6 (40)	2.9 (73)	2.56 (1.16)

* Dome removal clearance: add 0.625 (16).
** Cap removal clearance: add 0.50 (13).
† Less gauge.

HOW TO ORDER

MD4 52K B S B 5 2 B

ADJUSTMENT TYPE
52K - Knob (standard)
52T - Tee Handle

ADJUSTMENT RANGE
A - 0-175 psig (0-12.1 bar)
B - 0-125 psig (0-8.6 bar) standard
C - 0-50 psig (0-3.4 bar)
D - 0-20 psig (0-1.4 bar)

FLOW OPTIONS
R - Reverse Flow
S - Standard (standard)

PIPE SIZE
3 - 3/8 NPTF
4 - 1/2 NPTF
5 - 3/4 NPTF
C - 3/8 BSPP
D - 1/2 BSPP
E - 3/4 BSPP
F - 3/4-16 SAE
G - 7/8-14 SAE

COLOR
G - Gray
Y - Yellow
R - Red
B - Blue
2 - Gold (standard)

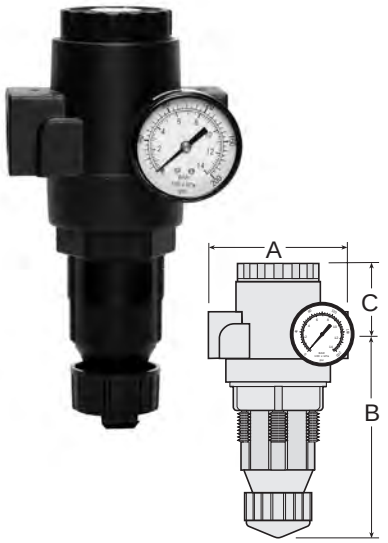
GAUGE
A - No Gauge
B - 0-200 psig (0-14 bar)
C - 0-60 psig (0-4 bar)
D - No Gauge with Panel Mount Nut
E - 0-200 psig (0-14 bar) Gauge with Panel Mount Nut
F - 0-60 psig (0-4 bar) Gauge with Panel Mount Nut

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 175°F (4° to 79°C).
Body: Zinc.
Dome: Nylon; aluminum with optional 0 to 175 psig (0 to 12.1 bar) spring.
Cap Color: Gold standard; optional gray, yellow, red, blue.
Fluid Media: Compressed air.
Inlet Pressure: 300 psig (20.7 bar) maximum.
Knob: Acetal.
Outlet Pressure: Adjustable up to 125 psig (8.6 bar); optional adjusting springs.
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Panel Mounting: 2-1/16 inch (52 mm) hole required.
Seals: Nitrile.
Self-relieving: Non-relieving optional, consult ROSS.
Valve: Brass.
Valve Cap: Nylon.
Threads: NPT standard, BSPP, SAE.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

HIGH-CAPACITY Regulators

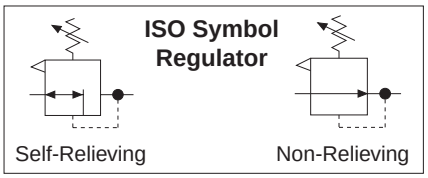
Ports: 3/4, 1, 1¼, 1½
Flow to 800 scfm



FEATURES:

- Inline mounting
- Piston-type design
- Self-relieving; optional non-relieving
- Pressure gauge
- Pressure adjustment locking key

Reverse-flow regulators provide regulated in-to-out pressure control, plus quick exhausting from out-to-in. Used for applications, such as weld guns, requiring quick exhausting through the regulator. Piston type design.



Port Size	DIMENSIONS inches (mm) A	B *	C **	Depth †	Weight † lb (kg)
3/4, 1	4.4 (111)	6.1 (154)	2.4 (62)	2.8 (71)	2.19 (0.99)
1¼, 1½	4.9 (124)	6.4 (162)	2.1 (54)	2.8 (71)	2.50 (1.14)

* Dome removal clearance: add 0.63 (16).
** Cap removal clearance: add 0.65 ((16.5).
† Less gauge.

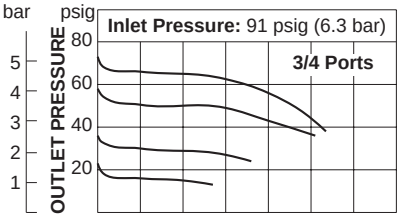
REGULATORS – General Purpose; Piston Type

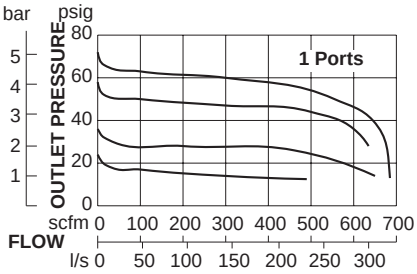
Port Size	Regulated Pressure Range 0–100 psig (0–6.9 bar)	0–50 psig (0–3.4 bar)
3/4	5211D5017	5212D5017
1	5211D6017	5212D6017
1¼	5211C7017	5212C7017
1½	5211C8017	5212C8017

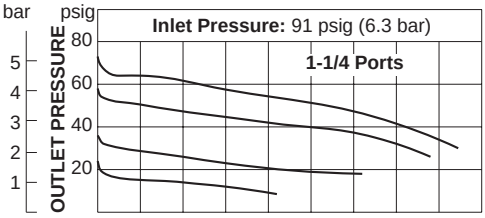
REGULATORS – Reverse Flow; Piston Type; 0–100 psig (0-6.9 bar)

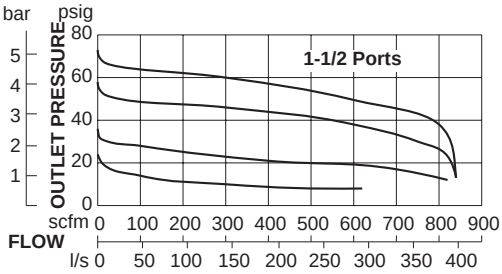
	Knob	T-Handle
3/4	5X00B5049	5X00B5050
1	5X00D6003	5X00B6038
1¼	5X00C7003	5X00B7016
1½	5X00C8001	5X00B8024

FLOW CHARTS









STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 175°F (4° to 79°C).
Body: Aluminum.
Dome: Nylon; aluminum with optional 0 to 150 psig (0 to 10.3 bar) spring.
Fluid Media: Compressed air.
Inlet Pressure: 300 psig (20.7 bar) maximum.
Knob: Acetal
Outlet Pressure: Adjustable up to 100 psig (6.9 bar).
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Panel Mounting: 2-1/16 inch (52 mm) hole required.
Seals: Nitrile.
Valve: Brass.
Valve Cap: Nylon.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5211D5017.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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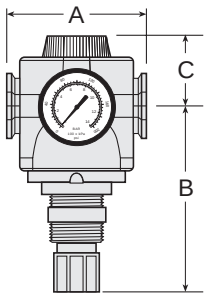
MD4™ Modular *Precision* Regulators

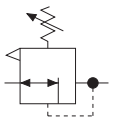
Ports: 3/8, 1/2, 3/4
Flow to 170 scfm



FEATURES:
- Modular or inline mounting
- Self-relieving diaphragm design
- Repeatability ± 0.5 psi (0.034 bar)
- Easy finger adjustment, no overshoot or undershoot when adjusting
- Minimal air bleed for high accuracy
- Pressure gauge

ISO Symbol
Regulator

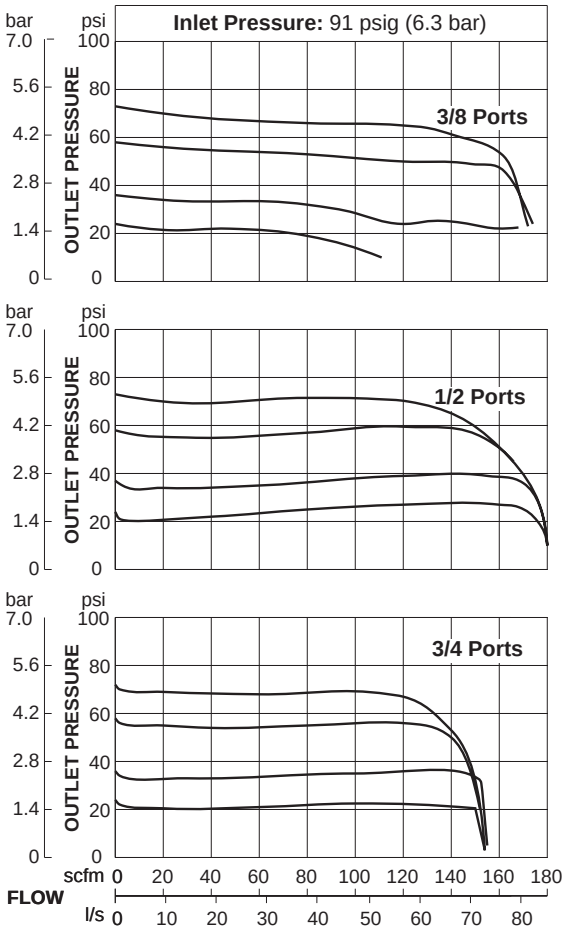
Self-Relieving



DIMENSIONS inches (mm)				Weight †
A	**B**	**C**	**Depth †**	lb (kg)
3.5 (87)	4.8 (122)	1.6 (41)	2.9 (73)	2.3 (1.0)

† Less gauge.

FLOW CHARTS



HOW TO ORDER

MD4 52K E B 5 2 B

E -
- E - 15-200 psig (1.0-13.8 bar)
- F - 15-250 psig (1.0-17.2 bar)
- G - 15-100 psig (1.0-6.9 bar)

PIPE SIZE (5)
- 3 - 3/8 NPTF
- 4 - 1/2 NPTF
- 5 - 3/4 NPTF
- C - 3/8 BSPP
- D - 1/2 BSPP
- E - 3/4 BSPP
- F - 3/4-16 SAE
- G - 7/8-14 SAE

COLOR (2)
- G - Gray
- Y - Yellow
- R - Red
- B - Blue
- 2 - Gold (standard)

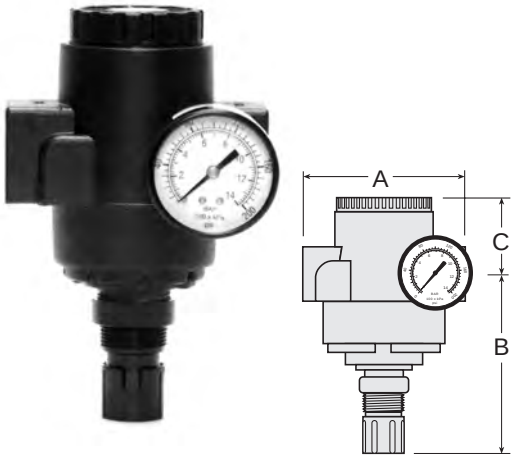
GAUGE (B)
- A - No Gauge
- B - 0-200 psig (0-13.8 bar)
- D - No Gauge with Panel Mount Nut
- E - 0-200 psig (0-13.8 bar) Gauge with Panel Mount Nut

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 125°F (4° to 52°C).
Body and Dome: Zinc.
Bonnet and Knob: Acetal.
Fluid Media: Compressed air.
Inlet Pressure: 250 psig (17 bar) maximum.
Outlet Pressure: Adjustable 15 to 125 psig (1.0 to 8.6 bar).
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Panel Mounting: 2-1/16 (52 mm) hole required.
Seals: Nitrile.
Valve: Brass.
Cap Color: Gold standard; gray, yellow, red, and blue optional.
Precision Regulators: Provide improved torque control for pneumatic tools; diaphragm type. Pressure settings held within 3 psig (0.2 bar).
Threads: NPT standard, BSPP, SAE.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

HIGH-CAPACITY Regulators

Ports: 3/4, 1, 1¼, 1½
Flow to 800 scfm

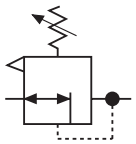


FEATURES:

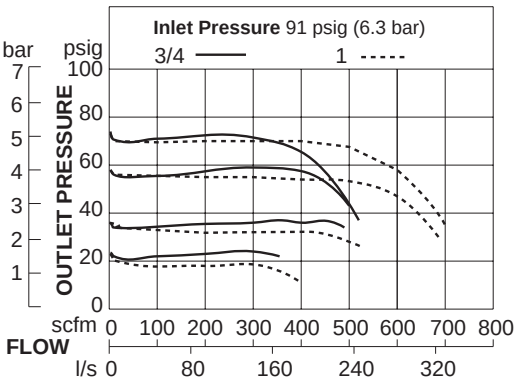
- Inline mounting
- Diaphragm-type design
- Self-relieving
- Manual air bleed for accuracy
- Repeatability ± 0.5 psi (± 0.034 bar)
- Pressure gauge

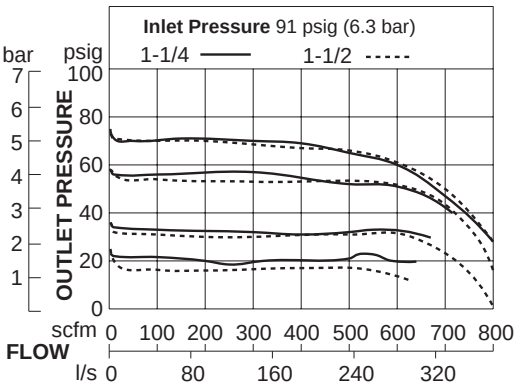
ISO Symbol Regulator

Self-Relieving



FLOW CHARTS





Port Size	DIMENSIONS inches (mm) A	B †	C	Depth †	Weight † lb (kg)
3/4, 1	4.4 (111)	4.6 (112)	2.4 (62)	2.8 (71)	2.0 (0.91)
1¼, 1½	4.9 (124)	4.9 (125)	2.1 (54)	2.8 (71)	2.38 (1.08)

† Less gauge.

REGULATORS – *Precision* Diaphragm Type

Port Size	0–100 psig (0–6.9 bar)	0–50 psig (0–3.4 bar)
3/4	5213D5017	5214D5017
1	5213D6017	5214D6017
1¼	5213D7017	5214D7017
1½	5213D8017	5214D8017

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature: 40° to 175°F (4° to 79°C).

Body: Aluminum.

Bonnet and Knob: Acetal.

Dome: Zinc.

Fluid Media: Compressed air.

Inlet Pressure: 300 psig (20.7 bar) maximum.

Outlet Pressure: Adjustable 15 to 200 psig (1.0 to 13.8 bar).

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

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

Seals: Nitrile.

Valve: Brass.

Valve Cap: Nylon.

Precision Regulators: Provide improved torque control for pneumatic tools; diaphragm type. Pressure settings held within 3 psig (0.2 bar).

Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5213D5017.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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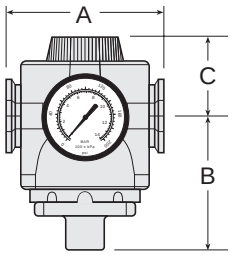
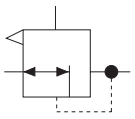
MD4™ Modular Remote Pilot Regulators

Ports: 3/8, 1/2, 3/4
Flow to 190 scfm

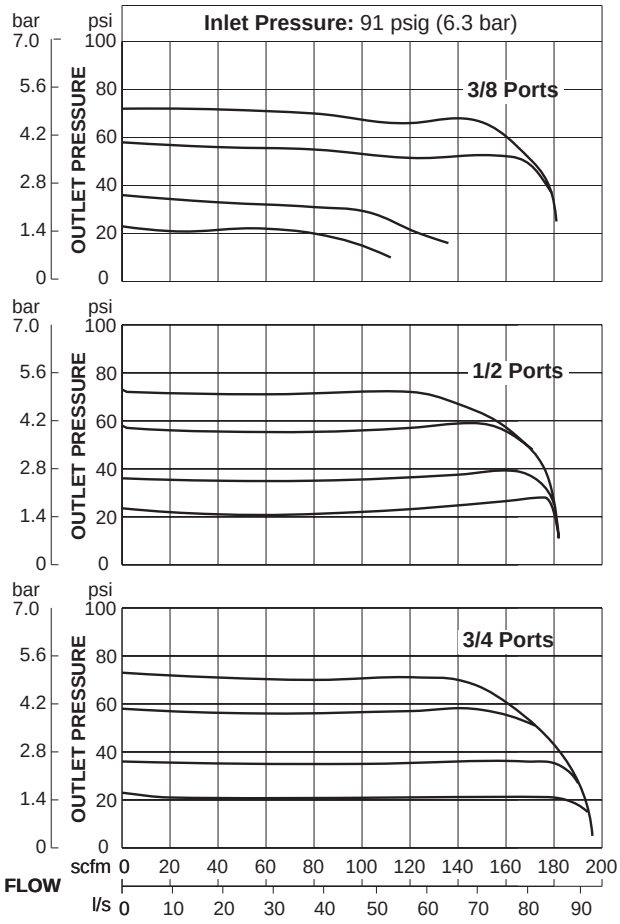


FEATURES:
- Modular or inline mounting
- Diaphragm-type design
- Self-relieving
- Pressure gauge

ISO Symbol Regulator



FLOW CHARTS



DIMENSIONS inches (mm)				Weight †
A	B	C	Depth †	lb (kg)
3.5 (87)	2.4 (62)	1.6 (41)	2.9 (73)	2.20 (1.0)

† Less gauge.

HOW TO ORDER

MD4 52K 1 B 5 G A

RELIEF OPTION
1- Relieving (standard)
2 - Non-relieving

PIPE SIZE
3 - 3/8 NPTF
4 - 1/2 NPTF
5 - 3/4 NPTF
C - 3/8 BSPP
D - 1/2 BSPP
E - 3/4 BSPP
F - 3/4-16 SAE
G - 7/8-14 SAE

COLOR
G - Gray
Y - Yellow
R - Red
B - Blue
2 - Gold (standard)

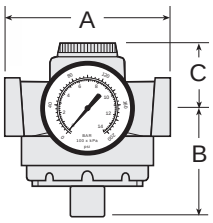
A - No Gauge
B - 0-200 psig (0-14) Gauge

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 175°F (4° to 79°C).
Body and Dome: Zinc.
Fluid Media: Compressed air.
Inlet Pressure: 300 psig (20.7 bar) maximum.
Outlet Pressure: Adjustable 0 to 250 psig (0 to 17.2 bar).
Pilot Ports: 1/4 NPTF.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Seals: Nitrile.
Valve: Brass.
Valve Cap: Nylon.
Cap Color: Gold standard; optional gray, yellow, red, blue.
Threads: NPT standard, BSPP, SAE.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

FULL-SIZE High-Relief Remote Pilot Regulators

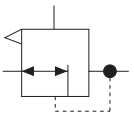
Ports: 1/4, 3/8, 1/2, 3/4
Flow to 150 scfm



High-Relief regulators separate control air from exhaust air.

FEATURES:
- Modular or inline mounting
- Diaphragm-type design
- Self-relieving
- Pressure gauge

ISO Symbol
Regulator

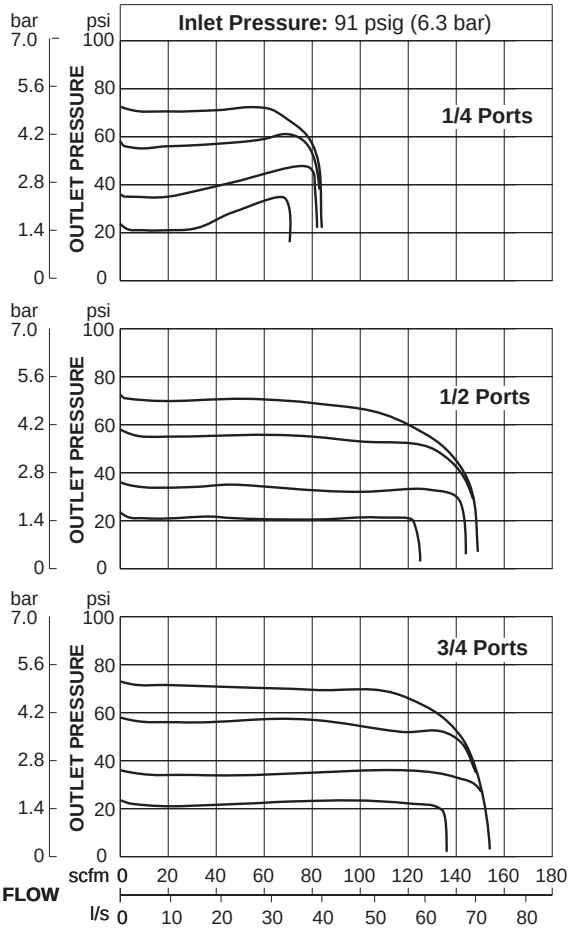


DIMENSIONS inches (mm)				Weight †
A	B	C	Depth †	lb (kg)
3.5 (89)	2.4 (62)	1.3 (33)	2.8 (71)	2.06 (0.92)

† Less gauge.

Port Size	Part Number
1/4	5X00B2037
3/8	5X00B3025
1/2	5X00B4040
3/4	5X00B5035

FLOW CHARTS



STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 175°F (4° to 79°C).
Body and Dome: Zinc.
Fluid Media: Compressed air.
Inlet Pressure: 300 psig (21 bar) maximum.
Outlet Pressure: Adjustable 0 to 200 psig (0 to 13.8 bar).
Pilot Ports: 1/4 NPTF.

Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Seals: Nitrile; optional Viton seals.
Valve: Brass.
Valve Cap: Nylon.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5X00B2037.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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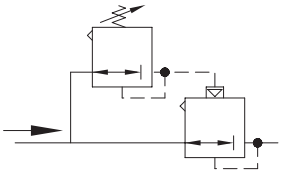
High-Relief Remote Pilot Regulators

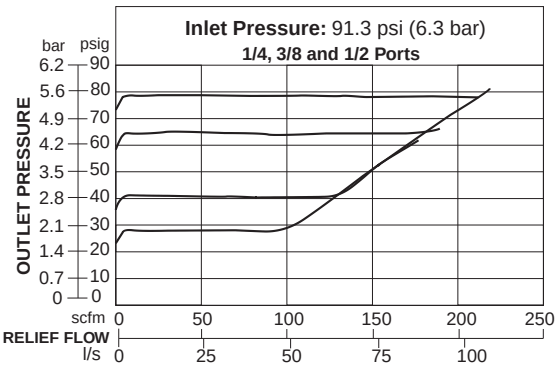
Ports: 1/4, 3/8, 1/2, 3/4, 1, 1¼
Flow to 400 scfm

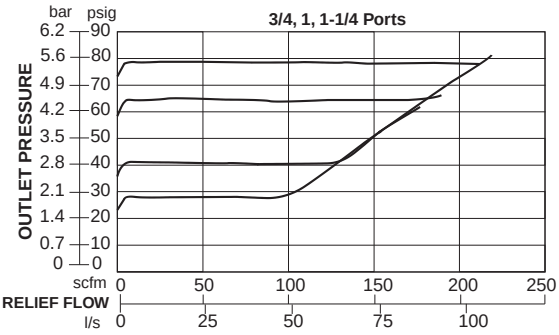
FEATURES:
- Inline mounting
- Diaphragm design
- High relief characteristics up to 200 scfm (94.4 l/s)
- Self-relieving
- Pressure gauge

ISO Symbol
With conventional pilot regulator
Self-Relieving

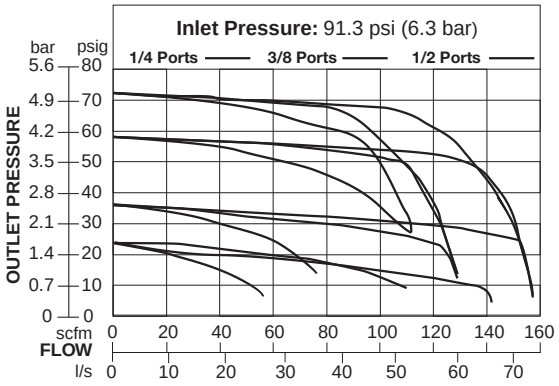


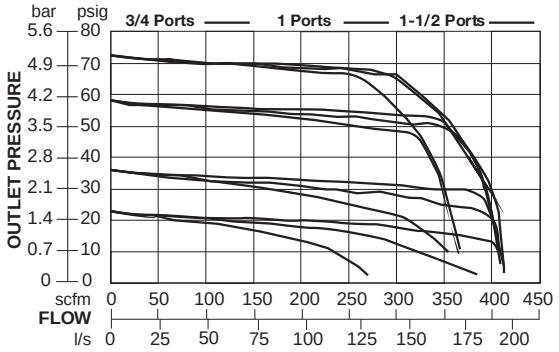
RELIEF CHARTS

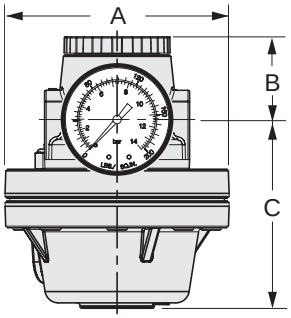




FLOW CHARTS







Port Size	Model Number	Air Flow scfm (l/s)	Dimensions inches (mm) A	B	C	Depth*	Weight lb (kg)
1/4	5216A2007	100 (47.2)	4.18 (106)	1.54 (39.1)	3.52 (89.3)	4.18 (106)	4.84 (2.2)
3/8	5216A3007	120 (56.6)	4.18 (106)	1.54 (39.1)	3.52 (89.3)	4.18 (106)	4.84 (2.2)
1/2	5216A4007	150 (70.8)	4.18 (106)	1.54 (39.1)	3.52 (89.3)	4.18 (106)	4.84 (2.2)
3/4	5216A5007	325 (153.4)	4.18 (117)	1.87 (47.5)	3.99 (101.3)	4.18 (106)	6.44 (3.0)
1	5216A6007	400 (188.8)	4.18 (117)	1.87 (47.5)	3.99 (101.3)	4.18 (106)	6.44 (3.0)
1¼	5216A7007	400 (188.8)	4.18 (117)	1.87 (47.5)	3.99 (101.3)	4.18 (106)	6.44 (3.0)

* Less Gauge.

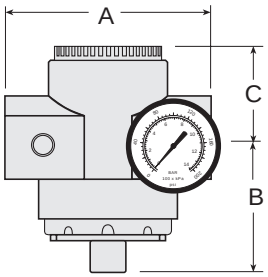
STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 0° to 158°F (-18° to 70°C).
Body and Dome: Zinc.
Fluid Media: Compressed Air.
Inlet Pressure: 400 psig (27.6 bar) Maximum.
Outlet Pressure: Adjustable up to 250 psig (17.2 bar).
Pressure Gauge: 0 to 200 psig (0 to 14 bar) standard, 1/4-NPTF (1/4 BSPP) gauge ports front and rear; 0 to 600 psig (0 to 40 bar) optional.

Pilot/Gauge Ports:
1/4-NPT Inlet/Outlet Ports, 1/4-NPT gauge Ports
3/8-NPT Inlet/Outlet Ports, 3/8-NPT gauge Ports
1/2-NPT Inlet/Outlet Ports, 1/2-NPT gauge Ports
3/4-NPT Inlet/Outlet Ports, 1/2-NPT gauge Ports
1-NPT Inlet/Outlet Ports, 1/2-NPT gauge Ports
1¼-NPT Inlet/Outlet Ports, 1/2-NPT gauge Ports
Seals: Nitrile.
Valve: Brass. **Valve Cap:** Glass filled Nylon.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5216A2007.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

HIGH-CAPACITY High-Relief Remote Pilot Regulators

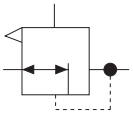
Ports: 3/4, 1, 1¼, 1½
Flow to 700 scfm



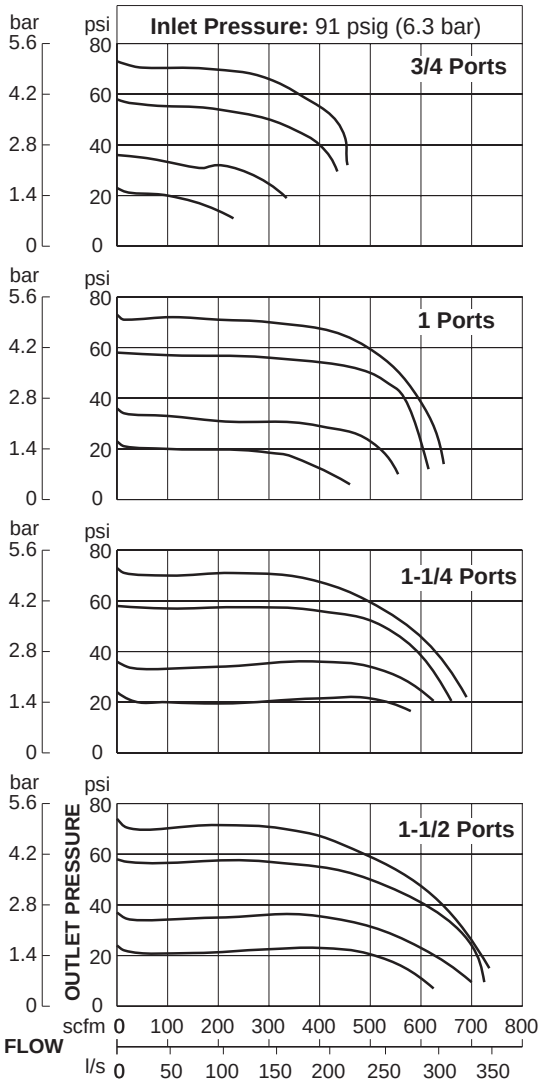
High-Relief regulators separate control air from exhaust air.

FEATURES:
- Inline mounting
- Diaphragm-type design
- Self-relieving
- Pressure gauge

ISO Symbol Regulator



FLOW CHARTS



Port Size	DIMENSIONS inches (mm) A	B	C	Depth †	Weight † lb (kg)
3/4, 1	4.4 (111)	4.6 (112)	2.4 (62)	2.8 (71)	1.88 (0.85)
1¼, 1½	4.9 (124)	5.1 (129)	2.1 (54)	2.8 (71)	2.25 (1.02)

† Less gauge.

Port Size	Air Flow scfm (l/s)	Part Number
3/4	400 (188.8)	5X00B5046
1	550 (259.6)	5X00B6039
1¼	600 (283.2)	5X00B7021
1½	650 (306.8)	5X00B8049

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 175°F (4° to 79°C).
Body: Aluminum.
Dome: Zinc.
Fluid Media: Compressed air.
Inlet Pressure: 300 psig (20.7 bar) maximum.
Outlet Pressure: 0 to 200 psig (0 to 13.8 bar).
Pilot Ports: 1/4 NPTF.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Seals: Nitrile.
Valve: Brass.
Valve Cap: Nylon.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5X00B5046.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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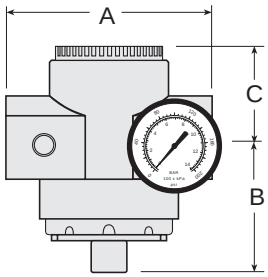
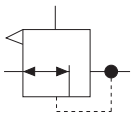
HIGH-CAPACITY Remote Pilot Regulators

Ports: 3/4, 1, 1¼, 1½
Flow to 740 scfm



FEATURES:
- Inline mounting
- Diaphragm-type design
- Self-relieving
- Pressure gauge

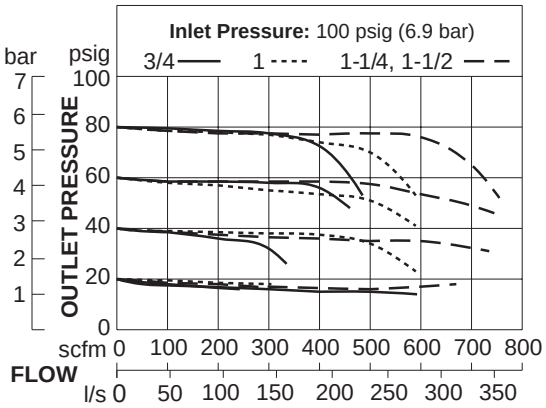
ISO Symbol
Regulator



Port Size	DIMENSIONS inches (mm) A	B	C	Depth †	Weight † lb (kg)
3/4, 1	4.4 (111)	4.6 (112)	2.4 (62)	2.8 (71)	1.88 (0.85)
1¼, 1½	4.9 (124)	5.1 (129)	2.1 (54)	2.8 (71)	2.25 (1.02)

† Less gauge.

FLOW CHART



Port Size	Air Flow scfm (l/s)	Part Number
3/4	400 (188.8)	5211D5006
1	500 (236.0)	5211D6007
1¼	600 (283.2)	5211D7007
1½	600 (283.2)	5211D8007

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature: 40° to 175°F (4° to 79°C).

Body: Aluminum.

Dome: Zinc.

Fluid Media: Compressed air.

Inlet Pressure: 300 psig (20.7 bar) maximum.

Outlet Pressure: 0 to 200 psig (0 to 13.8 bar).

NOTE: Outlet pressure depends on the adjustment of the pilot regulator.

Pilot Ports: 1/4 NPTF.

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

Seals: Nitrile.

Valve: Brass.

Valve Cap: Nylon.

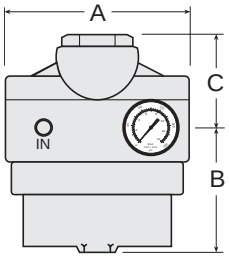
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5211D5006.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

HIGH-CAPACITY Remote Pilot Regulators

Ports: 1½, 2 & 3
Flow to 4000 scfm

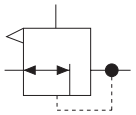
Port Size 1½ & 2



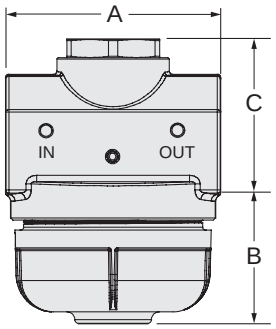
FEATURES:

- Inline mounting
- Piston-type design
- Self-relieving
- Pressure gauge

ISO Symbol Regulator



Port Size 3

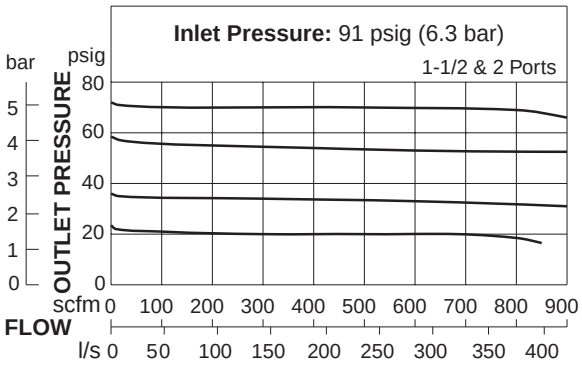


Port Size	DIMENSIONS inches (mm) A	B	C	Depth †	Weight † lb (kg)
1½, 2	6.4 (162)	5.0 (127)	3.0 (76)	2.8 (71)	8.94 (4.06)
3	8.4 (214)	7.36 (187)	3.74 (95)	8.0 (203)	21.77 (9.88)

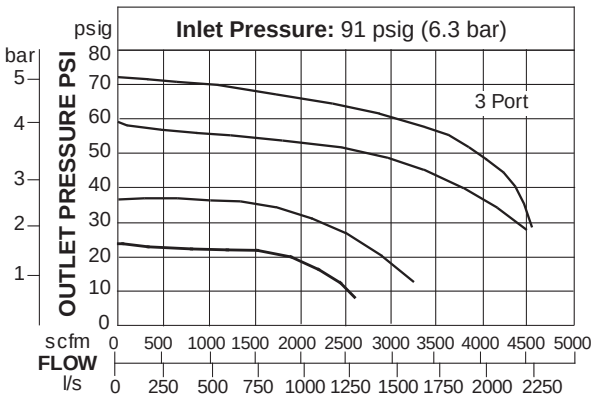
† Less gauge.

Port Size	Air Flow scfm (l/s)	Model Number
1½	850 (401.1)	5211B8027
2	850 (401.1)	5211B9007
3	4000 (1887.8)	5211B9008 – Nitrile Seals
3	4000 (1887.8)	5X00B9021 – Viton Seals

FLOW CHART



FLOW CHART



STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature: 40° to 175°F (4° to 79°C).

Body and Dome: Aluminum.

Fluid Media: Compressed air.

Inlet Pressure: 300 psig (20.7 bar) maximum.

Outlet Pressure: 0 to 200 psig (0 to 13.8 bar).

NOTE: Outlet pressure depends on the selection of the pilot regulator.

Pilot Ports: 1/4 NPTF.

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

Seals: Nitrile; optional Viton.

Valve: 1½" to 2" Ports - Brass; 3" Port - Aluminum.

Valve Cap: Aluminum.

Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5211B8027.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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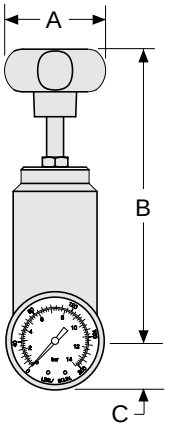
HIGH-PRESSURE Regulators

Ports: 1/8, 1/4 & 3/8
Flow to 70 scfm



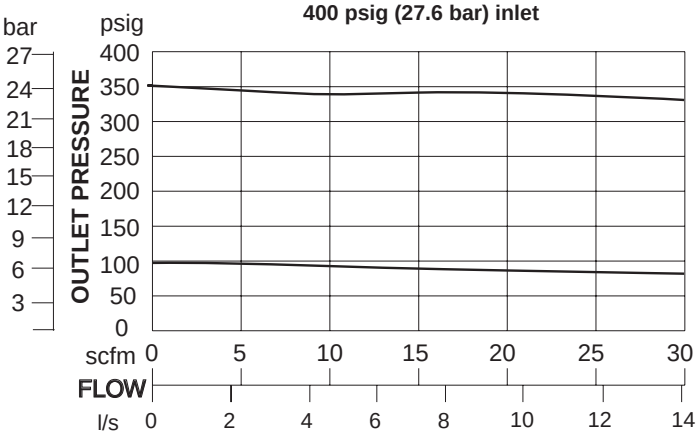
FEATURES:
- Inline mounting
- Piston-type design
- Self-relieving, optional non-relieving
- Pressure adjustment locking feature
- Pressure gauge

Port Size	DIMENSIONS inches (mm) A	B	C	Depth †	Weight † lb (kg)
1/8	1.9 (47)	7.3 (186) max	0.4 (10)	1.9 (47)	1.15 (0.53)
1/4	1.9 (47)	7.3 (186) max	0.4 (10)	1.9 (47)	1.15 (0.53)
3/8	2.1 (54)	7.4 (188) max	0.5 (13)	2.1 (54)	1.30 (0.59)

† Less gauge.

FLOW CHART

Using a 0-400 psig (0 to 27.6 bar) main spring and 400 psig (27.6 bar) inlet



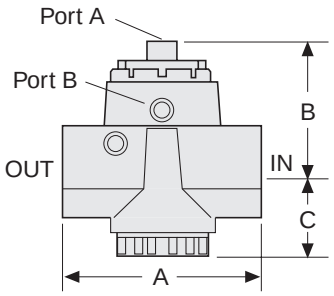
Port Size	Model Number*	Piston Type	Seals	Gauge
1/8	5215B1004	Relieving	Viton	Yes
1/8	5X00B1025	Non-relieving	Viton	Yes
1/4	5215B2004	Relieving	Viton	Yes
1/4	5X00B2076	Non-relieving	Viton	Yes
3/8	5215B3004	Relieving	Viton	Yes
3/8	5X00B3052	Non-relieving	Viton	Yes

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 175°F (4° to 79°C).
Body and Dome: Aluminum.
Knob: Nylon.
Fluid Media: Compressed air.
Inlet Pressure: 400 psig (27.6 bar) maximum.
Outlet Pressure: Adjustable up to 390 psig (26.9 bar).
Pressure Gauge: 0 to 600 psig (0 to 40 bar).
Seals: Viton.
Max Flow Rate: 70 scfm (33.0 l/s) @400 psi (27.6 bar).
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5215B1004.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

HIGH-FLOW Relief Valve

Port: 1
Flow to 450 scfm



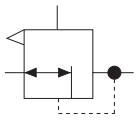
The High Flow Relief valve is designed to prevent the over-pressurization of pneumatic components and systems.

FEATURES:

- Inline mounting
- Diaphragm-type design
- Self-relieving
- Pressure gauge

ISO Symbol
Regulator

Self-Relieving



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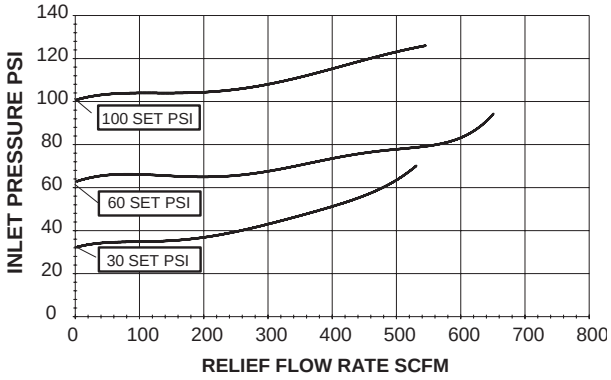


Model Number 5X00D6012

DIMENSIONS inches (mm)				Weight
A	**B**	**C**	**Depth**	lb (kg)
4.4 (111)	4.8 (122)	2.5 (62)	2.9 (72)	1.8 (0.8)

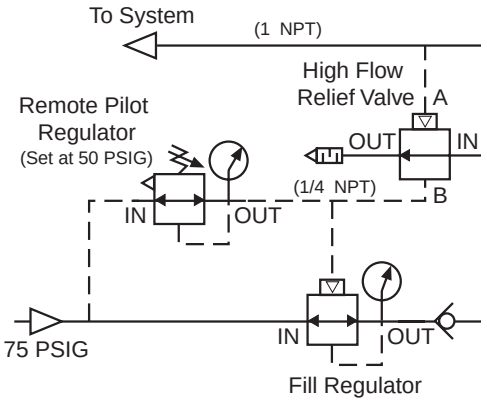
On the right is a typical circuit using the High Flow Relief Valve. The circuit utilizes a remotely piloted "fill" regulator (port size 1 NPT) and a small, remotely mounted, pilot regulator with 1/4 NPT ports.

The required system pressure is set by adjusting the knob on the pilot regulator until the desired system pressure is shown on the pilot regulator's gauge. An example system pressure of 50 PSIG was selected in the circuit on the right.

Outlet pressure from the pilot regulator is sent to the fill regulator's signal port and the Port 2 of the High Flow Relief Valve. The Port 1 of the High Flow Relief Valve is connected to the system, as shown, to monitor system pressure.

If the system pressure exceeds the pilot regulator setting (set-point), the High Flow Relief Valve will begin to exhaust air after an approximate 2 psig (0.1 bar) rise above the set-point.

Should the system pressure drop below the set-point, the fill valve will open to supply air downstream and maintain the system at the set-point.



STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature: 40° to 175°F (4° to 79°C).
Body: Aluminum.
Dome: Zinc.
Fluid Media: Compressed air.
Inlet Pressure: 200 psig (13.8 bar) maximum.
Outlet Pressure: 0 to 200 psig (0 to 13.8 bar).
Pilot Ports: 1/4 NPTF.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Seals: Nitrile.
Valve: Brass.
Valve Cap: Nylon.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5X00D6012.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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INTEGRATED FILTER/REGULATOR

Instructional Information

The integration of a general purpose filter and a pressure regulator into a single module provides the compactness needed where space is limited.

These integrated filter/regulators are offered by ROSS 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 micron ratings.

MODULAR or INLINE MOUNTING

Integrated 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.

