ROSS CONTROLS®

Filter, Regulator, and Lubricator Combinations

www.rosscontrols.com

FRLs Combinations – KEY FEATURES

- Combinations include Filter and Regulator, Filter and Lubricator, Integrated Filter / Regulator combined into a single module plus a Lubricator, and Filter, Regulator and Lubricator
- All sizes have essentially the same operating characteristics as their corresponding individual Filters, Regulators, and Lubricators
- All filters include either a manual or internal automatic filter drain and a pressure gauge
- Regulators are either self relieving or non-relieving and have gauge ports front and rear
- 5-, 20-, and 40-micron filter element options available
- Additional available options are the same as those for the corresponding individual filters
- Modular or inline mounting

COMBINATION TYPE/SERIES	AVAILABLE PORT SIZES								FLOW	FILTRATION			OPTIONS				REGULATOR TYPE		OPTIONS		LUBRICATOR TYPE		OPT.	Page
	1/8	1/4	3/8	1/2	3/4	1	1¼	1½	MAX FLOW (scfm)	5 µm	20 µm	40 µm	POLYCARBONATE BOWL	METAL BOWL	AUTOMATIC DRAIN	MANUAL DRAIN	PISTON	DIAPHRAGM	SELF RELIEVING	NON RELIEVING	WICK FEED	SIGHT FEED	LOCKOUT	
FILTER AND REGULATOR																								
MINIATURE	■	■							19	■			■	■	■	■	■	■	■	■				E5.3
MID-SIZE		■	■	■					100	■			■	■	■	■	■		■	■				E5.4
FULL-SIZE		■	■	■	■				138	■			■	■	■	■		■	■	■				E5.5
HIGH-CAPACITY					■	■			270	■			■	■	■	■	■		■	■				E5.6
FILTER AND LUBRICATOR																								
MINIATURE	■	■							19	■			■	■	■	■					■			E5.7
MID-SIZE		■	■	■					100	■			■	■	■	■						■		E5.8
FULL-SIZE		■	■	■	■				138	■			■	■	■	■						■		E5.9
HIGH-CAPACITY					■	■			270	■			■	■	■	■					■	■		E5.10
INTEGRATED FILTER/REGULATOR PLUS LUBRICATOR																								
BANTAM	■	■							23	■			■	■	■	■	■	■	■	■	■			E5.11 - E5.12
MINIATURE	■	■							24	■			■	■	■	■	■	■	■	■	■			E5.13 - E5.14
MID-SIZE		■	■	■					100	■			■	■	■	■	■		■	■		■		E5.15
MD3™		■	■	■					110	■	■	■	■	■	■	■		■	■	■		■	■	E5.16 - E5.17
FULL-SIZE		■	■	■	■				140	■			■	■	■	■		■	■	■		■		E5.18
MD4™			■	■	■				205	■		■	■	■	■	■		■	■	■		■	■	E5.19 - E5.20
FILTER REGULATOR PLUS LUBRICATOR																								
BANTAM	■	■							22	■			■	■	■	■	■	■	■	■	■			E5.21 - E5.22
MINIATURE	■	■							19	■			■	■	■	■	■	■	■	■	■			E5.23
MID-SIZE		■	■	■					100	■			■	■	■	■	■		■	■		■		E5.24
MD3™		■	■	■					110	■	■	■	■	■	■	■		■	■	■		■	■	E5.25 - E5.26
FULL-SIZE		■	■	■	■				138	■			■	■	■	■		■	■	■	■	■		E5.27
MD4™			■	■	■				205	■		■	■	■	■	■		■	■	■		■	■	E5.28 - E5.28
HIGH-CAPACITY					■	■	■	■	495	■		■	■	■	■	■	■		■	■	■	■		E5.30 - E5.31

Port Sizes: 1/8 & 1/4 – Flow to 19 scfm

FILTER and PISTON type REGULATOR				
Port Size	Model Numbers*			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
1/8	5321C1027	5322C1024	5321C1026	5322C1025
1/4	5321C2027	5322C2024	5321C2026	5322C2025

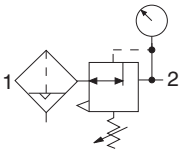
* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5321C1027.

FILTER and DIAPHRAGM type REGULATOR				
Port Size	Model Numbers*			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
1/8	5321C1037	5322C1034	5321C1036	5322C1035
1/4	5321C2037	5322C2034	5321C2036	5322C2035

* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5321C1037.