MINIATURE FILTER/REGULATORS

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

BANTAM 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.

MID-SIZE 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.

MID-SIZE FILTER/REGULATORS

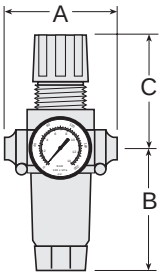
Port sizes 1/4, 3/8, and 1/2.
Standard polycarbonate plastic filter bowl has a zinc die-cast shatterguard. A zinc bowl is optionally available. Regulator is a self-relieving piston type; non-relieving also available.

MD4™ 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 impede tampering.

BANTAM Modular Integrated Filter/Regulator

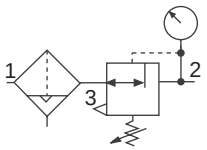
Ports: 1/8 & 1/4
Flow to 24 scfm
Tube Fittings



FEATURES:

- 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-micron rated polyethylene filter element
- High-strength polycarbonate plastic filter bowl; optional metal bowl
- Internal automatic drain; optional manual drain
- Piston-type regulator diaphragm-type
- Self-relieving regulator; optional non-relieving
- Pressure gauge

ISO Symbol
Filter/Regulator
Automatic Drain
Self-relieving



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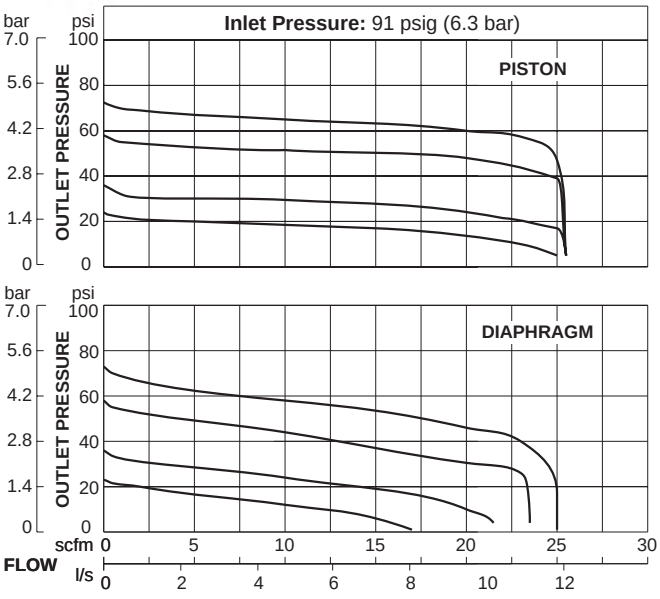

Port Size	DIMENSIONS inches (mm) A	B*	C	Depth †	Weight † lb (kg)
No Port	1.7 (43)	3.6 (92)	2.6 (67)	1.8 (45)	0.31 (0.15)
1/8, 1/4	3.0 (76)	3.6 (92)	2.6 (67)	1.8 (45)	0.53 (0.24)
Models below have quick-connect fittings for tubing.					
1/4	3.4 (86)	3.6 (92)	2.6 (67)	1.8 (45)	0.51 (0.23)
3/8	3.9 (99)	3.6 (92)	2.6 (67)	1.8 (45)	0.51 (0.23)
4 mm	3.4 (86)	3.6 (92)	2.6 (67)	1.8 (45)	0.51 (0.23)
6 mm	3.4 (86)	3.6 (92)	2.6 (67)	1.8 (45)	0.51 (0.23)
8 mm	3.1 (79)	3.6 (92)	2.6 (67)	1.8 (45)	0.51 (0.23)
10 mm	3.9 (99)	3.6 (92)	2.6 (67)	1.8 (45)	0.51 (0.23)

*Dimension with plastic filter bowl; with metal bowl is 3.8 (97).
† Less gauge.

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 150°F (4° to 66°C).
Body, Dome and Knob: Acetal.
Bowl: 2-ounce (60-ml) capacity polycarbonate plastic; optional aluminum bowl.
Filter Drain: Internal automatic drain; optional manual drain.
Filter Element: 5-micron rated polyethylene.
Fluid Media: Compressed air.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Outlet Pressure: Adjustable up to 100 psig (6.9 bar).
Pressure Gauge: 0 to 160 psig (0 to 11.0 bar); 1/8 NPT gauge ports front and rear.
Panel Mounting: 1-3/16 inch (30 mm) hole required.
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5D01C0110.

CONSOLIDATED FILTER & REGULATOR (piston type)

Port Size	Automatic Drain Models: Plastic Bowl	Automatic Drain Models: Metal Bowl	Manual Drain Models: Plastic Bowl	Manual Drain Models: Metal Bowl
THREADED (Piston Type)				
1/8	5D01C0110	5D01C0210	5D01C0310	5D01C0410
1/4	5D02C0110	5D02C0210	5D02C0310	5D02C0410
FITTINGS FOR TUBING				
1/4	5D03C0110	5D03C0210	5D03C0310	5D03C0410
3/8	5D04C0110	5D04C0210	5D04C0310	5D04C0410
4mm	5D05C0110	5D05C0210	5D05C0310	5D05C0410
6mm	5D06C0110	5D06C0210	5D06C0310	5D06C0410
8mm	5D07C0110	5D07C0210	5D07C0310	5D07C0410
10mm	5D08C0110	5D08C0210	5D08C0310	5D08C0410
FITTINGS FOR TUBING (Diaphragm Type)				
1/4	5D03C0120	5D03C0220	5D03C0320	5D03C0420
3/8	5D04C0120	5D04C0220	5D04C0320	5D04C0420
4mm	5D05C0120	5D05C0220	5D05C0320	5D05C0420
6mm	5D06C0120	5D06C0220	5D06C0320	5D06C0420
8mm	5D07C0120	5D07C0220	5D07C0320	5D07C0420
10mm	5D08C0120	5D08C0220	5D08C0320	5D08C0420

REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	Kit Number
0.5-µm polyethylene - Standard	933K77

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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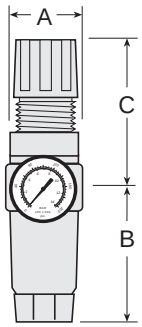
MINIATURE Integrated Filter/Regulator

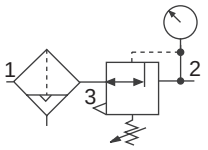
Ports: 1/8 & 1/4
Flow to 24 scfm



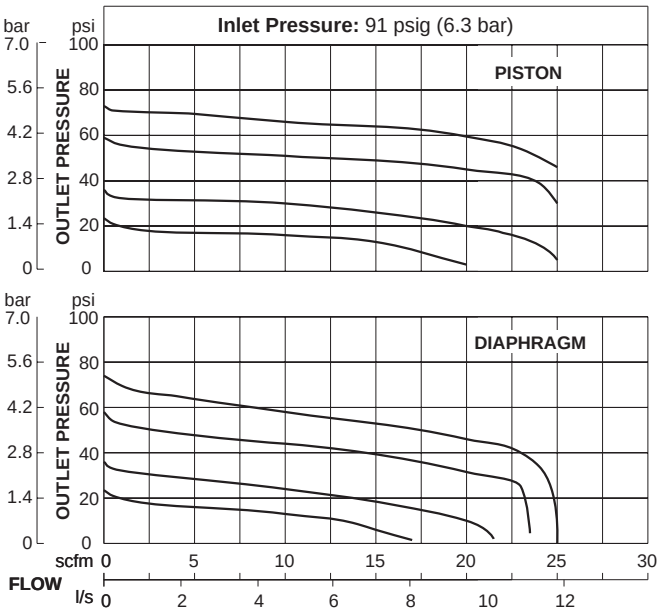
FEATURES:

- Filter and regulator consolidated in a single assembly
- Inline mounting
- 5-micron 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 or diaphragm-type
- Self-relieving regulator; non-relieving optional
- Pressure gauge
- Regulator adjusting knob removable for tamper-resistance

ISO Symbol
Filter/Regulator
Automatic Drain
Self-relieving



FLOW CHARTS



Bowl	Ports	DIMENSIONS inches (mm) A	B	C	Depth †	Weight † lb (kg)
Plastic	1/8, 1/4	1.6 (41)	3.6 (92)	2.6 (65)	1.6 (41)	0.53 (0.24)
Metal	1/8, 1/4	1.6 (41)	4.3 (109)	2.6 (65)	1.6 (41)	0.53 (0.24)

† Less gauge.

Port Size	Automatic Drain Models: Plastic Bowl	Automatic Drain Models: Metal Bowl	Manual Drain Models: Plastic Bowl	Manual Drain Models: Metal Bowl
CONSOLIDATED FILTER & REGULATOR (piston type)				
1/8	5321C1032	5322C1031	5321C1002	5322C1001
1/4	5321C2032	5322C2031	5321C2002	5322C2001
CONSOLIDATED FILTER & REGULATOR (diaphragm type)				
1/8	5321C1042	5322C1041	5321C1022	5322C1021
1/4	5321C2042	5322C2041	5321C2022	5322C2021

REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	Kit Number
5-µm polyethylene - Standard	933K77

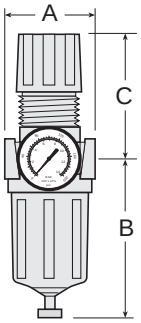
STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 150°F (4° to 66°C).
Body: Aluminum.
Bowl: 2-ounce (60-ml) capacity polycarbonate plastic; optional aluminum bowl.
Dome and Knob: Acetal.
Filter Drain: Internal automatic drain; optional manual drain.
Filter Element: 5-micron rated polyethylene.
Fluid Media: Compressed air.

Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Outlet Pressure: Adjustable up to 100 psig (6.9 bar).
Pressure Gauge: 0 to 160 psig (0 to 11.0 bar); 1/8 NPT gauge ports front and rear.
Panel Mounting: 1-3/16 inch (30 mm) hole required.
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5321C1032.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

MID-SIZE Modular Integrated Filter/Regulator

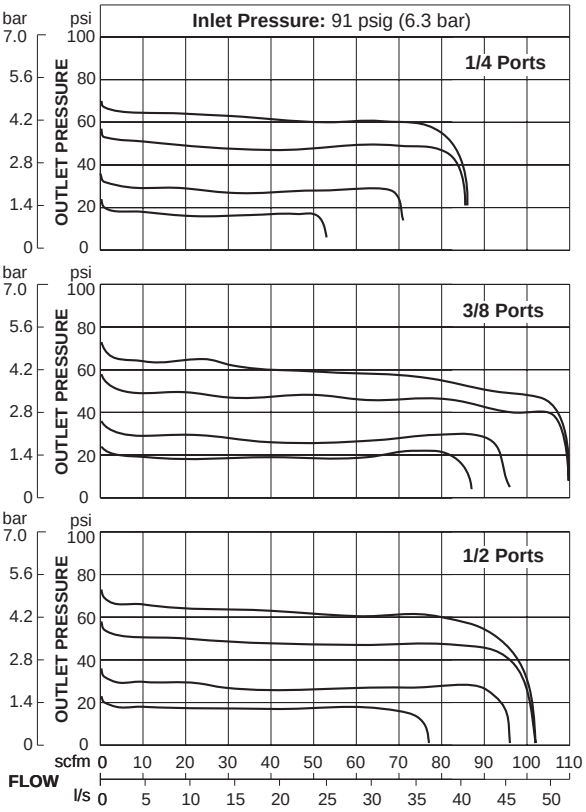
Ports: 1/4, 3/8, 1/2
Flow to 105 scfm



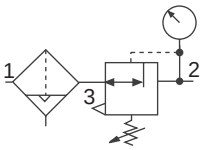
FEATURES:

- Filter and regulator consolidated in a single assembly
- Modular or inline mounting
- 5-micron rated polyethylene filter element
- 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
- Adjusting knob removable for tamper resistance

FLOW CHARTS



ISO Symbol
Filter/Regulator
Automatic Drain
Self-relieving



Bowl	DIMENSIONS inches (mm) A	B*	C**	Depth †	Weight † lb (kg)
Polycarbonate	2.7 (68)	4.6 (116)	3.3 (83)	2.4 (60)	1.44 (0.65)
Metal	2.7 (68)	4.9 (123)	3.3 (83)	2.4 (60)	1.50 (0.68)

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

CONSOLIDATED FILTER & REGULATOR

Port Size	Automatic Drain Models: Plastic Bowl	Automatic Drain Models: Metal Bowl	Manual Drain Models: Plastic Bowl	Manual Drain Models: Metal Bowl
1/4	5321B2052	5322B2051	5321B2062	5322B2061
3/8	5321B3052	5322B3051	5321B3062	5322B3061
1/2	5321B4052	5322B4051	5321B4062	5322B4061

REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	Kit Number
5-µm polyethylene - Standard	936K77

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate 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.
Dome and Knob: Acetal.
Filter Drain: Internal automatic drain; optional manual drain.
Filter Element: 5-micron rated polyethylene.
Fluid Media: Compressed air.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Outlet Pressure: Adjustable up to 100 psig (6.9 bar).
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Panel Mounting: 1-9/16 inch (40 mm) hole required.
Seals: Nitrile.
Threads: NPT standard, BSPP, SAE. For BSPP threads, add a "C" prefix to the model number, e.g., C5321B2052.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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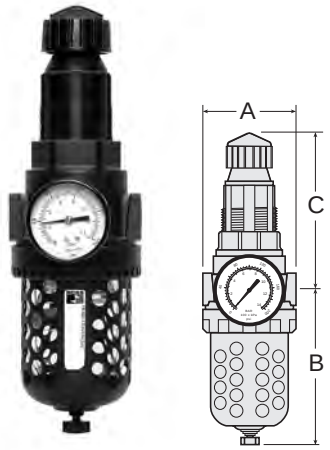
FULL-SIZE Integrated Filter/Regulator

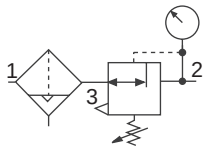
Ports: 1/4, 3/8, 1/2, 3/4
Flow to 180 scfm



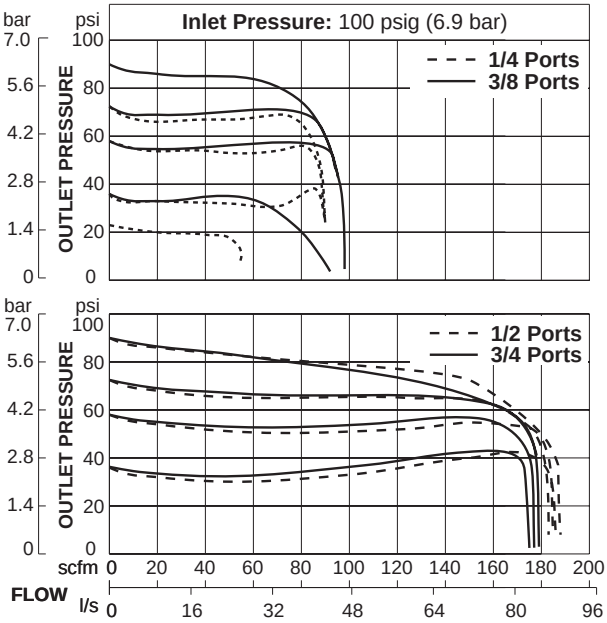
FEATURES:

- Filter and regulator consolidated in a single assembly
- Modular assembly and mounting
- 5-micron rated polyethylene filter element
- High-strength polycarbonate plastic filter bowl with steel shatterguard; optional metal bowl with clear nylon sight glass
- Internal automatic drain; optional manual drain or external automatic drain
- Self-relieving diaphragm-type regulator; optional non-relieving
- Pressure adjustment locking key
- Pressure gauge

ISO Symbol
Filter/Regulator
Automatic Drain
Self-relieving



FLOW CHARTS



Bowl	DIMENSIONS inches (mm) A	B *	C **	Depth †	Weight † lb (kg)
Polycarbonate	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.

CONSOLIDATED FILTER & REGULATOR

Port Size	Air Flow scfm (l/s)	Automatic Drain Models: Plastic Bowl	Automatic Drain Models: Metal Bowl	Manual Drain Models: Plastic Bowl	Manual Drain Models: Metal Bowl
1/4	80 (38)	5321B2072	5322B2071	5321B2012	5322B2011
3/8	90 (42)	5321B3072	5322B3071	5321B3012	5322B3011
1/2	170 (80)	5321B4072	5322B4071	5321B4012	5322B4011
3/4	180 (85)	5321B5072	5322B5071	5321B5012	5322B5011

REPLACEMENT FILTER ELEMENT KIT

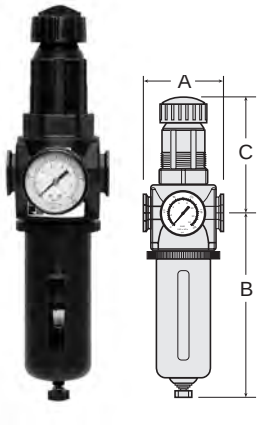
Element Rating/Type	Kit Number
5-µm polyethylene - Standard	939K77

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal Bowl: 40° to 175°F (4° to 79°C).
Body: Zinc.
Bowl: 8-ounce (240-ml) capacity polycarbonate plastic with steel shatterguard; optional zinc bowl with clear nylon sight glass.
Dome: Nylon.
Filter Drain: Internal automatic drain; optional manual drain or external automatic drain.
Filter Element: 5-micron rated polyethylene.
Fluid Media: Compressed air.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Knob: Acetal.
Outlet Pressure: Adjustable up to 125 psig (8.6 bar).
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Panel Mounting: 2-1/16 inch (52 mm) hole required.
Seals: Nitrile.
Threads: NPT standard, BSPP, SAE. For BSPP threads, add a "C" prefix to the model number, e.g., C5321B2072.

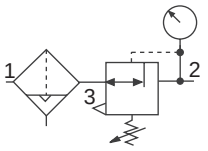
IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

MD4™ Modular Integrated Filter/Regulator

Ports: 3/8, 1/2, 3/4
Flow to 230 scfm

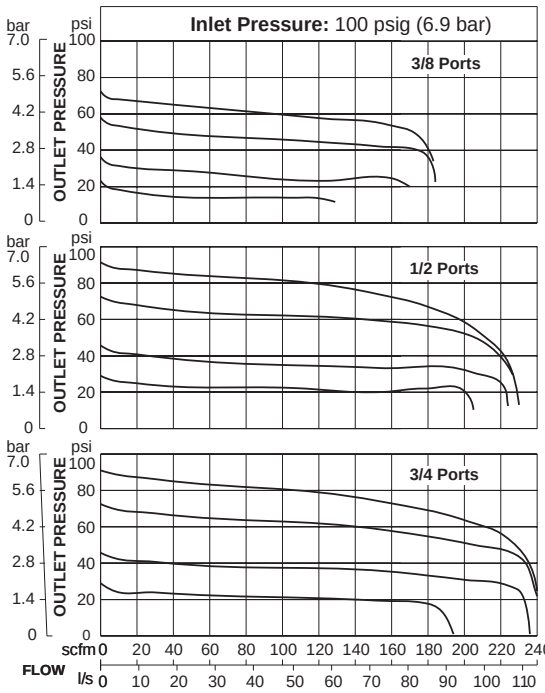


ISO Symbol
Filter/Regulator
Automatic Drain
Self-relieving



FEATURES:
- Filter and regulator consolidated into a single space-saving assembly
- Modular or inline mounting
- Pressure gauge included; two gauge ports
- Add on L-O-X® valve – optional
- 5-micron rated polyethylene filter element; optional 40-micron element
- Polycarbonate plastic bowl with steel shatterguard; optional metal bowl with sight glass
- Internal automatic drain; optional manual drain and other drain types
- Self-relieving diaphragm-type regulator; optional non-relieving
- Pressure adjustment locking key; tamper-resistant pressure setting

FLOW CHARTS



Bowl	DIMENSIONS inches (mm) 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.

REPLACEMENT FILTER ELEMENT KITS

Element Rating/Type	Kit Number
5-µm polyethylene - Standard	R-A115-106PE5
40-µm	R-A115-106PE3

HOW TO ORDER

MD4 53P B A B 5 B B –

BOWL SIZE
53P - 9 oz Polycarbonate Bowl
53M - 9 oz Metal Bowl

ELEMENT TYPE
A - 40 Micron
B - 5 Micron (standard)

BOWL DRAIN
A - Auto Drain
M - Manual Drain
E - Electronic Drain - available in metal bowl drain version only
H - Automatic External Drain - available in metal bowl version only

PIPE SIZE
3 - 3/8 NPTF
4 - 1/2 NPTF
5 - 3/4 NPTF
C - 3/8 BSPP
D - 1/2 BSPP
E - 3/4 BSPP
F - 3/4-16 SAE
G - 7/8-14 SAE

ADJUSTMENT RANGE
A - 0-175 psig (0-12.1 bar)
B - 0-125 psig (0-8.6 bar),standard
C - 0-50 psig (0-3.4 bar)
D - 0-20 psig (0-1.4 bar)

GAUGE
A - No Gauge
B - 0-200 psig (0-14 bar)
C - 0-60 psig (0-4 bar)
D - No Gauge with Panel Mount Nut
E - 0-200 psig (0-14 bar) Gauge with Panel Mount Nut
F - 0-60 psig (0-4 bar) Gauge with Panel Mount Nut

ADD ON L-O-X®
1 - Outlet Side
2 - Inlet Side
3 - L-O-X® with EEZ-ON® on Outlet Side
4 - L-O-X® with EEZ-ON® on Inlet Side
- Blank for no L-O-X®

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 79°C).
Body: Zinc.
Bonnet: Nylon; aluminum with optional 0 to 175 psig (0 to 12.1 bar) 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 other drain types.
Fluid Media: Compressed air.
Filter Element: 5-micron rated polyethylene; optional 40-micron.

Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 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 (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Panel Mounting: 2.05-inch (52.1-mm) hole required.
Seals: Nitrile. **Valve:** Brass. **Cap Color:** Black.
Threads: NPT, BSPP, SAE.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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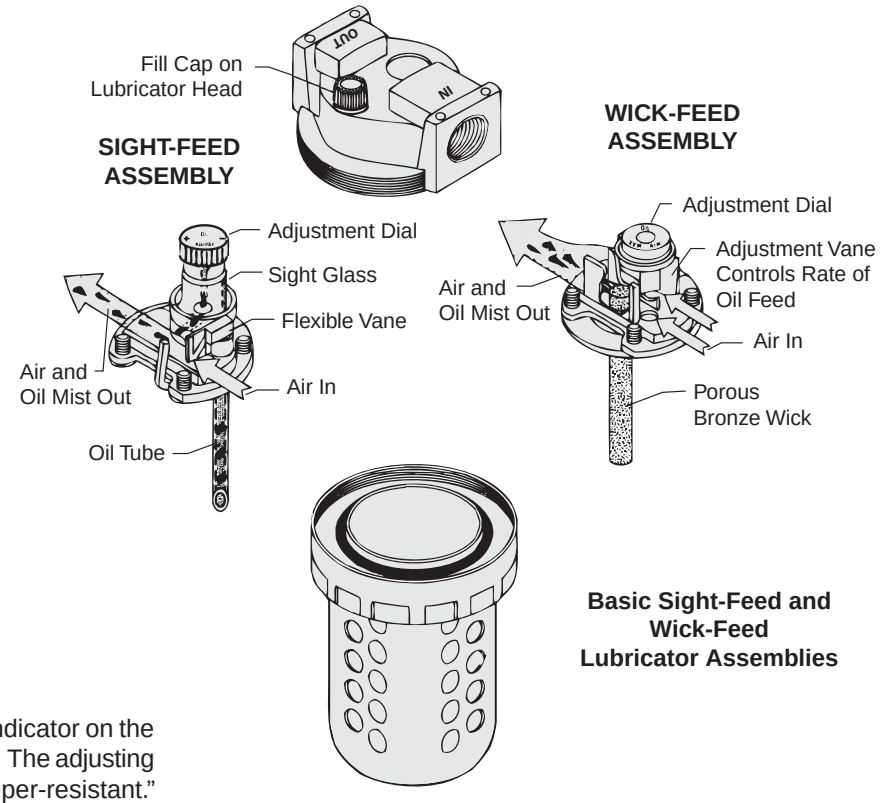
AIR LINE LUBRICATOR Instructional Information

LUBRICATOR FUNCTION

Air line lubricators are designed to introduce atomized oil into the air line so that downstream mechanisms can be adequately lubricated. Lubricators should be adjusted so that the minimum amount of oil to lubricate the equipment is used.

There are two basic designs used in ROSS lubricators: *sight-feed* design and *wick-feed* design. Illustrations of these two types of assembly are shown on the right.



Basic Sight-Feed and Wick-Feed Lubricator Assemblies

SIGHT-FEED LUBRICATORS

Air flows through a flexible-vane automatic flow sensor that creates a small pressure differential between the air passage and the oil reservoir. This differential causes oil to move up a riser tube, through an adjustable metering valve, and then to drip into a transparent dome and the air stream. This oil is "atomized" by the air stream, and carried down the air line to the points of lubrication.

Sight-feed lubricators are easy to adjust and an indicator on the sight dome measures the amount of oil dispensed. The adjusting knob can be removed to make the lubricator "tamper-resistant." All working parts are in an easily replaceable cartridge.

WICK-FEED LUBRICATORS

In a wick-feed lubricator, one end of a porous bronze wick is saturated with oil in the reservoir. Capillary action causes the oil to travel up the wick. Oil is stripped off the upper portion of the wick by the air flow, and maintains a constant oil-to-air ratio. This ratio can be varied by manual adjustment. Units will not shut off, even with dirt and moisture in the reservoir. However, air must be shut off when filling the reservoirs of these models.

MODULAR or INLINE MOUNTING

ROSS lubricators are of modular design. They are connected to other units by special modular connectors which seal the faces between units. They may also be inline mounted with pipe nipples. MINIATURE and HIGH-CAPACITY lubricators are inline mounted only.

BANTAM LUBRICATORS

Port sizes 1/8 and 1/4 or fittings for tubing up to 10 mm. Wick-feed design and modular assembly. Made of durable, corrosion-resistant acetal. Polycarbonate or aluminum bowl. Air flow to 25 scfm (11.8 l/s). 2-ounce (60-ml) bowl capacity.

MINIATURE LUBRICATORS

Port sizes 1/8 and 1/4. Wick-feed design and inline mounting only. Aluminum head with polycarbonate or aluminum bowl. Air flow to 25 scfm (11.8 l/s). 2-ounce (60-ml) bowl capacity. Special low-flow models are designed to deliver oil in situations where air flow is less than 1 scfm (0.5 l/s).

MID-SIZE LUBRICATORS

Port sizes 1/4, 3/8, 1/2. Sight-feed design and modular or inline mounting. Polycarbonate bowl with zinc die-cast shatterguard or zinc bowl. Air flow to 110 scfm (52.0 l/s). 4-ounce (120-ml) bowl capacity.

MD4™ LUBRICATORS

Port sizes 3/8, 1/2, 3/4. Sight-feed design and modular or inline mounting. Zinc head. Aluminum bowl with clear nylon sight glass. Air flow to 170 scfm (80.2 l/s). 9-ounce (270-ml) and 15-ounce (450-ml) bowls.

FULL-SIZE LUBRICATORS

Port sizes 1/4, 3/8, 1/2. Either wick-feed or sight-feed design; modular or inline mounting. Air flows up to 140 scfm (66.1 l/s). Zinc head. Polycarbonate bowl with steel shatterguard or zinc bowl. 8-ounce (240-ml) zinc bowls.

HIGH-CAPACITY LUBRICATORS

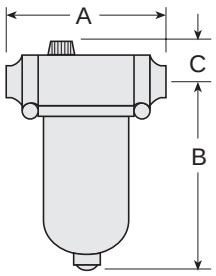
Port sizes 3/4 to 1½. Either wick-feed or sight-feed design; inline mounting only. Air flows up to 500 scfm (236.0 l/s). Aluminum head. Polycarbonate bowl with steel shatterguard or aluminum bowl. 16-ounce (480-ml), 35-ounce (1030-ml), or 62-ounce (1830-ml) bowls.

MD4™

Port sizes 3/8, 1/2, 3/4. Sight-feed design and modular or inline mounting. 9-ounce or 15-ounce capacity polycarbonate bowl with steel shatterguard; optional aluminum bowl with clear nylon sight glass. Air flow to 205 cfm (96.7 l/s).

BANTAM Modular Lubricators

Ports: 1/8 & 1/4 and Tube Fittings
Flow to 27 scfm

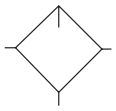


FEATURES:
- Modular assembly and mounting
- Threaded ports or quick-connect fittings for tubing up to 10 mm in diameter
- Wick-feed design

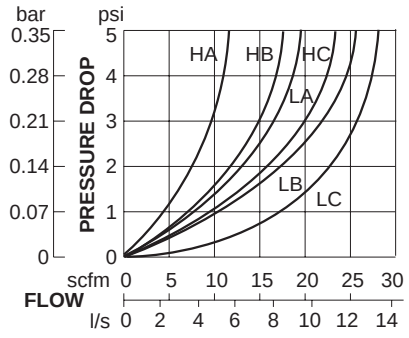
Port Size	DIMENSIONS inches (mm) A	B †	C	Depth	Weight lb (kg)
No Port	1.7 (43)	3.6 (91)	0.9 (22)	1.8 (45)	0.17 (0.08)
1/8, 1/4	3.0 (76)	3.6 (91)	0.9 (22)	1.8 (45)	0.37 (0.17)
Models below have quick-connect fittings for tubing.					
1/4	3.4 (86)	3.6 (91)	0.9 (22)	1.8 (45)	0.37 (0.17)
3/8	3.9 (99)	3.6 (91)	0.9 (22)	1.8 (45)	0.37 (0.17)
4 mm	3.4 (86)	3.6 (91)	0.9 (22)	1.8 (45)	0.37 (0.17)
6 mm	3.4 (86)	3.6 (91)	0.9 (22)	1.8 (45)	0.37 (0.17)
8 mm	3.1 (79)	3.6 (91)	0.9 (22)	1.8 (45)	0.37 (0.17)
10 mm	3.9 (99)	3.6 (91)	0.9 (22)	1.8 (45)	0.37 (0.17)

† Dimension with plastic filter bowl; with metal bowl is 3.8 (97).

ISO Symbol Lubricator



FLOW CHART



H: High Oil Delivery
L: Low Oil Delivery

A: Wick Up
B: Wick Down 1 Groove
C: Wick Down 2 Grooves

Inlet Pressure: 100 psig (6.9 bar)
Minimum Flow: 1 scfm (0.47 l/s)

Port Size	Air Flow scfm (l/s)	Models with Pipe Ports* Plastic Bowl	Metal Bowl	Models with Tube Fittings* Plastic Bowl	Metal Bowl
1/8	1-27 (0.5-12.7)	5B01B0005	5B01B0006	—	—
1/4	1-27 (0.5-12.7)	5B02B0005	5B02B0006	5B03B0005	5B03B0006
3/8	1-27 (0.5-12.7)	—	—	5B04B0005	5B04B0006
4mm	1-27 (0.5-12.7)	—	—	5B05B0005	5B05B0006
6mm	1-27 (0.5-12.7)	—	—	5B06B0005	5B06B0006
8mm	1-27 (0.5-12.7)	—	—	5B07B0005	5B07B0006
10mm	1-27 (0.5-12.7)	—	—	5B08B0005	5B08B0006

* To order a lubricator with quick-fill cap, add 2 to the last digit in the model number, e.g., model 5B01B0005 with quick-fill cap becomes model number 5B01B0007.

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 150°F (4° to 66°C).
Body: Acetal.
Bowl: 2-ounce (60-ml) capacity polycarbonate plastic; optional aluminum bowl.
Fluid Media: Compressed air.
Inlet Pressure:
Polycarbonate plastic bowl: 150 psig (10.3 bar) maximum.
Metal bowl: 200 psig (13.8 bar) maximum.
Oil Adjustment: External, no shutoff.
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5B01B0005.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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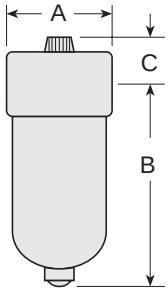
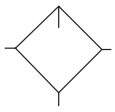
Ports: 1/8 & 1/4
Flow to 25 scfm



FEATURES:

- Inline mounting
- High-strength polycarbonate plastic bowl; optional aluminum bowl
- Low-flow models are designed to deliver oil in extremely low-flow less than 1 scfm (0.5 l/s) situations
- Wick-feed design in both high-flow and low-flow lubricators
- Internal tamper-resistant adjustment

ISO Symbol Lubricator



Bowl	DIMENSIONS inches (mm) A	B	C	Depth	Weight lb (kg)
Plastic	1.6 (41)	3.6 (91)	0.7 (17)	1.6 (41)	0.21 (0.10)
Metal	1.6 (41)	3.8 (97)	0.7 (17)	1.6 (41)	0.21 (0.10)

Model Numbers*

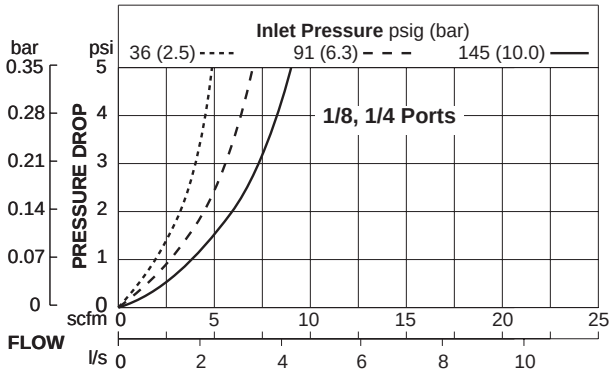
Port Size	Type	Plastic Bowl	Metal Bowl	Reservoir oz (ml)
1/8	High Flow	5111B1010	5112B1010	2.0 (59)
1/8	Low Flow	5111B1012	5112B1012	2.0 (59)
1/4	High Flow	5111B2010	5112B2010	2.0 (5.9)
1/4	Low Flow	5111B2012	5112B2012	2.0 (5.9)

*To order a lubricator with quick-fill cap, change the third digit from the end of the model number from "0" to "1," e.g., model 5111B1010 with quick-fill cap becomes model 5111B1110.

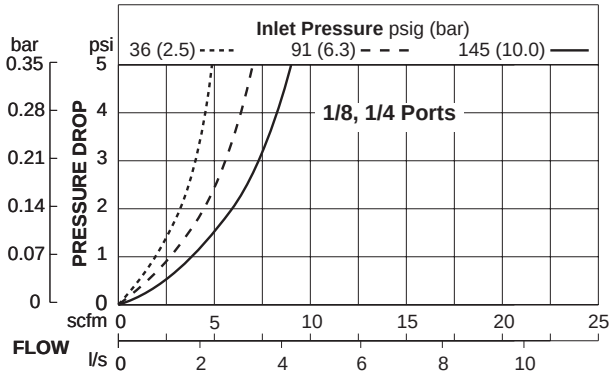
NOTE: See Compatible Lubricants and CAUTIONS about polycarbonate plastic bowls on page 80.

FLOW CHARTS

LOW FLOW MODELS



Minimum Flow: 1 scfm (0.47 l/s)



Minimum Flow: 1/8 port, 2 scfm (0.94 l/s)
1/4 port, 6 scfm (2.8 l/s)

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature:

Polycarbonate 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.

Fluid Media: Compressed air.

Inlet Pressure:

Polycarbonate plastic bowl: 150 psig (10.3 bar) maximum.

Metal bowl: 200 psig (13.8 bar) maximum.

Oil Adjustment: Internal, tamper-proof.

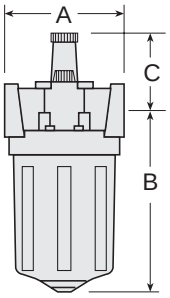
Seals: Nitrile.

Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5111B1010.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

MID-SIZE Modular Lubricators

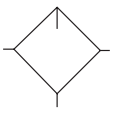
Ports: 1/4, 3/8, 1/2
Flow to 110 scfm



FEATURES:

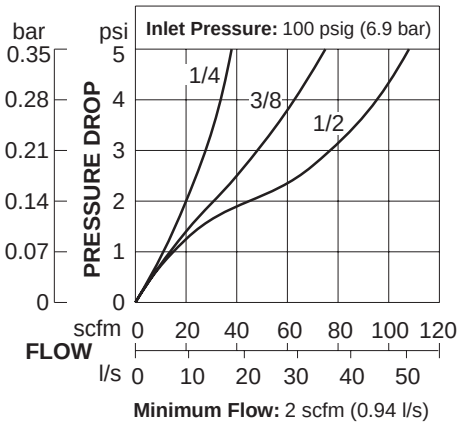
- Modular or inline mounting
- High-strength polycarbonate plastic bowl with zinc shatterguard; optional zinc bowl
- Sight-feed design
- External tamper-resistant adjustment

ISO Symbol
Lubricator



Bowl	DIMENSIONS inches (mm) A	B	C	Depth	Weight lb (kg)
Plastic	2.7 (68)	4.1 (103)	1.8 (46)	2.4 (60)	1.06 (0.48)
Metal	2.7 (68)	4.1 (103)	1.8 (46)	2.4 (60)	1.50 (0.68)

FLOW CHART



Minimum Flow: 2 scfm (0.94 l/s)

Port Size	Type	Air Flow scfm (l/s)	Model Numbers* Plastic Bowl	Model Numbers* Metal Bowl	Reservoir oz (ml)
1/4	Sight-feed	2-40 (1.0-18.9)	5111B2007	5112B2007	4.0 (118)
3/8	Sight-feed	2-75 (1.0-35.4)	5111B3007	5112B3007	4.0 (118)
1/2	Sight-feed	2-110 (1.0-51.9)	5111B4007	5112B4007	4.0 (118)

*To order a lubricator with quick-fill cap, change the third digit from the end of the model number from "0" to "1," e.g., model 5111B2007 with quick-fill cap becomes model 5111B2107.

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature:

Polycarbonate 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) polycarbonate plastic with zinc shatterguard; optional zinc bowl.

Fluid Media: Compressed air.

Inlet Pressure:

Polycarbonate plastic bowl: 150 psig (10.3 bar) maximum.

Metal bowl: 200 psig (13.8 bar) maximum.

Oil Adjustment: External, tamper-resistant.

Sight Dome: Nylon.

Seals: Nitrile.

Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5111B2007.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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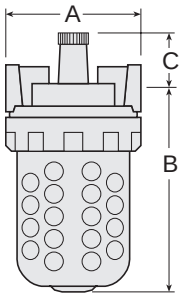
FULL-SIZE Lubricators

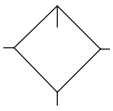
Ports: 1/4, 3/8, 1/2, 3/4
Flow to 140 scfm



FEATURES:

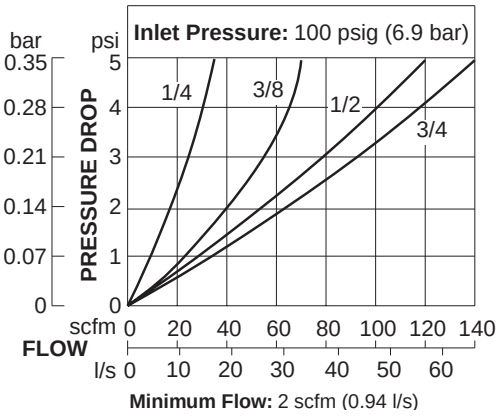
- Modular or inline mounting
- High-strength polycarbonate plastic bowl with steel shatterguard; optional zinc bowl with sight glass
- Sight-feed or wick-feed design
- External adjusting knob; removable for tamper resistance

ISO Symbol
Lubricator



Bowl	DIMENSIONS inches (mm) A	B	C	Depth	Weight lb (kg)
Sight-Feed Design					
Standard Plastic	3.5 (89)	5.2 (132)	1.3 (32)	3.5 (89)	2.06 (0.94)
Standard Metal	3.5 (89)	5.3 (135)	1.3 (32)	3.5 (89)	2.90 (1.32)
Wick-Feed Design					
Standard Plastic	3.5 (89)	5.2 (132)	0.7 (17)	3.5 (89)	2.25 (1.02)
Standard Metal	3.5 (89)	5.3 (135)	0.7 (17)	3.5 (89)	2.85 (1.30)

FLOW CHART



Minimum Flow: 2 scfm (0.94 l/s)

Port Size	Air Flow scfm (l/s)	Sight-feed Models* Plastic Bowl**	Sight-feed Models* Metal Bowl	Wick-feed Models* Plastic Bowl**	Wick-feed Models* Metal Bowl	Reservoir oz (ml)
1/4	35 (16.5)	5111B2008	5112B2008	—	—	8.0 (236.6)
1/4	35 (16.5)	—	—	5111B2014	5112B2014	8.0 (236.6)
3/8	68 (32.1)	5111B3008	5112B3008	—	—	8.0 (236.6)
3/8	68 (32.1)	—	—	5111B3014	5112B3014	8.0 (236.6)
1/2	120 (56.6)	5111B4008	5112B4008	—	—	8.0 (236.6)
1/2	120 (56.6)	—	—	5111B4014	5112B4014	8.0 (236.6)
3/4	140 (66.1)	5111B5008	5112B5008	—	—	8.0 (236.6)
3/4	140 (66.1)	—	—	5111B5014	5112B5014	8.0 (236.6)

*To order a lubricator with quick-fill cap, change the third digit from the end of the model number from "0" to "1," e.g., model 5111B2008 with quick-fill cap becomes model 5111B2108.

**Polycarbonate plastic bowl includes metal bowl guard.

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature:

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

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

Adjusting Knob: Acetal.

Body: Zinc.

Bowl: 8-ounce (236.6-ml) capacity polycarbonate plastic with steel shatterguard; optional zinc bowl with sight glass.

Bowl Ring: Aluminum.

Fluid Media: Compressed air.

Inlet Pressure:

Polycarbonate plastic bowl: 150 psig (10.3 bar) maximum.

Metal bowl: 200 psig (13.8 bar) maximum.

Oil Adjustment: External, tamper-resistant.

Sight Dome: Nylon. External, tamper-proof.

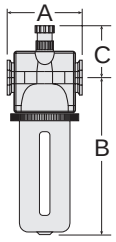
Seals: Nitrile.

Threads: NPT standard, BSPP, SAE. For BSPP threads, add a "C" prefix to the model number, e.g., C5111B2008.