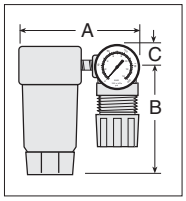
ISO Symbol
Filter/Regulator

Automatic Drain
Self-relieving

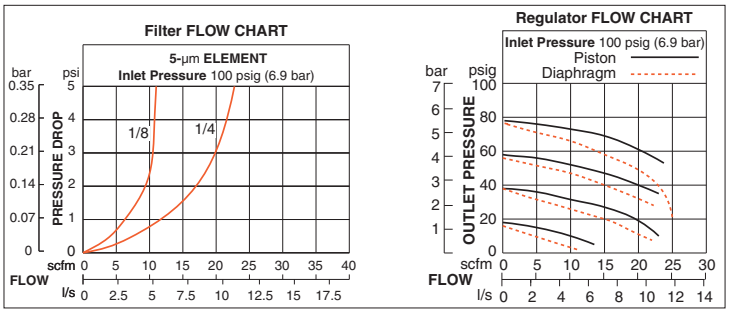


Port Size	Bowl Type	Bowl Capacity	Dimensions inches (mm)				Weight † lb (kg)
			A	B	C	Depth †	
1/8, 1/4	Polycarbonate	2-oz (60-ml)	4.4 (111)	3.6 (90)	0.7 (17)	1.6 (41)	0.77 (0.34)
1/8, 1/4	Aluminum	2-oz (60-ml)	4.4 (111)	4.3 (109)	0.7 (17)	1.6 (41)	0.79 (0.36)

† Less gauge.



REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	933K77



Pressure Gauge included.

Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

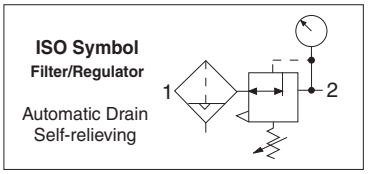
Construction: Filter – Fiber; Regulator – Piston.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowls: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Outlet Pressure: Adjustable up to 100 psig (7 bar).
Pressure Gauge: 0 to 160 psig (0 to 11 bar); 1/8 NPT gauge ports front and rear.
Oil Adjustment: Internal; tamper-resistant.
Panel Mounting: 1-3/16 inch (30 mm) hole required.
Filter Element: 5-micron rated polyethylene.
Heads: Aluminum.
Bowls: Polycarbonate bowls, or aluminum bowls.
Regulator Dome and Knob: Acetal.
Seals: Nitrile.

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

Port Sizes: 1/4, 3/8 & 1/2 – Flow to 100 scfm

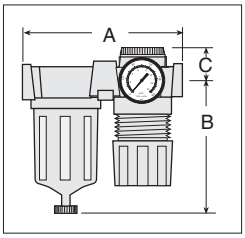
Port Size	Model Numbers*			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
1/4	5M11B2110	5M11B2210	5M11B2310	5M11B2410
3/8	5M11B3110	5M11B3210	5M11B3310	5M11B3410
1/2	5M11B4110	5M11B4210	5M11B4310	5M11B4410

* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5M11B2110.

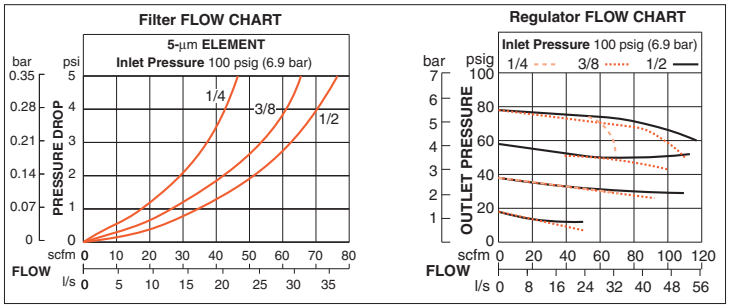


Port Size	Bowl Type	Bowl Capacity	Dimensions inches (mm)				Weight † lb (kg)
			A	B	C	Depth †	
1/4, 3/8, 1/2	Polycarbonate	4-oz (120-ml)	5.4 (137)	6.2 (157)	1.3 (33)	2.8 (71)	2.20 (1.00)
1/4, 3/8, 1/2	Zinc	4-oz (120-ml)	5.4 (137)	6.3 (160)	1.3 (33)	2.8 (71)	2.57 (1.17)

† Less gauge.



REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	936K77



Pressure Gauge included.
Includes 2 female port blocks.
Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber; Regulator – Piston.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowls: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Outlet Pressure: Adjustable up to 100 psig (7 bar).
Filter Element: 5-micron rated polyethylene.
Heads: Zinc.
Oil Adjustment: External; tamper-resistant.
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.
Bowls: Polycarbonate bowls with zinc shatterguards, or zinc bowls.
Sight Dome: Clear nylon.
Seals: Nitrile.

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

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Port Sizes: 1/4, 3/8, 1/2 & 3/4 – Flow to 138 scfm

With THREADED PORTS

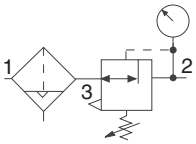
Port Size	Model Numbers*			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
1/4	5F11B2120	5F11B2220	5F11B2320	5F11B2420
3/8	5F11B3120	5F11B3220	5F11B3320	5F11B3420
1/2	5F11B4120	5F11B4220	5F11B4320	5F11B4420
3/4	5F11B5120	5F11B5220	5F11B5320	5F11B5420

With PIPE NIPPLES

Fittings for Tubing	Model Numbers*			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
1/4	5F00B2120	5F00B2220	5F00B2320	5F00B2420
3/8	5F00B3120	5F00B3220	5F00B3320	5F00B3420
1/2	5F00B4120	5F00B4220	5F00B4320	5F00B4420
3/4	5F00B5120	5F00B5220	5F00B5320	5F00B5420

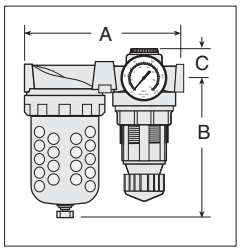
*NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5F11B2120, C5F00B2120.

ISO Symbol
Filter/Regulator
Automatic Drain
Self-relieving

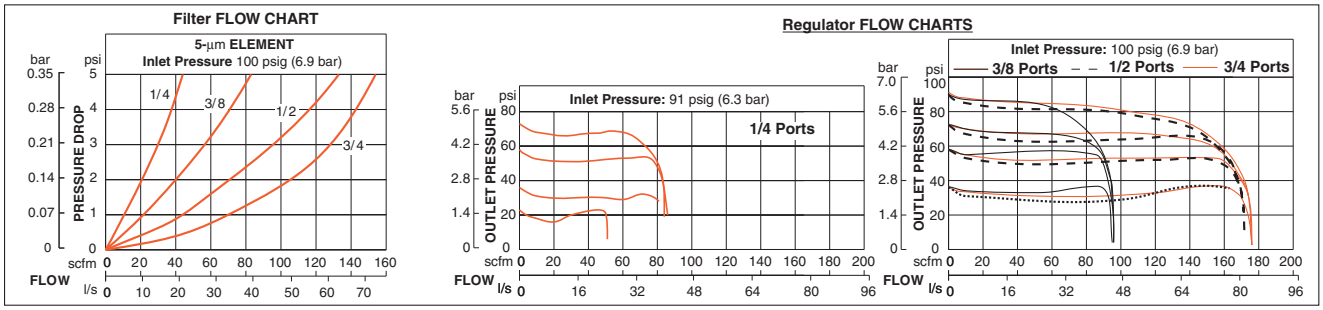


Port Size	Bowl Type	Bowl Capacity	Dimensions inches (mm)				Weight † lb (kg)
			A	B	C	Depth †	
1/4, 3/8, 1/2, 3/4	Polycarbonate	8-oz (240-ml)	7.0 (178)	5.8 (147)	1.3 (33)	2.8 (71)	4.09 (1.86)
1/4, 3/8, 1/2, 3/4	Zinc	8-oz (240-ml)	7.0 (178)	6.4 (163)	1.3 (33)	2.8 (71)	5.06 (2.30)

† Less gauge.



REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	939K77



Pressure Gauge included. Units with Threaded Ports Include 2 female port blocks.
Options: External Automatic Drain, refer to page E6.7. Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber; Regulator – Piston.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Outlet Pressure: Adjustable up to 125 psig (9 bar).
Filter Element: 5-micron rated polyethylene.
Heads: Zinc.
Oil Adjustment: External; tamper-resistant.
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Bowls: Polycarbonate bowl with steel shatterguard, or zinc bowl with clear nylon sight glass.
Bowl Rings: Aluminum.
Regulator: Nylon dome; acetal Knob.
Sight Dome: Clear nylon.
Seals: Nitrile.

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

Port Sizes: 3/4 & 1 – Flow to 270 scfm

Port Size	Model Numbers*			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
3/4	5H00C5110	5H00C5210	5H00C5310	5H00C5410
1	5H00C6110	5H00C6210	5H00C6310	5H00C6410

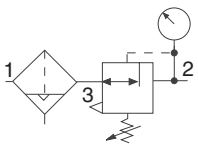
* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5H00C5110.