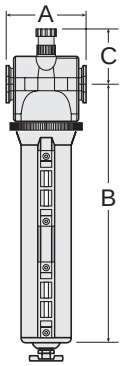
IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

MD4™ Modular Lubricators

Ports: 3/8, 1/2, 3/4
Flow to 205 scfm

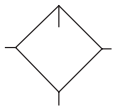


Standard Plastic Bowl

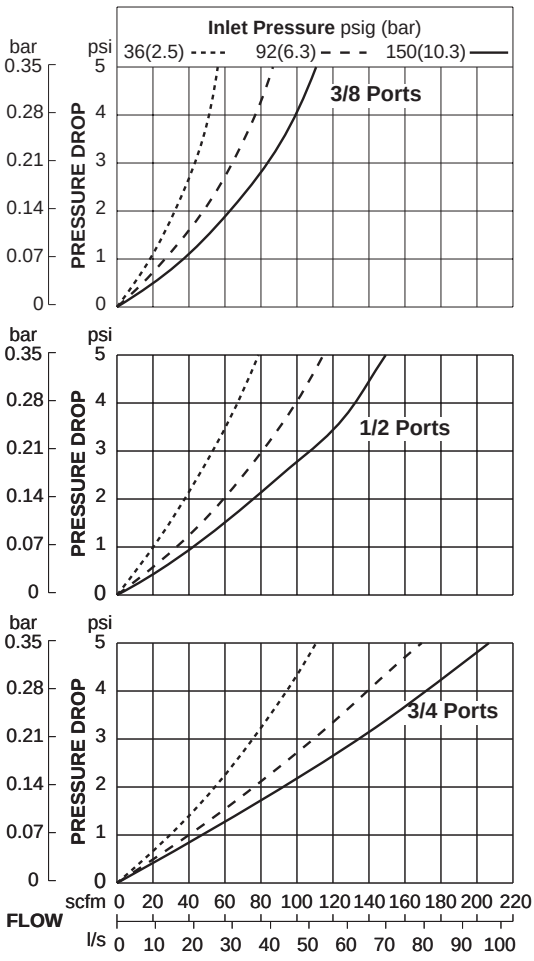


Extended Metal Bowl

ISO Symbol Lubricator



FLOW CHARTS



FEATURES:

- Modular or inline mounting
- Sight-feed design; transparent dome shows how much oil is being dispensed
- External adjusting knob, removable for tamper resistance
- Polycarbonate plastic bowl with steel shatterguard; optional aluminum bowl with sight glass
- Extended metal bowl – optional
- All working parts can be replaced with a single service cartridge

Bowl	DIMENSIONS inches (mm) A	B †	C	Depth	Weight lb (kg)
9-ounce Plastic	3.5 (88)	7.1 (179)	2.2 (56)	2.9 (73)	2.0 (0.91)
9-ounce Metal	3.5 (88)	7.4 (188)	2.2 (56)	3.1 (79)	2.0 (0.91)
Extended Metal	3.5 (88)	10.6 (269)	2.2 (56)	3.1 (79)	2.2 (1.00)

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

HOW TO ORDER

MD4 51P S B 5 2

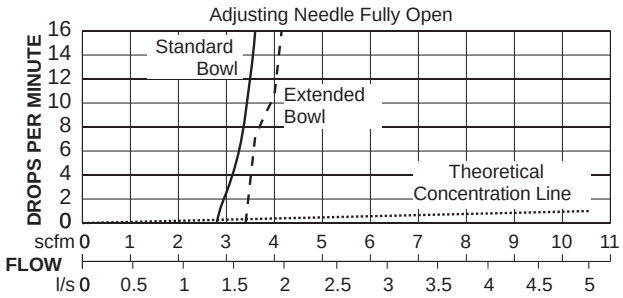
BOWL SIZE
51P - 9 oz Polycarbonate Bowl
51M - 9 oz Metal Bowl
51E - 15 oz Metal Bowl

CAP TYPE
Q - Quick Fill Cap
S - Standard Cap, standard

PIPE SIZE
3 - 3/8 NPTF
4 - 1/2 NPTF
5 - 3/4 NPTF
C - 3/8 BSPP
D - 1/2 BSPP
E - 3/4 BSPP
F - 3/4-16 SAE
G - 7/8-14 SAE

COLOR
G - Gray
Y - Yellow
R - Red
B - Blue
2 - Gold, standard

Maximum Oil Feed Rates at Minimum Flow



STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate 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 (266.2-ml) capacity polycarbonate plastic with steel shatterguard; optional aluminum bowl with clear nylon sight glass. Optional 15-ounce (443.6-ml) extended aluminum bowl with two clear nylon sight glass.
Bowl Ring: Nylon.
Cap Color: Gold standard; optional gray, yellow, red, blue.
Fluid Media: Compressed air.
Inlet Pressure:
Polycarbonate plastic bowl: 150 psig (10.3 bar).
Metal bowl: 200 psig (13.8 bar).
Oil Adjustment: External; tamper resistant.
Seals: Nitrile.
Sight-Feed Dome: Nylon.
Threads: NPT standard, BSPP, SAE.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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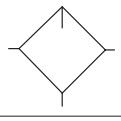
HIGH-CAPACITY Lubricators

Ports: 3/4, 1, 1½
Flow to 500 scfm

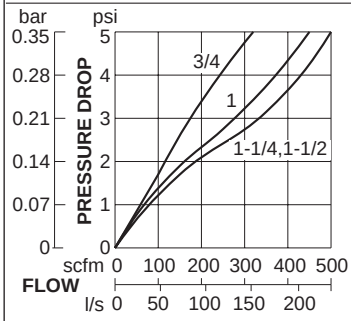
MODEL A -
With Polycarbonate Bowl

MODEL B -
With Metal Bowl

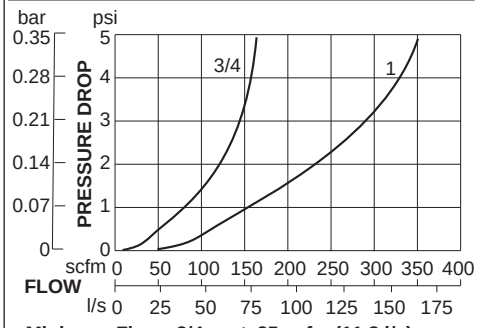
ISO Symbol
Lubricator



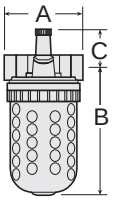
FLOW CHARTS
Inlet Pressure: 100 psig (6.9 bar)



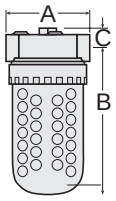
Minimum Flow:
35-ounce bowl, 10 scfm (4.7 l/s)
62-ounce bowl, 14 scfm (6.6 l/s)



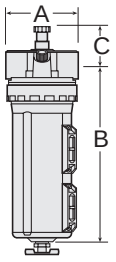
Minimum Flow: 3/4 port, 25 scfm (11.8 l/s)
1 port, 35 scfm (16.5 l/s)



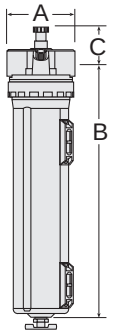
Sight-feed, 16 oz



Wick-feed, 16 oz



Sight-feed, 35 oz



Wick-feed, 62 oz

FEATURES:
- Inline mounting
- High-strength polycarbonate plastic bowl with steel shatterguard; optional aluminum bowl with sight glass
- Sight-feed or wick-feed design
- External adjusting knob; removable for tamper resistance (sight-feed)
- Internal adjustment (wick-feed)

Bowl	**DIMENSIONS** inches (mm) A	B	C	Depth	**Weight** lb (kg)
Sight-feed, 16 oz (473.2 ml)					
Plastic	4.3 (108)	8.2 (208)	1.4 (37)	4.2 (106)	2.63 (1.21)
Metal	4.3 (108)	7.3 (185)	1.4 (37)	4.2 (106)	2.85 (1.30)
Wick-feed, 16 oz (473.2 ml)					
Plastic	4.5 (114)	7.7 (195)	0.8 (21)	4.3 (108)	2.88 (1.31)
Metal	4.5 (114)	8.2 (208)	0.8 (21)	4.3 (108)	3.00 (1.36)
Sight-feed, 35 oz (1035.1 ml)					
3/4, 1	4.3 (108)	10.2 (259)	2.0 (51)	4.2 (106)	2.56 (1.16)
1¼, 1½	4.3 (108)	10.6 (268)	1.6 (41)	4.2 (106)	2.56 (1.16)
The following have extended bowls 62 oz (1833.6-ml)					
3/4, 1	4.3 (108)	15.8 (400)	2.0 (51)	4.2 (106)	3.38 (1.64)
¼, 1½	4.3 (108)	16.1 (410)	1.6 (41)	4.2 (106)	3.38 (1.64)

Port Size	Sight-feed Models* Plastic Bowl**	Metal Bowl	Wick-feed Models* Plastic Bowl**	Metal Bowl	Reservoir oz (ml)
3/4	5111B5009	5112B5009	5111B5011	5112B5011	16 (473.2)
3/4	—	5112B5019	—	—	35 (1035.1)
3/4	—	5112B5029	—	—	62 (1833.6)
1	5111B6009	5112B6009	5111B6011	5112B6011	16 (473.2)
1	—	5112B6019	—	—	35 (1035.1)
1	—	5112B6029	—	—	62 (1833.6)
1¼	5111B7009	5112B7009	—	—	16 (473.2)
1¼	—	5112B7019	—	—	35 (1035.1)
1¼	—	5112B7029	—	—	62 (1833.6)
1½	5111B8009	5112B8009	—	—	16 (473.2)
1½	—	5112B8019	—	—	35 (1035.1)
1½	—	5112B8029	—	—	62 (1833.6)

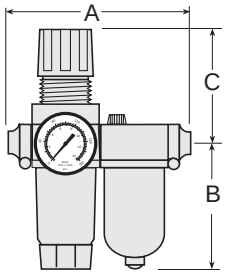
*To order a lubricator with quick-fill cap, change the third digit from the end of the model number from "0" to "1," e.g., model 5111B5009 with quick-fill cap becomes model 5111B5109. **Polycarbonate plastic bowl includes metal bowl guard.

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).\
Metal bowl: 40° to 175°F (4° to 79°C).
Body: Aluminum.
Bowl (MODEL A): 16-ounce (473.2-ml) capacity polycarbonate plastic with steel shatterguard. Optional aluminum bowl with sight glass.
Bowl (MODEL B): 35-ounce (1035.1-ml) aluminum bowl with sight glass or optional extended metal bowl 62-ounce (1833.6-ml) with two sight glasses.
Bowl Ring: Aluminum.
Fluid Media: Compressed air.
Inlet Pressure:
Polycarbonate plastic bowl: 150 psig (10.3 bar) maximum.
Metal bowl: 200 psig (13.8 bar) maximum.
Oil Adjustment: External, tamper-resistant or internal.
Seals: Nitrile.
Sight Dome: Nylon.
Threads: NPT standard, BSPP, SAE. For BSPP threads, add a "C" prefix to the model number, e.g., C5111B5009.

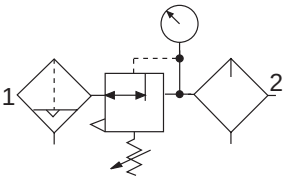
IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

BANTAM Modular FRLs
Integrated Filter/Regulator plus Lubricator

Ports: 1/8 & 1/4 and Tube Fittings
Flow to 23 scfm



ISO Symbol
FRL
Automatic Drain
Self-relieving



FEATURES:

- Filter and regulator consolidated in a single assembly; wick-feed lubricator
- Modular assembly and mounting
- Threaded ports or quick-connect fittings for tubing up to 10 mm in diameter
- 5-micron rated polyethylene filter element
- High-strength polycarbonate plastic bowls *or* aluminum bowls
- Internal automatic filter drain; optional manual drain
- Piston-type regulator or diaphragm-type
- Self-relieving regulator; optional non-relieving
- Pressure gauge

Port Size	DIMENSIONS inches (mm) A	B	C	Depth †	Weight lb (kg)
1/8, 1/4	4.6 (117)	3.6 (92)	2.6 (67)	1.8 (45)	0.57 (0.32)
Models below have quick-connect fittings for tubing.					
1/4	5.0 (127)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)
3/8	5.6 (142)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)
4 mm	5.1 (130)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)
6 mm	5.1 (130)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)
8 mm	4.7 (120)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)
10 mm	5.6 (142)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)

† Less gauge.

REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	Kit Number
0.5 µm polyethylene (Std element)	933K77

AIR FLOW DATA
See Flow Charts for individual assembly components on preceding pages.

PISTON TYPE

Port Size	Automatic Drain Models Plastic Bowl	Metal Bowl	Manual Drain Models Plastic Bowl	Metal Bowl
THREADED				
1/8	5D01C0115	5D01C0216	5D01C0315	5D01C0416
1/4	5D02C0115	5D02C0216	5D02C0315	5D02C0416
TUBE FITTINGS				
1/4	5D03C0115	5D03C0216	5D03C0315	5D03C0416
3/8	5D04C0115	5D04C0216	5D04C0315	5D04C0416
4mm	5D05C0115	5D05C0216	5D05C0315	5D05C0416
6mm	5D06C0115	5D06C0216	5D06C0315	5D06C0416
8mm	5D07C0115	5D07C0216	5D07C0315	5D07C0416
10mm	5D08C0115	5D08C0216	5D08C0315	5D08C0416

Change the ninth digit to "7" for quick fill lubricator cap e.g., 5D01C0117.
For diaphragm type regulator, change eighth digit to "2", e.g., 5D01C0125.

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
With polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowls: 40° to 175°F (4° to 79°C).
Bowls: 2-ounce (60-ml) capacity polycarbonate plastic bowls or aluminum bowls.
Filter Drain: Internal automatic drain; optional manual drain.
Filter Element: 5-micron rated polyethylene.
Filter/Regulator & Lubricator Bodies: Acetal.
Fluid Media: Compressed air.
Pressure Gauge: 0 to 160 psig (11 bar); 1/8 NPT gauge ports front and rear.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Oil Adjustment: External, no shutoff.
Outlet Pressure: Adjustable up to 100 psig (6.9 bar).
Panel Mounting: 1-3/16 inch (30 mm) hole required.
Regulator Dome and Knob: Acetal.
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5D01C0115.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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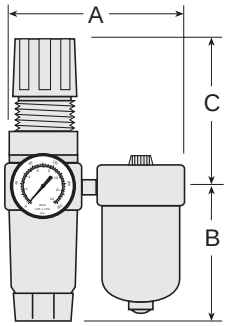
MINIATURE FRLs
Integrated Filter/Regulator plus Lubricator

Ports: 1/8 & 1/4
Flow to 24 scfm



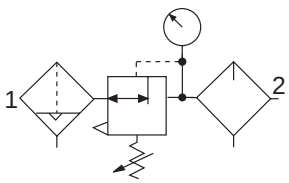
FEATURES:

- Filter and regulator consolidated in a single assembly; wick-feed lubricator
- Inline mounting
- 5-micron rated polyethylene filter element
- High-strength polycarbonate plastic bowls *or* aluminum bowls
- Internal automatic filter drain; optional manual drain
- Piston-type regulator or diaphragm-type
- Self-relieving regulator; optional non-relieving
- Pressure gauge
- NPTF port threads; optional BSPP threads or fittings for tubing up to 10 mm

Bowl	DIMENSIONS inches (mm) A	B	C	Depth †	Weight lb (kg)
Plastic	3.7 (94)	3.6 (92)	2.6 (67)	1.6 (41)	0.66 (0.30)
Metal	4.0 (101)	4.3 (109)	2.6 (67)	1.6 (41)	0.66 (0.30)

† Less gauge.

ISO Symbol
FRL
Automatic Drain
Self-relieving



REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	Kit Number
0.5 µm polyethylene - Standard	933K77

AIR FLOW DATA
See Flow Charts for individual assembly components on preceding pages.

PISTON TYPE

Port Size	Automatic Drain Models: Plastic Bowl	Automatic Drain Models: Metal Bowl	Manual Drain Models: Plastic Bowl	Manual Drain Models: Metal Bowl
COMBINATION FILTER & REGULATOR* (piston type) & Lubricator (High Flow)**				
1/8	5351C1006	5352C1006	5351C1005	5352C1005
1/4	5351C2006	5352C2006	5351C2005	5352C2005
COMBINATION FILTER & REGULATOR* (diaphragm type) & Lubricator (High Flow)**				
1/8	5341C1006	5342C1006	5341C1005	5342C1005
1/4	5341C2006	5342C2006	5341C2005	5342C2005

* Regulated pressure 0 - 100 psig (0 - 6.9 bar); gauge included.

** To order the lubricator with a quick-fill cap, change the third digit from the end of the model number from "0" to "1," e.g., model 5351C1006 with quick-fill cap becomes model 5351C1106.

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature:
With polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowls: 40° to 175°F (4° to 79°C).

Bodies: Aluminum for filter/regulator and lubricator.

Bowls: 2-ounce (59.1-ml) capacity polycarbonate plastic bowls or aluminum bowls.

Filter Drain: Internal automatic drain; optional manual drain.

Filter Element: 5-micron rated polyethylene.

Fluid Media: Compressed air.

Pressure Gauge: 0 to 160 psig (11.0 bar); 1/8 NPT gauge ports front and rear.

Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).

Oil Adjustment: Internal; tamper-resistant.

Outlet Pressure: Adjustable up to 100 psig (6.9 bar).

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

Regulator Dome and Knob: Acetal.

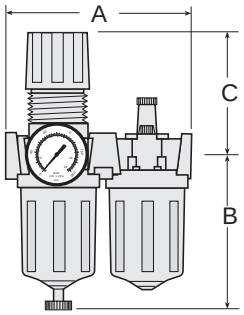
Seals: Nitrile.

Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5351C1006.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

MID-SIZE Modular FRLs
Integrated Filter/Regulator plus Lubricator

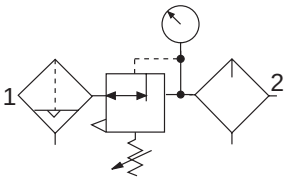
Ports: 1/4, 3/8, 1/2
Flow to 100 scfm



FEATURES:

- Filter and regulator consolidated in a single assembly; sight-feed lubricator
- Modular or inline mounting
- 5-micron rated polyethylene filter element
- High-strength zinc bowls *or* polycarbonate plastic bowls with shatterguard
- Internal automatic filter drain; optional manual drain
- Self-relieving piston-type regulator; optional non-relieving
- Pressure gauge

ISO Symbol
FRL
Automatic Drain
Self-relieving



	DIMENSIONS inches (mm)				Weight
Bowl	**A**	**B**	**C**	**Depth †**	lb (kg)
Plastic	4.9 (124)	4.6 (116)	3.3 (83)	2.4 (61)	2.94 (1.34)
Metal	4.9 (124)	4.9 (123)	3.3 (83)	2.4 (61)	2.94 (1.34)

† Less gauge.

REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	Kit Number
0.5 µm polyethylene - Standard	936K77

AIR FLOW DATA
See Flow Charts for individual assembly components on preceding pages.

COMBINATION FILTER, REGULATOR* & LUBRICATOR
(Includes 2 female port kits)

PISTON TYPE

Port	Automatic Drain Models		Manual Drain Models	
Size	Plastic Bowl	Metal Bowl	Plastic Bowl	Metal Bowl
1/4	5N11B2111	5N11B2212	5N11B2311	5N11B2412
3/8	5N11B3111	5N11B3212	5N11B3311	5N11B3412
1/2	5N11B4111	5N11B4212	5N11B4311	5N11B4412

* Piston type; regulated pressure 0 - 100 psig (6.9 bar); gauge included.

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowls: 40° to 175°F (4° to 79°C).

Bodies: Zinc for filter/regulator and lubricator.

Bowls: 4-ounce (120-ml) capacity zinc bowls or polycarbonate plastic bowls with zinc shatterguard.

Filter Drain: Internal automatic drain; optional manual drain.

Filter Element: 5-micron rated polyethylene.

Fluid Media: Compressed air.

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

Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).

Oil Adjustment: External; tamper-resistant.

Outlet Pressure: Adjustable up to 100 psig (6.9 bar).

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

Regulator Dome and Knob: Acetal.

Seals: Nitrile.

Sight Dome: Clear nylon.

Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5N11B2111.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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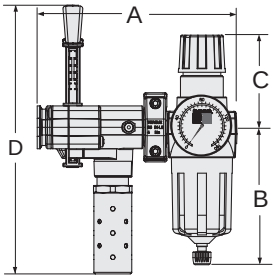
LOCKOUT Valve with Integrated Filter/Regulator

Ports: 1/4, 3/8, 1/2
Flow to 105 scfm

FEATURES:

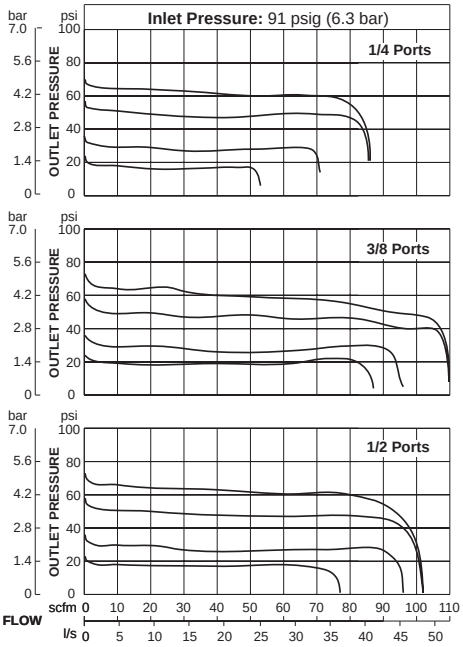
- Internal automatic drain; optional manual drain or float drain (metal bowl only)
- Reverse flow, self-relieving piston-type regulator; non-relieving optional
- Modular mounting
- Tamper-resistant pressure setting
- Only lockable in the off position
- Full size exhaust port (equal to or larger than supply)
- Easy to operate (positive push/pull operation-detented)
- Has a visible indicator of pressure release (verification port)
- Optional EEZ-ON® operation available



Bowl Type	DIMENSIONS inches (mm) A	B *	C **	D	Depth †	Weight † lb (kg)
Plastic	7.7 (195.6)	4.81 (122.2)	3.23 (82.0)	9.03 (229.4)	2.9 (73.7)	3.12 (1.4)
Metal	7.7 (195.6)	6.43 (163.4)	3.23 (82.0)	9.03 (229.4)	2.9 (73.7)	3.18 (1.4)

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

FLOW CHART



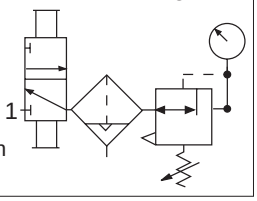
REPLACEMENT FILTER ELEMENT KITS

Element Rating/Type	Kit Number
5-µm bronze - Standard	936K77
40-µm bronze - Optional	938K77

Optional: Muffler - part number **5500A5013**, Visual Pop-up Indicator - part number **988A30**, Pressure switch - part number **586A86**, Mounting Bracket - part number **R-A118-103**.