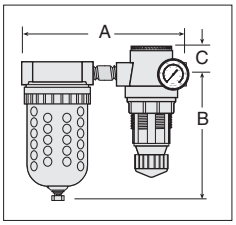
Port Size	Bowl Type	Bowl Capacity	Dimensions inches (mm)				Weight † lb (kg)
			A	B	C	Depth †	
3/4, 1	Polycarbonate	16-oz (480-ml)	9.1 (231)	8.0 (203)	2.4 (62)	4.3 (108)	4.53 (2.05)
3/4, 1	Zinc	16-oz (480-ml)	9.1 (231)	8.3 (210)	2.1 (54)	4.3 (108)	5.95 (2.70)

† Less gauge.

ISO Symbol
Filter/Regulator

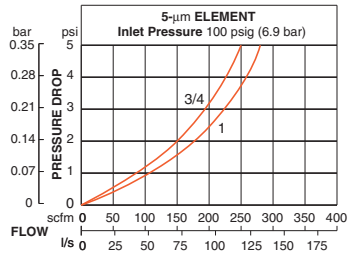
Automatic Drain
Self-relieving



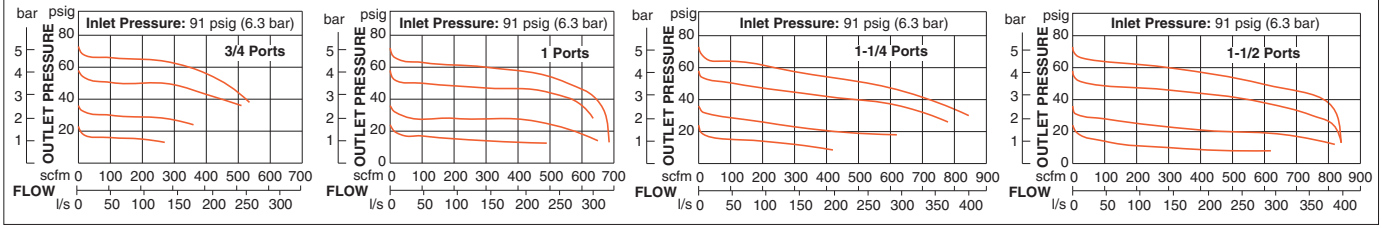


REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	1010K77

Filter FLOW CHART



Regulator FLOW CHARTS



Pressure Gauge included.
Options: External Automatic Drain, Electronic Drain, refer to page E6.7.
Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber; Regulator – Piston.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Filter Element: 5-micron rated polyethylene.
Heads: Aluminum.
Oil Adjustment: External; tamper-resistant.
Outlet Pressure: Adjustable up to 100 psig (7 bar).
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Bowls: Polycarbonate bowl with steel shatterguard, or zinc bowl with clear nylon sight glass.
Bowl Rings: Aluminum.
Seals: Nitrile.

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

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Port Sizes: 1/8 & 1/4 – Flow to 19 scfm

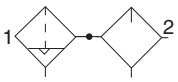
Port Size	Lubricator Fill Type	Model Numbers*			
		Automatic Drain		Manual Drain	
		Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
1/8	Fill Port	5311C1012	5312C1012	5311C1011	5312C1011
1/4	Fill Port	5311C2012	5312C2012	5311C2011	5312C2011
1/8	Quick-Fill Cap	5311C1112	5312C1112	5311C1111	5312C1111
1/4	Quick-Fill Cap	5311C2112	5312C2112	5311C2111	5312C2111

* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5311C1012.

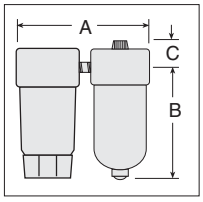
Port Size	Bowl Type	Bowl Capacity	Dimensions inches (mm)				Weight † lb (kg)
			A	B	C	Depth †	
1/8, 1/4	Polycarbonate	2-oz (60-ml)	3.4 (86)	3.6 (90)	0.7 (17)	1.6 (41)	0.59 (0.27)
1/8, 1/4	Metal	2-oz (60-ml)	3.4 (86)	4.3 (109)	0.7 (17)	1.6 (41)	0.59 (0.27)

† Less gauge.