Lockout/Filter/Regulator

ISO Symbol



Lockout
Automatic Drain
Self-relieving

HOW TO ORDER

MD3 53P B A B 2 B B –

BOWL SIZE
53P - Polycarbonate Plastic Bowl (4 oz)
53M - Metal Bowl with sight gauge (6 oz)

ELEMENT TYPE
A - 40 Micron
B - 5 Micron; standard

BOWL DRAIN
A - Auto Drain/Differential Pressure
M - Manual Drain
F - Float Drain (metal bowl only)

ADJUSTMENT RANGE
A - 0-150 psig (0-10.3 bar); reverse flow
B - 0-100 psig (0-6.9 bar); standard, reverse flow
C - 0-50 psig (0-3.4 bar); reverse flow

PIPE SIZE
2 - 1/4 NPTF
3 - 3/8 NPTF
4 - 1/2 NPTF
C - 1/4 BSPP
D - 3/8 BSPP
E - 1/2 BSPP

GAUGE
A - No Gauge
B - 0-200 psig (0-14 bar)
C - 0-60 psig (0-4 bar)
D - No Gauge with Panel Mount Nut
E - 0-200 psig (0-14 bar) Gauge with Panel Mount Nut
F - 0-60 psig (0-4 bar) Gauge with Panel Mount Nut

ADD ON L-O-X®
1 - Outlet Side
2 - Inlet Side
3 - L-O-X® with EEZ-ON® on Outlet Side
4 - L-O-X® with EEZ-ON® on Inlet Side
X - no L-O-X®

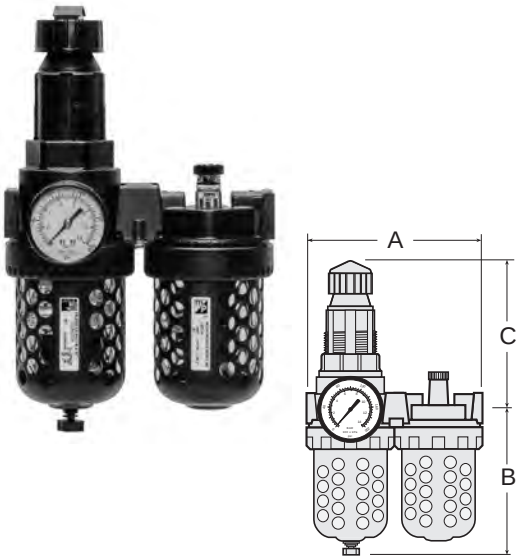
STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowls: 40° to 175°F (4° to 79°C).
Body: Zinc. **Bonnet:** Acetal. **Cap Color:** Black.
Bowl: 4-oz (120-ml) polycarbonate plastic with zinc shatterguard; optional zinc bowl with clear nylon sight glass (6-oz).
Bowl Drain: Internal automatic drain; optional manual drain or float drain (metal bowl only).
Filter Element: 5-micron rated polyethylene filter element; optional 40-micron element.
Fluid Media: Compressed air.
Pressure Adjustment: Removable, knob.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear; 0 to 60 psig (0 to 4 bar) optional.
Ports: Tapped inlet, outlet and exhaust ports.

Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10 bar).
With metal bowl: 15 to 200 psig (1.0 to 14 bar).
For internal float drain model:
With metal bowl: 30 to 200 psig (2.1 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Outlet Pressure: Adjustable up to 150 psig (10.3 bar); optional adjusting springs.
Panel Mounting: 1.56 inch (37.1 mm) hole required.
Seals/Elastomers: Nitrile. **Slide:** Acetal.
Valve: Brass. **Valve Color:** Yellow body, red lockout slide.
Threads: NPT standard, BSPP.

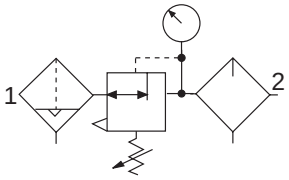
IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

FULL-SIZE Sight-Feed Modular FRLs
Integrated Filter/Regulator plus Lubricator

Ports: 1/4, 3/8, 1/2, 3/4
Flow to 140 scfm



ISO Symbol
FRL
Automatic Drain
Self-relieving



REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	Kit Number
0.5 µm polyethylene - Standard	939K77

AIR FLOW DATA
See Flow Charts for individual assembly components on preceding pages.

FEATURES:
- Filter and regulator consolidated in a single assembly, sight-feed lubricator
- Modular or inline mounting
- 5-micron rated polyethylene filter element
- Zinc bowls with clear nylon sight glasses *or* polycarbonate plastic bowls with steel shatterguard
- Internal automatic filter drain; optional manual drain or external automatic drain
- Self-relieving diaphragm-type regulator; optional non-relieving
- Pressure gauge

	DIMENSIONS inches (mm)				**Weight**
Bowl	**A**	**B**	**C**	**Depth †**	lb (kg)
Plastic	6.7 (170)	5.8 (147)	5.8 (146)	3.5 (89)	5.94 (2.69)
Metal	6.7 (170)	6.4 (163)	5.8 (146)	3.5 (89)	5.94 (2.69)

† Less gauge.

COMBINATION FILTER, REGULATOR* & LUBRICATOR (Includes 2 female port kits)

PISTON TYPE

Port	Automatic Drain Models		Manual Drain Models	
Size	**Plastic Bowl**	**Metal Bowl**	**Plastic Bowl**	**Metal Bowl**
1/4	5E11B2121	5E11B2222	5E11B2321	5E11B2422
3/8	5E11B3121	5E11B3222	5E11B3321	5E11B3422
1/2	5E11B4121	5E11B4222	5E11B4321	5E11B4422
3/4	5E11B5121	5E11B5222	5E11B5321	5E11B5422

*Diaphragm type; regulated pressure 0 – 125 psig (8.6 bar); gauge included.

Plastic bowl includes metal bowl guard.

NOTE: Each regulator comes complete with a gauge.

For pipe nipple version, change the third and fourth digits to zero (0), e.g., 5E11B2321 becomes 5E00B2321.

For quick fill lubricator cap, change last digit to four (4), e.g., 5E11B2422 becomes 5E11B2424.

For wick-feed lubricator, change last digit to six (6), e.g., 5E11B4422 becomes 5E11B4426.
For wick-feed lubricator with quick fill cap, change last digit to eight (8), e.g., 5E11B2402 becomes 5E11B2408.

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowls: 40° to 175°F (4° to 79°C).
Bodies: Zinc for filter/regulator and lubricator.
Bowls: 8-ounce (240-ml) capacity zinc bowls with clear nylon sight glasses or polycarbonate plastic bowls with steel shatterguards.
Bowl Rings: Nylon.
Filter Drain: Internal automatic drain; optional manual drain or external automatic drain.
Filter Element: 5-micron rated polyethylene.
Fluid Media: Compressed air.
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Oil Adjustment: External; tamper-resistant.
Outlet Pressure: Adjustable up to 125 psig (8.6 bar).
Regulator: Nylon dome; acetal knob.
Seals: Nitrile.
Sight Dome: Clear nylon.
Threads: NPT standard, BSPP, SAE. For BSPP threads, add a "C" prefix to the model number, e.g., C5E11B2121.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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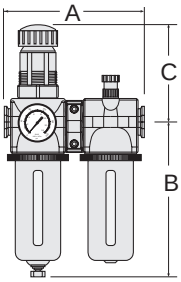
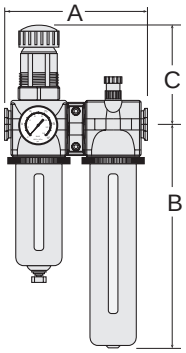
MD4™ FRLs
Integrated Filter/Regulator plus Lubricator

Ports: 3/8, 1/2, 3/4
Flow to 205 scfm



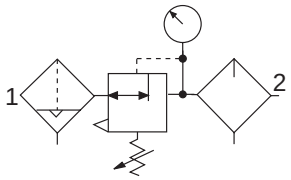
Standard Lubricator Bowl



Extended Lubricator Bowl

ISO Symbol
FRL

Automatic Drain
Self-relieving



FEATURES:
- Filter and regulator consolidated in a single assembly, sight-feed lubricator
- Modular or inline mounting
- 5-micron rated polyethylene filter element; optional 40-micron element
- Aluminum bowl with clear nylon sight glass *or* polycarbonate plastic bowl with steel shatterguard
- Internal automatic filter drain; optional manual drain, or electronic drain
- Optional extended aluminum lubricator bowl with sight glass
- Self-relieving diaphragm-type regulator; optional non-relieving
- Pressure gauge; two gauge ports

	DIMENSIONS inches (mm)				**Weight**
Bowl	**A**	**B***	**C**	**Depth †**	lb (kg)
Standard	7.3 (186)	7.7 (195)	5.4 (137)	2.9 (73)	5.81 (2.64)
Extended	7.2 (183)	10.6 (269)	5.4 (137)	2.9 (73)	6.00 (2.73)

* Bowl removal clearance:
For 9-ounce polycarbonate plastic bowl add 4.2 (107).
For 9-ounce metal bowl add 4.1 (104).
For extended bowl add 6.1 (155).
† Less gauge.

REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	**Kit Number**
0.5 µm polyethylene - Standard	R-A115-106PE5
40-µm bronze	R-A115-106PE3

HOW TO ORDER

MD4 53P B B 1 B 5 2 S *

BOWL SIZE
53P - Two 9 oz Polycarbonate Bowls
53M - Two 9 oz Metal Bowls
53E - 9 oz metal on filter; 15 oz metal on lubricator.
53F - 9 oz polycarbonate on filter; 15 oz metal on lubricator

REGULATOR ADJUSTMENT RANGE
A - 0-175 psig (0-12.1 bar) with 0-200 psig (0-13.8 bar) gauge
B - 0-125 psig (0-8.6 bar) standard with 0-200 psig (0-13.8 bar)gauge
C - 0-50 psig (0-3.4 bar) with 0-60 psig (0-4.1 bar) gauge
D - 0-20 psig (0-1.4 bar) with 0-60 psig (0-4.1 bar) gauge

FILTER ELEMENT TYPE
A - 40 Micron
B - 5 Micron (std.)

PIPE SIZE
3 - 3/8 NPTF
4 - 1/2 NPTF
5 - 3/4 NPTF
C - 3/8 BSPP
D - 1/2 BSPP
E - 3/4 BSPP
F - 3/4-16 SAE
G - 7/8-14 SAE

LUBRICATOR TYPE
S - Standard
Q - Quick-Fill Cap

COLOR
G - Gray
Y - Yellow
R - Red
B - Blue
2 - Gold (standard)

ADD ON LOCKOUT VALVE
1 - Outlet Side
2 - Inlet Side
3 - L-O-X® with EEZ-ON® on Outlet Side
4 - L-O-X® with EEZ-ON® on Inlet Side
X - no L-O-X®

FILTER REGULATOR TYPE
1 - Integral (one piece) with auto drain
2 - Integral (one piece) with manual drain
3 - Integral (one piece) with electronic drain - metal bowl only
4 - Integral (one piece) with automatic external drain - metal bowl only

For mounting options, see page 77.

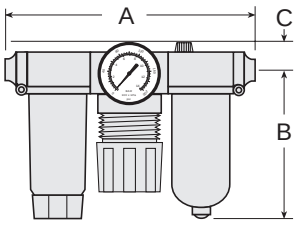
AIR FLOW DATA See Flow Charts for individual assembly components on preceding pages.

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowls: 40° to 175°F (4° to 79°C).
Bowls: 9-ounce (270-ml) capacity aluminum bowl with clear nylon sight glass or polycarbonate plastic bowl with steel shatterguard. Optional 15-ounce (450-ml) extended aluminum lubricator bowl with clear nylon sight glass.
Cap Colors: Filter/regulator, black only. Lubricator: gold; gray, yellow, red, and blue optional.
Filter Drain: Internal automatic drain; optional manual drain, or electronic drain.
Filter Element: 5-micron rated polyethylene; optional 40-micron element.
Fluid Media: Compressed air.
Heads: Zinc.
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Oil Adjustment: External; tamper-resistant.
Outlet Pressure: Adjustable up to 125 psig (8.6 bar).
Regulator Valve: Brass.
Seals: Nitrile.
Sight Dome: Clear nylon.
Threads: NPT standard, BSPP, SAE.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

BANTAM Modular FRLs

Ports: 1/8 & 1/4
Flow to 22 scfm

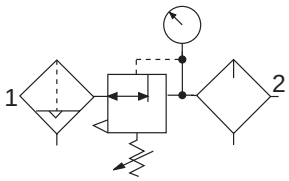


FEATURES:
- Individual filter, piston-type regulator or diaphragm-type, wick-feed lubricator
- Modular assembly and mounting
- Threaded ports or quick-connect fittings for tubing up to 10 mm in diameter
- 5-micron rated polyethylene filter element
- High-strength polycarbonate plastic bowls *or* aluminum bowls
- Internal automatic filter drain; optional manual drain
- Self-relieving regulator; optional non-relieving
- Pressure gauge

Port Size	DIMENSIONS inches (mm) A	B	C	Depth	Weight lb (kg)
1/8, 1/4	6.3 (160)	3.6 (92)	1.7 (43)	3.6 (92)	0.53 (0.24)
Models below have quick-connect fittings for tubing.					
1/4	6.7 (170)	3.6 (92)	1.7 (43)	3.6 (92)	0.50 (0.23)
3/8	7.2 (183)	3.6 (92)	1.7 (43)	3.6 (92)	0.50 (0.23)
4 mm	6.7 (170)	3.6 (92)	1.7 (43)	3.6 (92)	0.50 (0.23)
6 mm	6.7 (170)	3.6 (92)	1.7 (43)	3.6 (92)	0.50 (0.23)
8 mm	6.4 (163)	3.6 (92)	1.7 (43)	3.6 (92)	0.50 (0.23)
10 mm	7.2 (183)	3.6 (92)	1.7 (43)	3.6 (92)	0.50 (0.23)

ISO Symbol
FRL

Automatic Drain
Self-relieving



REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	Kit Number
0.5 µm polyethylene - Standard	933K77

AIR FLOW DATA
See Flow Charts for individual assembly components on preceding pages.

PISTON TYPE

Port Size	Automatic Drain Models: Plastic Bowl	Automatic Drain Models: Metal Bowl	Manual Drain Models: Plastic Bowl	Manual Drain Models: Metal Bowl
THREADED				
1/8	5B01C0115	5B01C0216	5B01C0315	5B01C0416
1/4	5B02C0115	5B02C0216	5B02C0315	5B02C0416
TUBE FITTINGS				
1/4	5B03C0115	5B03C0216	5B03C0315	5B03C0416
3/8	5B04C0115	5B04C0216	5B04C0315	5B04C0416
4mm	5B05C0115	5B05C0216	5B05C0315	5B05C0416
6mm	5B06C0115	5B06C0216	5B06C0315	5B06C0416
8mm	5B07C0115	5B07C0216	5B07C0315	5B07C0416
10mm	5B08C0115	5B08C0216	5B08C0315	5B08C0416

For quick fill cap on lubricator, change the last digit to a seven (7), e.g., 5B08C0216 becomes 5B08C0217.
For diaphragm regulator, change eighth digit to a two (2), e.g., 5B01C0115 becomes 5B01C0125.

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowls: 40° to 175°F (4° to 79°C).
Bodies: Acetal.
Bowls: 2-ounce (60-ml) capacity polycarbonate plastic bowls or aluminum bowls.
Filter Drain: Internal automatic drain; optional manual drain.
Filter Element: 5-micron rated polyethylene.
Fluid Media: Compressed air.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Oil Adjustment: External, no shutoff.
Outlet Pressure: Adjustable up to 100 psig (6.9 bar).
Panel Mounting: 1-3/16 inch (30 mm) hole required.
Regulator Dome and Knob: Acetal.
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5B01C0115.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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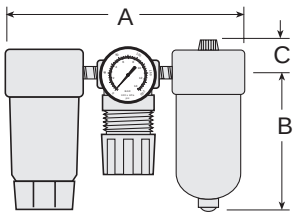
Ports: 1/8 & 1/4
Flow to 19 scfm



FEATURES:
- Individual filter, piston-type or diaphragm-type regulator, wick-feed lubricator
- Inline mounting
- 5-micron rated polyethylene filter element
- High-strength polycarbonate plastic bowls *or* aluminum bowls
- Internal automatic filter drain; optional manual drain
- Self-relieving regulator; optional non-relieving
- Pressure gauge

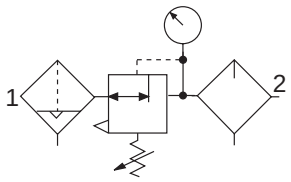
Bowl	DIMENSIONS inches (mm)* A	B	C	Depth †	Weight † lb (kg)
Plastic	5.5 (140)	3.6 (90)	0.7 (17)	1.6 (41)	0.76 (0.34)
Metal	5.5 (140)	4.3 (109)	0.7 (17)	1.6 (41)	0.76 (0.34)

* Dimensions do not include pressure gauges.
† Less gauge.

REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	Kit Number
0.5 µm polyethylene (Std. element)	933K77

ISO Symbol
FRL
Automatic Drain
Self-relieving



AIR FLOW DATA
See Flow Charts for individual assembly components on preceding pages.

Port Size	Automatic Drain Models: Plastic Bowl	Automatic Drain Models: Metal Bowl	Manual Drain Models: Plastic Bowl	Manual Drain Models: Metal Bowl
COMBINATION FILTER & REGULATOR* (diaphragm type)				
1/8	5321C1027	5322C1024	5321C1026	5322C1025
1/4	5321C2027	5322C2024	5321C2026	5322C2025
COMBINATION FILTER & REGULATOR* (diaphragm type)				
1/8	5321C1037	5322C1034	5321C1036	5322C1035
1/4	5321C2037	5322C2034	5321C2036	5322C2035
COMBINATION FILTER & LUBRICATOR ** (High flow)				
1/8	5311C1012	5312C1012	5311C1011	5312C1011
1/4	5311C2012	5312C2012	5311C2011	5312C2011
COMBINATION FILTER, REGULATOR* (diaphragm type) & LUBRICATOR (High flow)**				
1/8	5331C1006	5332C1006	5331C1005	5332C1005
1/4	5331C2006	5332C2006	5331C2005	5332C2005

*Regulated pressure 0 – 100 psig (0 - 6.9 bar); gauge included.

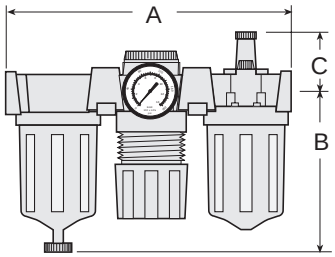
**To order the lubricator with a quick-fill cap, change the third digit from the end of the model number from "0" to "1," e.g., model 5311C1012 with quick-fill cap becomes model 5311C1112.

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowls: 40° to 175°F (4° to 79°C).
Bowls: 2-ounce (60-ml) capacity polycarbonate plastic bowls or aluminum bowls.
Filter Drain: Internal automatic drain; optional manual drain.
Filter Element: 5-micron rated polyethylene.
Fluid Media: Compressed air.
Heads: Aluminum.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
Inlet Pressure:
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Oil Adjustment: Internal; tamper-resistant.
Outlet Pressure: Adjustable up to 100 psig (6.9 bar).
Pressure Gauge: 0 to 160 psig (0 to 11.0 bar); 1/8 NPT gauge ports front and rear.
Panel Mounting: 1-3/16 inch (30 mm) hole required.
Regulator Dome and Knob: Acetal.
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5321C1027.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

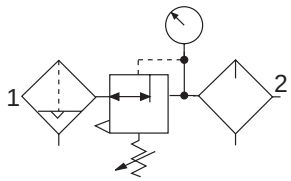
MID-SIZE Modular FRLs

Ports: 1/4, 3/8, 1/2



ISO Symbol
FRL

Automatic Drain
Self-relieving



REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	Kit Number
0.5 µm polyethylene (Std. element)	936K77

AIR FLOW DATA
See *Flow Charts* for individual assembly components on preceding pages.

FEATURES:

- Individual filter, piston-type regulator, sight-feed lubricator
- Modular or inline mounting
- 5-micron rated polyethylene filter element
- High-strength zinc bowl *or* polycarbonate plastic bowl with shatterguard
- Internal automatic filter drain; optional manual drain
- Self-relieving regulator; optional non-relieving
- Pressure gauge

	DIMENSIONS inches (mm)				**Weight**
Bowl	**A**	**B**	**C**	**Depth †**	lb (kg)
Plastic	8.5 (215)	4.6 (117)	1.8 (46)	2.8 (71)	3.75 (1.70)
Metal	8.5 (215)	4.7 (119)	1.8 (46)	2.8 (71)	3.75 (1.70)

† Less gauge.

Port Size	Automatic Drain Models: Plastic Bowl**	Automatic Drain Models: Metal Bowl	Manual Drain Models: Plastic Bowl**	Manual Drain Models: Metal Bowl
COMBINATION FILTER & REGULATOR* (Includes 2 female port kits.)				
1/4	5M11B2110	5M11B2210	5M11B2310	5M11B2410
3/8	5M11B3110	5M11B3210	5M11B3310	5M11B3410
1/2	5M11B4110	5M11B4210	5M11B4310	5M11B4410
COMBINATION FILTER & LUBRICATOR (Includes 2 female port kits.)				
1/4	5M11B2101	5M11B2202	5M11B2301	5M11B2402
3/8	5M11B3101	5M11B3202	5M11B3301	5M11B3402
1/2	5M11B4101	5M11B4202	5M11B4301	5M11B4402
COMBINATION FILTER, REGULATOR* & LUBRICATOR (Includes 2 female port kits.)				
1/4	5M11B2111	5M11B2212	5M11B2311	5M11B2412
3/8	5M11B3111	5M11B3212	5M11B3311	5M11B3412
1/2	5M11B4111	5M11B4212	5M11B4311	5M11B4412

*Piston type; regulated pressure 0-100 psig (0-6.9 bar); gauge included.
**Plastic bowl includes metal bowl guard.
Note: Each regulator comes complete with a gauge.

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowls: 40° to 175°F (4° to 79°C).
Bowls: 4-ounce (120-ml) capacity zinc bowls or polycarbonate plastic bowls with zinc shatterguards.
Filter Drain: Internal automatic drain; optional manual drain.
Filter Element: 5-micron rated polyethylene.
Fluid Media: Compressed air.
Heads: Zinc.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
Inlet Pressure:
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Oil Adjustment: External; tamper-resistant.
Outlet Pressure: Adjustable up to 100 psig (6.9 bar).
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Panel Mounting: 1-9/16 inch (40 mm) hole required.
Regulator Dome and Knob: Acetal. Optional metal regulator dome.
Seals: Nitrile.
Sight Dome: Clear nylon.
Threads: NPT standard, BSPP, SAE. For BSPP threads, add a "C" prefix to the model number, e.g., C5M11B2110.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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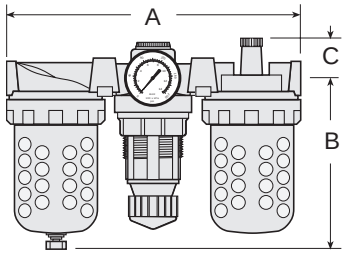
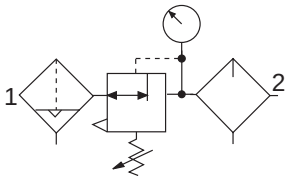
Ports: 1/4, 3/8, 1/2, 3/4
Flow to 138 scfm



REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	Kit Number
0.5 µm polyethylene (Std. element)	939K77

ISO Symbol
FRL
Automatic Drain
Self-relieving



AIR FLOW DATA
See *Flow Charts* for individual assembly components on preceding pages.

FEATURES:
- Individual filter, diaphragm-type regulator, sight-feed lubricator
- Modular or inline mounting
- 5-micron rated polyethylene filter element
- Zinc bowl with clear nylon sight glass *or* polycarbonate plastic bowl with steel shatterguard
- Internal automatic filter drain; optional manual drain or electronic drain
- Self-relieving regulator; optional non-relieving
- Pressure gauge

	DIMENSIONS inches (mm)				**Weight** †
Bowl	**A**	**B**	**C**	**Depth** †	lb (kg)
8-oz Plastic	10.1 (256)	5.8 (147)	1.3 (33)	2.8 (71)	7.06 (3.20)
8-oz Metal	10.1 (256)	6.4 (163)	1.3 (33)	2.8 (71)	7.06 (3.20)

† Less gauge.

Port Size	Automatic Drain Models: Plastic Bowl**	Automatic Drain Models: Metal Bowl	Manual Drain Models: Plastic Bowl**	Manual Drain Models: Metal Bowl
COMBINATION FILTER & REGULATOR* (Includes 2 female port kits.)				
1/4	5F11B2120	5F11B2220	5F11B2320	5F11B2420
3/8	5F11B3120	5F11B3220	5F11B3320	5F11B3420
1/2	5F11B4120	5F11B4220	5F11B4320	5F11B4420
3/4	5F11B5120	5F11B5220	5F11B5320	5F11B5420
COMBINATION FILTER & LUBRICATOR (Includes 2 female port kits.)				
1/4	5F11B2101	5F11B2202	5F11B2301	5F11B2402
3/8	5F11B3101	5F11B3202	5F11B3301	5F11B3402
1/2	5F11B4101	5F11B4202	5F11B4301	5F11B4402
3/4	5F11B5101	5F11B5202	5F11B5301	5F11B5402
COMBINATION FILTER, REGULATOR* & LUBRICATOR (Includes 2 female port kits.)				
1/4	5F11B2121	5F11B2222	5F11B2321	5F11B2422
3/8	5F11B3121	5F11B3222	5F11B3321	5F11B3422
1/2	5F11B4121	5F11B4222	5F11B4321	5F11B4422
3/4	5F11B5121	5F11B5222	5F11B5321	5F11B5422

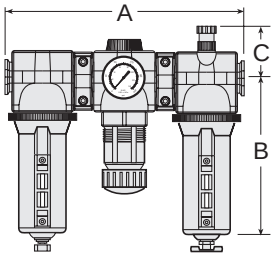
*Piston type; regulated pressure 0-100 psig (0-6.9 bar); gauge included.
**Plastic bowl includes metal bowl guard.
For pipe nipple version, change the third and fourth digit to zero (0), e.g., 5F11B2321 becomes 5F00B2321.

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowls: 40° to 175°F (4° to 79°C).
Bowls: 8-ounce (240-ml) capacity zinc bowl with clear nylon sight glass or polycarbonate plastic bowl with steel shatterguard.
Bowl Rings: Aluminum.
Filter Drain: Internal automatic drain; optional manual drain or electronic drain.
Filter Element: 5-micron rated polyethylene.
Fluid Media: Compressed air.
Heads: Zinc.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
Inlet Pressure:
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Oil Adjustment: External; tamper-resistant.
Outlet Pressure: Adjustable up to 125 psig (8.6 bar).
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Regulator: Nylon dome; acetal knob.
Seals: Nitrile.
Sight Dome: Clear nylon.
Threads: NPT standard, BSPP, SAE. For BSPP threads, add a "C" prefix to the model number, e.g., C5F11B2120.

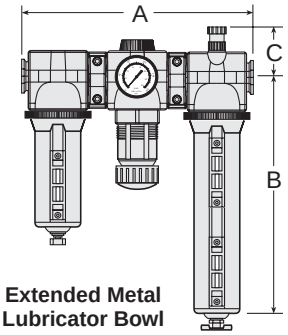
IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

MD4™ FRLs

Ports: 3/8, 1/2, 3/4
Flow to 205 scfm

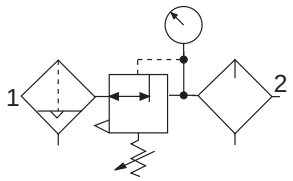


Metal Bowls



Extended Metal Lubricator Bowl

ISO Symbol - FRL
Automatic Drain - Self-relieving



AIR FLOW DATA
See *Flow Charts* for individual assembly components on preceding pages.

FEATURES:
- Individual filter, regulator, lubricator
- Modular or inline mounting
- 5-micron rated polyethylene filter element; optional 40-micron element
- Aluminum bowl with clear nylon sight glass *or* polycarbonate plastic bowl with steel shatterguard
- Internal automatic filter drain; optional manual or electronic drain
- Optional extended aluminum lubricator bowl with sight glass
- Self-relieving diaphragm-type regulator; optional non-relieving
- Pressure gauge; two gauge ports

	DIMENSIONS inches (mm)				**Weight** †
Bowl	**A**	**B***	**C**	**Depth** †	lb (kg)
9 oz Plastic	10.9 (276)	7.7 (195)	2.2 (56)	2.9 (73)	6.94 (3.15)
9 oz Metal	10.9 (276)	7.6 (193)	2.2 (56)	3.1 (79)	6.94 (3.15)
15 oz Metal	10.9 (276)	10.6 (269)	2.2 (56)	3.1 (79)	7.13 (3.24)

* Bowl removal clearance: For 9-ounce bowls add 3.4 (86). For extended bowl add 6.1 (155).
† Less gauge.

REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	Kit Number
0.5-µm polyethylene - Standard	R-A115-106PE5
40-µm bronze	R-A115-106PE3

HOW TO ORDER

MD4 53P B A 5 B 5 2 S *

BOWL SIZE
53P - Two 9 oz Polycarbonate Bowls
53M - Two 9 oz Metal Bowls
53E - 9 oz metal bowl on filter
15 oz metal bowl on lubricator
53F - 9 oz polycarbonate bowl on filter
15 oz metal bowl on lubricator

REGULATOR ADJUSTMENT RANGE
A - 0-175 psig (0-12.1 bar) with 0-200 psig (0-13.8 bar) gauge
B - 0-125 psig (0-8.6 bar) standard with 0-200 psig (0-13.8 bar) gauge
C - 0-50 psig (0-3.4 bar) with 0-60 psig (0-4.1 bar) gauge
D - 0-20 psig (0-1.3 bar) with 0-60 psig (0-4.1 bar) gauge
E - no regulator with 0-60 psig (0-4.1 bar) gauge

FILTER ELEMENT TYPE
A - 40-µm
B - 5-µm (standard)

FILTER REGULATOR TYPE
5 - Side by side (two piece) with auto drain
6 - Side by side (two piece) with manual drain
7 - Side by side (two piece) with electronic drain - manual drain only
8 - Side by side (two piece) with automatic external drain - manual drain only

PIPE SIZE
3 - 3/8 NPTF
4 - 1/2 NPTF
5 - 3/4 NPTF
C - 3/8 BSPP
D - 1/2 BSPP
E - 3/4 BSPP
F - 3/4-16 SAE
G - 7/8-14 SAE

LUBRICATOR TYPE
S - Standard
Q - Quick-Fill Cap
N - No Lubricator

COLOR
G - Gray
Y - Yellow
R - Red
B - Blue
2 - Gold (standard)

ADD ON L-O-X®
1 - Outlet Side
2 - Inlet Side
3 - L-O-X® with EEZ-ON® on Outlet Side
4 - L-O-X® with EEZ-ON® on Inlet Side
- Blank for no L-O-X®

For mounting bracket options, see page 77.

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowls: 40° to 175°F (4° to 79°C).
Bowls: 9-ounce (270-ml) capacity aluminum bowl with clear nylon sight glass or polycarbonate plastic bowl with steel shatterguard. Optional 15-ounce (450-ml) extended aluminum lubricator bowl with two clear nylon sight glasses.
Bowl Rings: Nylon.
Cap Color: Gold standard; optional gray, yellow, red, blue.
Filter Drain: Internal automatic drain; optional manual drain or electronic drain.
Filter Element: 5-micron rated polyethylene; optional 40-micron element.
Fluid Media: Compressed air.
Heads: Zinc.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Oil Adjustment: External; tamper-resistant.
Outlet Pressure: Adjustable up to 125 psig (8.6 bar).
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Seals: Nitrile.
Sight Dome: Clear nylon.
Threads: NPT standard, BSPP, SAE.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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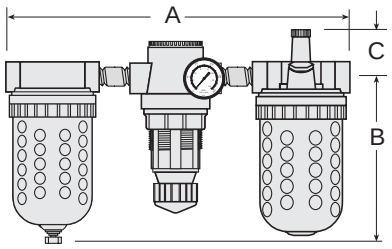
Ports: 3/4 & 1
Flow to 270 scfm

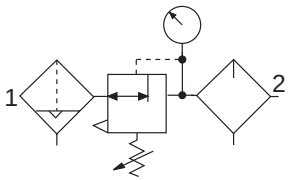
FEATURES:
- Individual filter, piston-type regulator, wick-feed lubricator
- Inline mounting
- 5-micron rated polyethylene filter element
- Metal bowls with clear nylon sight glass *or* polycarbonate plastic bowls with steel shatterguard
- Internal automatic filter drain, optional manual drain, external automatic drain, or electronic drain
- Self-relieving regulator; optional non-relieving
- Pressure gauge



DIMENSIONS inches (mm)*				Weight
A	B	C	Depth	lb (kg)
15.8 (401)	8.0 (204)	1.2 (31)	4.3 (108)	8.00 (3.64)

*Dimensions do not include pressure gauges.

ISO Symbol
FRL
Automatic Drain
Self-relieving



AIR FLOW DATA
See *Flow Charts* for individual assembly components on preceding pages.

REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	Kit Number
0.5-µm polyethylene (Std. element)	1010K77

Port Size	Automatic Drain Models		Manual Drain Models	
	Plastic Bowl**	Metal Bowl	Plastic Bowl**	Metal Bowl
COMBINATION FILTER & REGULATOR*				
3/4	5H00C5110	5H00C5210	5H00C5310	5H00C5410
1	5H00C6110	5H00C6210	5H00C6310	5H00C6410
COMBINATION FILTER & LUBRICATOR				
3/4	5H00B5101	5H00B5202	5H00B5301	5H00B5402
1	5H00B6101	5H00B6202	5H00B6301	5H00B6402
COMBINATION FILTER, REGULATOR* & LUBRICATOR				
3/4	5H00C5111	5H00C5212	5H00C5311	5H00C5412
1	5H00C6111	5H00C6212	5H00C6311	5H00C6412

*Piston type; regulated pressure 0-100 psig (0-6.9 bar); gauge included.
**Plastic bowl includes metal bowl guard.
Note: Each regulator comes complete with a gauge.
Note: For BSPP threads, add the letter "C" in front of the part number.

STANDARD SPECIFICATIONS (for products on this page)**:**

Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowls: 40° to 175°F (4° to 79°C).

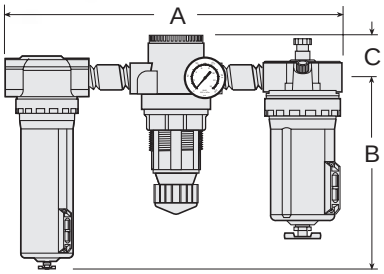
Bowls: 16-ounce (480-ml) capacity aluminum bowls with sight glass or polycarbonate plastic bowls with steel shatterguard.
Bowl Rings: Aluminum.
Filter Drain: Internal automatic drain; optional manual drain, external automatic, or electronic drain.
Filter Element: 5-micron rated polyethylene.
Fluid Media: Compressed air.
Heads: Aluminum.

Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Oil Adjustment: External; tamper-resistant.
Outlet Pressure: Adjustable up to 100 psig (6.9 bar).
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Seals: Nitrile.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5H00C5110.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

HIGH-CAPACITY FRLs

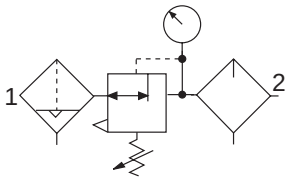
Ports: 1¼ & 1½
Flow to 495 scfm



AIR FLOW DATA
See *Flow Charts* for individual assembly components on preceding pages.

FEATURES:
- Individual filter, piston-type regulator, sight-feed
- Inline mounting
- 5-micron rated filter element; optional 40-micron filter element
- Aluminum bowls with clear nylon sight glass
- Internal automatic filter drain; optional manual drain
- Self-relieving regulator
- Pressure gauge

ISO Symbol
FRL
Automatic Drain
Self-relieving



	DIMENSIONS inches (mm)			Weight
A	**B***	**C**	**Depth**	lb (kg)
15.8 (401)	10.6 (268)	2.1 (54)	4.3 (108)	8.00 (3.64)

REPLACEMENT FILTER ELEMENT KIT

Element Rating/Type	Kit Number
0.5-µm polyethylene - Standard	1656K77
40-µm bronze - Optional	R-A114-106E3

HOW TO ORDER

HIGH-CAPACITY Model No. 5H 00C * * * *

PIPE SIZE
7 = 1¼
8 = 1½

FILTER
0 = None
1 = Automatic drain, metal bowl, 40 micron
2 = Automatic drain, metal bowl, 5 micron
3 = Manual drain, metal bowl, 40 micron
4 = Manual drain, metal bowl, 5 micron
NOTE: Polycarbonate plastic bowls for 1¼ and 1½ units not available.

REGULATOR
0 = None
1 = Piston, 0-100 psig (0-6.9 bar)
8 = Internal pilot, 15-200 psig (1.0-13.8 bar)

LUBRICATOR
0 = None
2 = Sight-feed, metal bowl
4 = Sight-feed, metal bowl, quick-fill cap

STANDARD SPECIFICATIONS (for products on this page)**:**
Ambient/Media Temperature:
Polycarbonate plastic bowl: 40° to 125°F (4° to 52°C).
Metal bowls: 40° to 175°F (4° to 79°C).
Bowls: 35-ounce (1 liter) capacity aluminum bowls with clear nylon sight glasses.
Bowl Rings: Aluminum.
Filter Drain: Internal automatic drain. Optional manual drain.
Filter Element: 5-micron or 40-micron rated filter element available.
Fluid Media: Compressed air.
Heads: Aluminum.
Inlet Pressure:
For automatic drain model:
With polycarbonate plastic bowl: 15 to 150 psig (1.0 to 10.3 bar).
With metal bowl: 15 to 200 psig (1.0 to 13.8 bar).
Inlet Pressure:
For manual drain model:
With polycarbonate plastic bowl: 0 to 150 psig (0 to 10.3 bar).
With metal bowl: 0 to 200 psig (0 to 13.8 bar).
Oil Adjustment: External; tamper-resistant.
Outlet Pressure: Adjustable up to 100 psig (6.9 bar).
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Regulator: Nylon dome; acetal knob.
Seals: Nitrile.
Sight Dome: Clear nylon.
Threads: NPT standard, BSPP. For BSPP threads, add a "C" prefix to the model number, e.g., C5H00C7112.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

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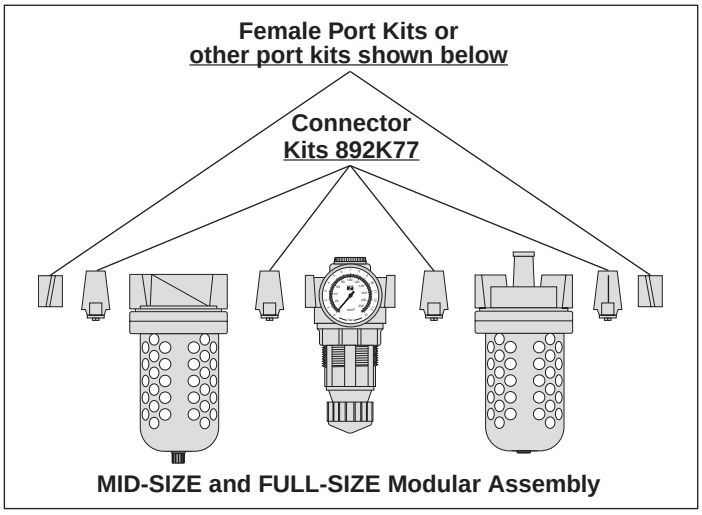
Components for Modular Assembly

MID-SIZE and FULL-SIZE Units

The modular designs of the MID-SIZE and FULL-SIZE series offer maximum flexibility in customizing FRL assemblies. As shown at the right, connector kits are required to interconnect units. Various port kits (shown below) can be used to connect the assemblies to the inlet and outlet piping. Note that all FRL components have threaded ports so that conventional pipe fittings may be used where desired.



MID-SIZE and FULL-SIZE Modular Assembly

Female Port Kits

Used to connect to piping at inlet or outlet.

Port Size	Part Number
1/4	**897K77**
3/8	**898K77**
1/2	**899K77**
3/4	**900K77**

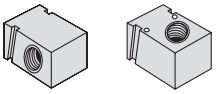
Male Port Kits

Used to connect modular to non-modular units. Also allows 90-degree connections using side, bracket, or extra port kits.

Port Size	Part Number
1/4	**893K77**
3/8	**894K77**
1/2	**895K77**
3/4	**896K77**

Side Port Kits

Functions as a 90-degree female port.

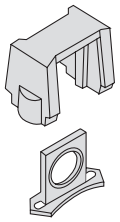


Three types:
(1) port at front or back; (2) port at top; (3) port at bottom.

Port Size	Part Number		
	Front/Back	Top	Bottom
1/4	**902K77**	**906K77**	**1000K77**
3/8	**903K77**	**907K77**	**1001K77**
1/2	**904K77**	**908K77**	**1002K77**
3/4	**905K77**	**909K77**	**1003K77**

Connector Kit 892K77

Used to connect units to one another as well as to any of the ports shown on this page.



Mounting Bracket Kit 915K77

L-shaped metal brackets (not illustrated) are used for wall mounting modular assemblies. Kit contains two brackets and four screws for attaching brackets to tops of modular units.

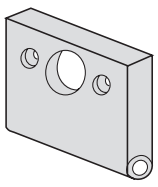
BANTAM Units

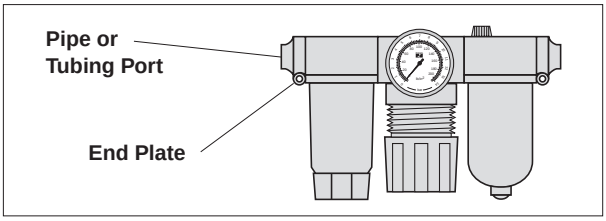
BANTAM modular units use end plates secured with screws to hold the pipe or tubing ports (see below), and also to serve as mounting brackets. Short screws are used to secure the end plates when a single BANTAM unit is used. If two or more units are combined, long screws extend through an end plate and thread into the next unit.

Screw kits required are as follows:

Single Unit:	Two short screw kits.
Two-Unit Combination:	One each short screw kit and long screw kit.
Three-Unit Combination:	Two long screw kits.

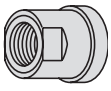
	Part Number
END PLATE (1):	**857K77**
Short Screw (2):	**858K77**
Long Screw (2):	**859K77**
Small O-Rings: (for inlet or mating ports)	**860K77**
Large O-Rings: (for outlet or mating ports)	**861K77**





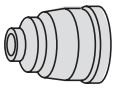
Pipe Ports

Port Size	Part Number
1/8 NPT	**862K77**
1/4 NPT	**863K77**
1/8 BSP	**D864K77**
1/4 BSP	**D865K77**



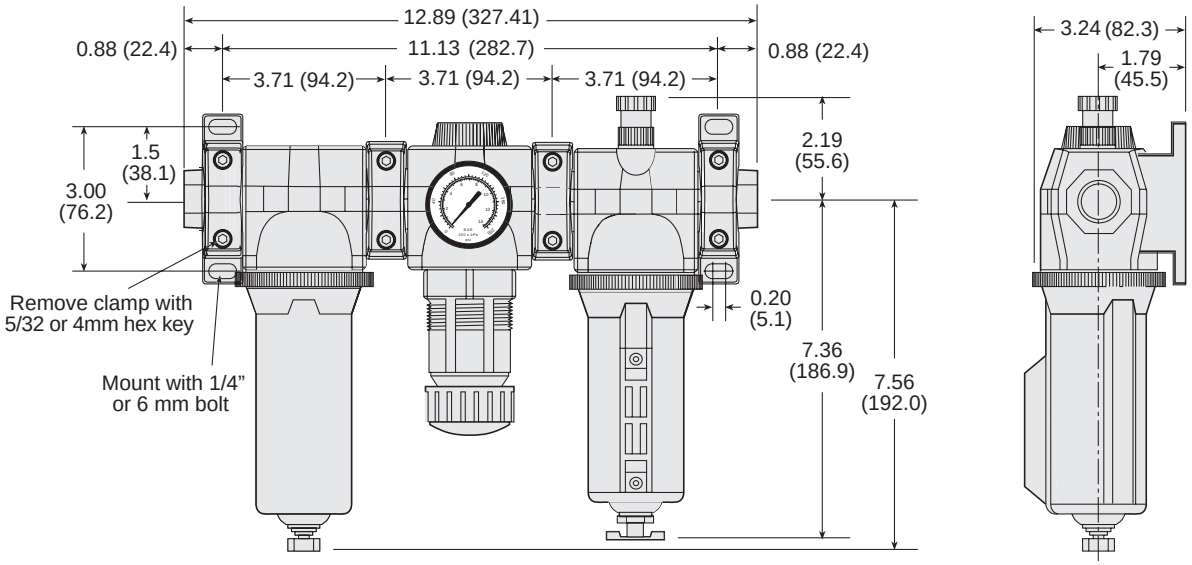
Tube Ports

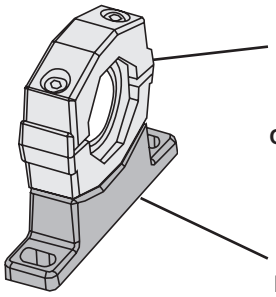
Port Size	Part Number
1/4	**866K77**
3/8	**867K77**
4 mm	**868K77**
6 mm	**869K77**
8 mm	**870K77**
10 mm	**871K77**



Series MD4™ Modular Assemblies

Dimensions: inches (mm)





Module Connecting Clamp
Part No. R-A118-105

Combined Clamp & Bracket
Part No. R-A118-105M

Mounting Bracket
Part No. R-A118-103

Clamp for Module Connections

Specially designed clamps provide a quick and easy assembly or disassembly of MD4™ 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 **R-A118-105**.

Combined clamp and bracket (below) can be ordered by part number **R-A118-105M**.

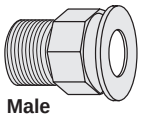
Mounting Brackets

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.

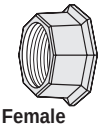
Order bracket and screw by part number **R-A118-103**. Combined bracket and clamp (above) can be ordered by part number **R-A118-105M**.

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:



Male



Female

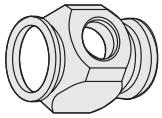
Port Size	Male Part Number*	Female Part Number*
1/4 NPTF	**R-118-109-2F**	**R-118-100-2**
3/8 NPTF	**R-118-109-3F**	**R-118-100-3**
1/2 NPTF	**R-118-109-4F**	**R-118-100-4**
3/4 NPTF	**R-118-109-6F**	**R-118-100-6**

For BSPP threads, add a "W" suffix to the model number, e.g., R-118-109-2FW.

Extra Port Blocks

An extra port block can be placed between modules to provide two auxiliary 1/4 NPTF 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.)

Port Size	Part Number*
1/4 NPTF	**R-118-106-2**
3/8 NPTF	**R-118-106-3**
1/2 NPTF	**R-118-106-4**



For BSPP threads, add a "W" suffix to the model number, e.g., R-118-109-2FW.

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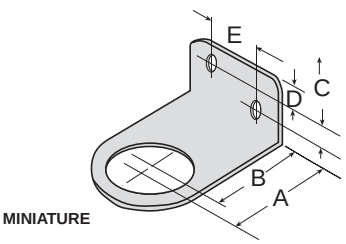
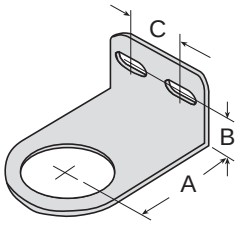
Mounting Accessories

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.



MINIATURE

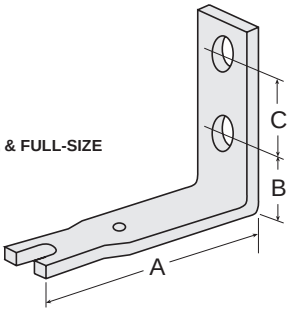


MID-SIZE & MD4™

Usage	Part Numbers Kit	Bracket	Nut	Dimensions inches (mm) A	B	C	D	E	Panel Mounting Hole Diameter inches (mm)
MINIATURE	873K77	872K77	874K77	1.375 (35)	1.125 (29)	0.31 (8)	0.31 (8)	0.69 (17)	1.19 (30)
MID-SIZE	876K77	875K77	877K77	2.38 (60)	1.00 (25)	1.50 (38)	–	–	1.56 (40)
MD4™ & FULL-SIZE	879K77	878K77	880K77	2.38 (60)	1.00 (25)	1.50 (38)	–	–	2.06 (52)

Modular Mounting Brackets

Two L-shaped metal brackets as shown at the right 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.

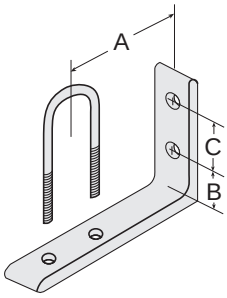


MID-SIZE, & FULL-SIZE

Usage	Kit Number	Dimensions inches (mm) A	B	C	D
BANTAM - Mounts with long screws that extend through end plates, number **859K77** (two required).					
MID-SIZE & FULL-SIZE	915K77	3.0 (76)	0.88 (22)	1.00 (25)	1.20 (31)

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.



Nipple Size	Kit Number	Dimensions inches (mm) A	B	C
1/4	887K77	2.72 (28)	0.50 (13)	1.00 (25)
3/8	888K77	2.72 (28)	0.50 (13)	1.00 (25)
1/2	889K77	2.72 (28)	0.50 (13)	1.00 (25)
3/4	890K77	3.69 (94)	1.13 (29)	1.25 (32)
1	891K77	3.69 (94)	1.13 (29)	1.25 (32)

Bracket Assembly Kit for HIGH-RELIEF Pilot Operated Regulator

High-Relief Pilot Operated Regulator with 1/4- thru 1¼ inch ports can be mounted to a vertical surface using the bracket assembly kit listed below.

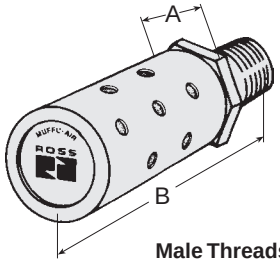
Bracket Assembly Kit

Model Number R-A37-381

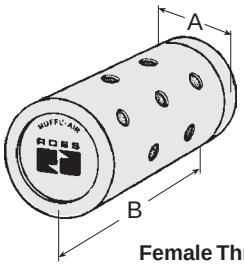
MUFFL-AIR® Silencers

Ports: 1/8 to 2½

C_v: 2.0 to 65



Male Threads



Female Threads

Construction: aluminum shell up to 1/2 size; steel and zinc shell for 3/4 and 1 sizes; steel shell for 1¼ to 2½ sizes. Diffuser is brass cloth.

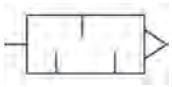
Pressure Range: Up to 150 psig (10.3 bar).

Temperature: Up to 160°F (71°C).

Port Threads: NPT standard, BSPP.

ROSS MUFFL-AIR® silencers substantially reduce exhaust noise levels in the workplace, yet produce little back pressure.

Typical impact noise reduction is in the 20–25 decibel range.

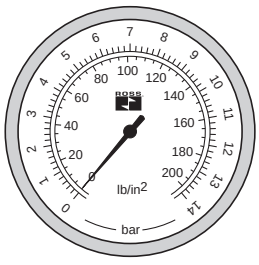


Port Size	Average C_v	Model Number*	Threads	Dimensions inches (mm) A	B
1/8	2.0	5500A1003	Male	0.8 (21)	2.0 (51)
1/4	2.0	5500A2003	Male	0.8 (21)	2.0 (51)
3/8	2.0	5500A3013	Male	1.3 (33)	3.3 (83)
	5.7	5500A3003	Male	1.3 (33)	3.3 (83)
1/2	7.0	5500A4003	Male	1.3 (33)	3.3 (83)
3/4	7.0	5500A5013	Male	1.3 (33)	3.3 (83)
	15	5500A5003	Male	2.0 (51)	4.9 (124)
1	18	5500A6003	Male	2.0 (51)	4.9 (124)
1¼	18	5500A7013	Male	2.5 (64)	5.9 (150)
	37	5500A7001	Female	2.5 (64)	5.9 (150)
1½	38	5500A8001	Female	2.5 (64)	5.9 (150)
2	50	5500B9001	Female	3.0 (77)	7.3 (185)
2½	65	5500A9002	Female	4.0 (102)	6.9 (173)

*NPT threads. For BSPP threads, add the letter "D" in front of the model number., e.g., D5500A1003.

Gauges

Pressure Gauges: Center back mounting; male pipe threads.



Port Size	Model Numbers	Pressure Range psig (bar)	Case Diameter inches (mm)
1/8	5400A1002	0-160 (0-11)	1.5 (38)
1/4	5400A2010	0-60 (0-11)	2.0 (51)
1/4	5400A2011	0-200 (0-14)	2.0 (51)
1/4	5400A2012	0-300 (0-20)	2.0 (51)
1/4	5400A2014*	0-160 (0-11)	2.5 (64)
1/4	5400A2015**	0-160 (0-11)	2.0 (51)

* 5400A2014 - Stainless steel case liquid filled.

** 5400A2015 - Green shade between 40-70 psi (2.7-4.8 bar).

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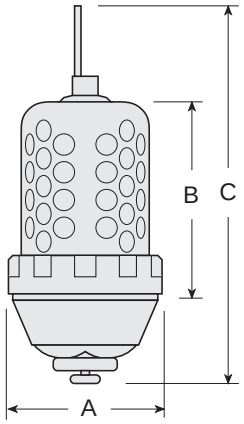
External Drains

Automatic External Drains

For use where severe condensate problems exist. These drains are used with FULL-SIZE or HIGH-CAPACITY filters, but can also be used to drain water separators, drain legs, or compressor receiver tanks.



When liquid is present, it is drained regardless of air flow, and there is no loss of air. Discharge rate is approximately 5 gallons per minute at 100 psig (6.9 bar). Drain can also be operated manually.

Pipe Size	Model Numbers Plastic Bowl**	Metal Bowl	Dimensions inches (mm) A	B	C
1/8	5057B1001	5058B1001	3.5 (89)	4.2 (107)	8.4 (212)
1/4*	5057B2001	5058B2001	3.5 (89)	4.2 (107)	8.4 (212)

*Use 1/4 size with FULL-SIZE or HIGH-CAPACITY filters. Use kit 1076K77 to convert standard bowl to accept auto drain unit.

**Plastic bowl includes metal bowl guard.

Electronically Controlled Drain

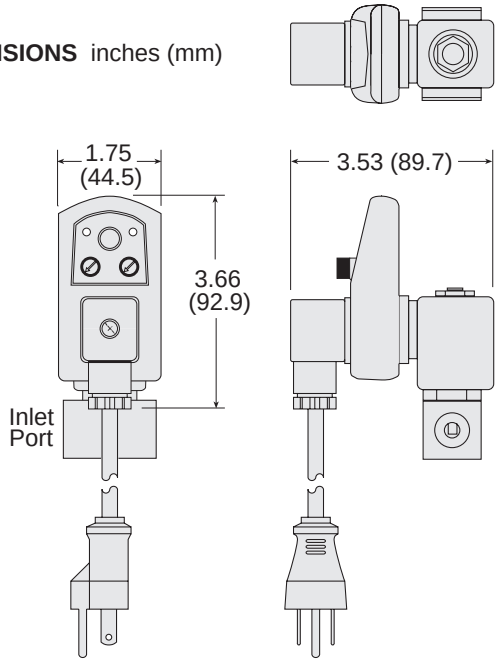
The electronic drain is designed to remove condensate from components in compressed air systems. Typical installations include compressors, dryers, receivers, driplegs, and filters.

The drain consists of a timer and a valve. Electronic controls allow the draining interval to be set from 0.5 to 45 minutes, and the drain time from 0.5 to 10 seconds. Once set, draining action is automatic and requires no maintenance. This is important in constant-flow applications where there is no on-off action to trigger a standard automatic drain.

Pipe Size*	Voltage	Drain Only Model Number
1/4 NPTF	110-120 volts AC, 50/60 Hz	R-DED-115V-2
3/8 NPTF	110-120 volts AC, 50/60 Hz	R-DED-115V-3
1/2 NPTF	110-120 volts AC, 50/60 Hz	R-DED-115V-4
1/4 NPTF	24 volts DC	R-DED-24V-2
3/8 NPTF	24 volts DC	R-DED-24V-3
1/2 NPTF	24 volts DC	R-DED-24V-4

* For BSPP threads, add a “W” suffix to the model number, e.g., R-DED-115V-2.

DIMENSIONS inches (mm)



STANDARD SPECIFICATIONS (for electronically controlled drain)**:**
Drain Time: Adjustable 0.5 to 10 seconds.
Drain Interval: Adjustable 0.5 to 45 minutes.
Current Consumption: 4 ma maximum.
Ambient Temperature: 35° to 130°F (2° to 54°C).
Media Temperature: 35° to 190°F (2° to 88°C).
Electrical Connection: DIN 43650A, ISO 440/6952.
Valve Type: 2/2 direct acting, normally closed.
Valve Body: Forged brass; 3/16-inch (4.8 mm) orifice.
Maximum Pressure: 230 psig (15.8 bar).
Port Threads: NPT standard, BSPP.

IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS** on the inside back cover.

Lubricants, Polycarbonate Bowl Cautions

Compatible Lubricants

Although air line lubrication is not required for most ROSS valves, other mechanisms in the system may need such lubrication. When a lubricator is used, it should be supplied only with oils which are compatible with the materials used in the valves for seals and poppets. Generally speaking, these are petroleum base oils with oxidation inhibitors, and aniline point between 180°F (82°C) and 220°F (104°C) and an ISO 32, or lighter, viscosity. Oils with phosphate type additives, such as zinc dithiophosphate, must be avoided because they can harm polyurethane valve components.

The best oils to use in pneumatic systems are those specifically compounded for air line lubricator service.

Cautions on the Use of Polycarbonate Plastic Bowls

Use Only with Compressed Air. Filters and lubricators with polycarbonate plastic bowls are specifically designed for compressed air service, and their use with any other fluid (liquid or gas) is a misapplication. The use with or injection of certain hazardous fluids in the system (e.g., alcohol or liquefied petroleum gas) could be harmful to the plastic bowl or result in a combustible condition or hazardous leakage. Before using with a fluid other than air, or for nonindustrial applications, or for life support systems, consult ROSS.

Use Metal Bowl Guard When Supplied. A metal bowl guard is supplied with all but the smallest bowls, and must always be used to minimize danger from fragmentation in the event of failure of a plastic bowl.

Avoid Harmful Substances. Some compressor oils, chemical cleaners, solvents, paints, and fumes will attack plastic bowls and can cause bowl failure. Do not use with or near these materials. When a bowl becomes dirty, replace the bowl or wipe it with a clean dry cloth. Immediately replace any plastic bowl which is crazed, cracked, or deteriorated.

Substances HARMFUL to Polycarbonate Plastic Bowls

Acetaldehyde
Acetic acid
Acetone
Acrylonitrile
Ammonia
Ammonium fluoride
Ammonium hydroxide
Ammonium sulfide
Anaerobic adhesives & sealants
Antifreeze
Benzene
Benzoic acid
Benzyl alcohol
Brake fluids
Bromobenzene
Butyric acid
Carbolic acid
Carbon disulfide
Carbon tetrachloride
Caustic potash solution
Caustic soda solution
Chlorobenzene
Chloroform
Cresol
Cyclohexanol
Cyclohexanone
Cyclohexene
Dimethyl formamide
Dioxane
Ethane tetrachloride
Ethyl acetate
Ethyl ether
Ethylamine
Ethylene chlorohydrin
Ethylene dichloride
Ethylene glycol
Formic acid
Freon (refrigerant & propellant)
Gasoline (high aromatic)
Hydrazine
Hydrochloric acid
Lacquer thinner
Methyl alcohol
Methylene chloride
Methylene salicylate
Milk of lime (CaOH)
Nitric acid
Nitrobenzene
Nitrocellulose lacquer
Phenol
Phosphorous hydroxyl chloride
Phosphorous trichloride
Propionic acid
Pyridine
Sodium hydroxide
Sodium sulfide
Styrene
Sulfuric acid
Sulfural chloride
Tetrahydronaphthalene
Thiophene
Toluene
Turpentine
Xylene
Perchlorethylene

Trade Names of Substances HARMFUL to Polycarbonate Plastic Bowls

• Atlas Perma-Guard • Buna N • Cellulube #150 & #220 • Crylex #5 cement • Eastman 910 • Garlock 98403 (polyurethane) • Haskel 568-023 • Hilgard Company's hil phene • Houghton & Co. oil 1120, 1130, 1055 • Houtosafe 1000 • Kano Kroil • Keystone penetrating oil #2 • Loctite 271, 290, 601 • Loctite Teflon sealant • Marvel Mystery Oil • Minn. Rubber 366Y • National Compound N11 Nylock VC-3 • Parco 1306 Neoprene • Permabond 910 • Petron PD287 • Prestone • Pydraul AC • Sears Regular Motor Oil • Sinclair oil "Lily White" • Stauffer Chemical FYRQUEL 150 • Stillman SR 269-75 (polyurethane) • Stillman SR 513-70 (neoprene) • Tannergas • Telar • Tenneco anderol 495 & 500 oils • Titon • Vibra-tite • Zerex

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Notes

Notes

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STANDARD CAUTIONS

PRE-INSTALLATION or SERVICE

1. Before servicing a valve or other pneumatic component, be sure that all sources of energy are turned off, the entire pneumatic system is shut off and exhausted, and all power sources are locked out (ref: OSHA 1910.147, EN 1037).

2. All ROSS products, including service kits and parts, should be installed and/or serviced only by persons having training and experience with pneumatic equipment. Because any installation can be tampered with or need servicing after installation, persons responsible for the safety of others or the care of equipment must check every installation on a regular basis and perform all necessary maintenance.

3. All applicable instructions should be read and complied with before using any fluid power system in order to prevent harm to persons or equipment. In addition, overhauled or serviced valves must be functionally tested prior to installation and use.

4. Each ROSS product should be used within its specification limits. In addition, use only ROSS parts to repair ROSS products. Failure to follow these directions can adversely affect the performance of the product or result in the potential for human injury or damage to property.

FILTRATION and LUBRICATION

5. Dirt, scale, moisture, etc. are present in virtually every air system. Although some valves are more tolerant of these contaminants than others, best performance will be realized if a filter is installed to clean the air supply, thus preventing contaminants from interfering with the proper performance of the equipment. ROSS recommends a filter with a 5-micron rating for normal applications.

6. All standard ROSS filters and lubricators with polycarbonate plastic bowls are designed for compressed air applications only. Do *not* fail to use the metal bowl guard, where provided, to minimize danger from high pressure fragmentation in the event of bowl failure.

Do not expose these products to certain fluids, such as alcohol or liquefied petroleum gas, as they can cause bowls to rupture, creating a combustible condition, hazardous leakage, and the potential for human injury or damage to property. Immediately replace a crazed, cracked, or deteriorated bowl. When bowl gets dirty, replace it or wipe it with a clean dry cloth.

7. Only use lubricants which are compatible with materials used in the valves and other components in the system. Normally, compatible lubricants are petroleum based oils with oxidation inhibitors, an aniline point between 180°F (82°C) and 220°F (104°C), and an ISO 32, or lighter, viscosity. Avoid oils with phosphate type additives which can harm polyurethane components, potentially leading to valve failure which risks human injury, and/or damage to property.

AVOID INTAKE/EXHAUST RESTRICTION

8. Do not restrict the air flow in the supply line. To do so could reduce the pressure of the supply air below the minimum requirements for the valve and thereby cause erratic action.

9. Do not restrict a valve's exhaust port as this can adversely affect its operation. Exhaust silencers must be resistant to clogging and must have flow capacities at least as great as the exhaust capacities of the valves. Contamination of the silencer can result in reduced flow and increased back pressure.

ROSS expressly disclaims all warranties and responsibility for any unsatisfactory performance or injuries caused by the use of the wrong type, wrong size, or an inadequately maintained silencer installed with a ROSS product.

ENERGY ISOLATION/EMERGENCY STOP

11. Per specifications and regulations, ROSS **L-O-X®** valves and **L-O-X®** valves with **EEZ-ON®** operation are defined as energy isolation devices, NOT AS EMERGENCY STOP DEVICES.

STANDARD WARRANTY

All products sold by ROSS CONTROLS are warranted for a one-year period [with the exception of all Filters, Regulators and Lubricators ("FRLs") which are warranted for a period of seven years] from the date of purchase to be free of defects in material and workmanship. ROSS' obligation under this warranty is limited to repair or replacement of the product or refund of the purchase price paid solely at the discretion of ROSS and provided such product is returned to ROSS freight prepaid and upon examination by ROSS is found to be defective. This warranty becomes void in the event that product has been subject to misuse, misapplication, improper maintenance, modification or tampering.

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There are ROSS Distributors Throughout the World

To meet your requirements across the globe, ROSS distributors are located throughout the world. Through ROSS or its distributors, guidance is available for the selection of ROSS products, both for those using pneumatic components for the first time and those designing complex pneumatic systems.

This catalog presents an overview of the extensive ROSS product line. Other literature is available for engineering, maintenance, and service requirements. If you need products or specifications not shown here, please contact ROSS or your ROSS distributor. They will be happy to assist you in selecting the best product for your application.

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