ISO Symbol
Filter-Lubricator
Automatic Drain
Self-relieving

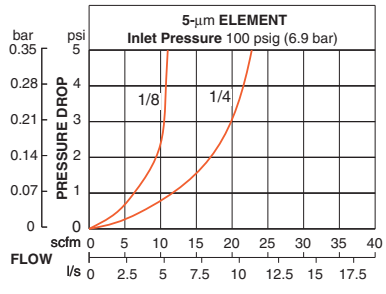


REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	933K77



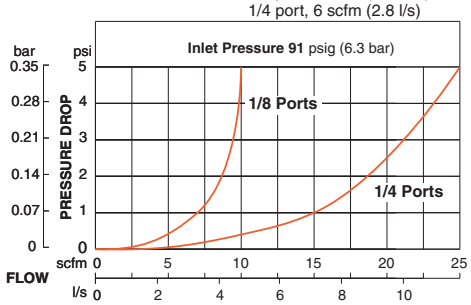
Lubricator FLOW CHARTS

Filter FLOW CHART



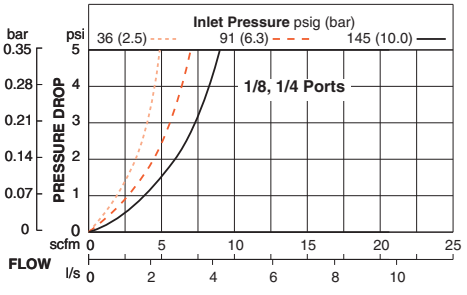
HIGH FLOW MODELS

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



LOW FLOW MODELS

Minimum Flow: 1 scfm (0.47 l/s)



Pressure Gauge included.
Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber, Lubricator – Wick-Feed or Quick-Fill Cap.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Oil Adjustment: Internal; tamper-resistant.
Filter Drain: Internal automatic drain; optional manual drain.
Filter Element: 5-micron rated polyethylene.
Heads: Aluminum.
Bowls: Polycarbonate or aluminum.
Seals: Nitrile.

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

Port Sizes: 1/4, 3/8 & 1/2 – Flow to 100 scfm

Port Size	Model Numbers*			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
1/4	5M11B2101	5M11B2202	5M11B2301	5M11B2402
3/8	5M11B3101	5M11B3202	5M11B3301	5M11B3402
1/2	5M11B4101	5M11B4202	5M11B4301	5M11B4402

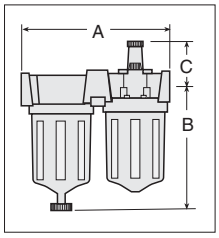
* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5M11B2101.

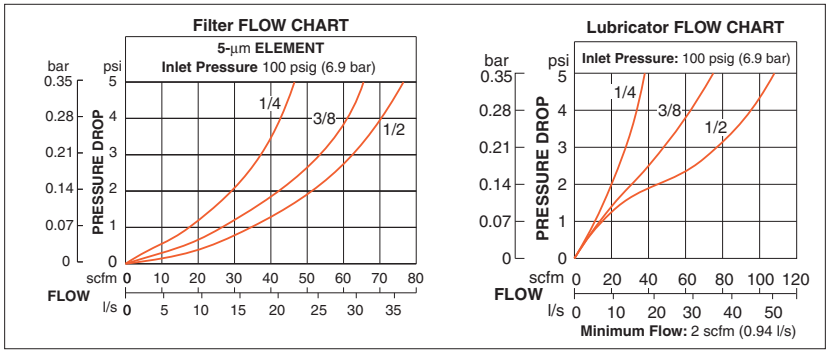
Port Size	Bowl Type	Bowl Capacity	Dimensions inches (mm)				Weight † lb (kg)
			A	B	C	Depth †	
1/4, 3/8, 1/2	Polycarbonate	4-oz (120-ml)	5.6 (137)	4.8 (122)	1.8 (46)	2.8 (71)	2.29 (1.04)
1/4, 3/8, 1/2	Metal	4-oz (120-ml)	5.6 (137)	4.9 (123)	1.8 (46)	2.8 (71)	3.10 (1.41)

† Less gauge.

ISO Symbol
Filter-Lubricator
Automatic Drain
Self-relieving

REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	936K77





Pressure Gauge included.
Includes 2 female port blocks.
Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber, Lubricator – Sight-Feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Filter Element: 5-micron rated polyethylene.
Heads: Zinc.
Oil Adjustment: External; tamper-resistant.
Bowls: Polycarbonate bowls with zinc shatterguards, or zinc bowls.
Sight Dome: Clear nylon.
Seals: Nitrile.

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

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Port Sizes: 1/4, 3/8, 1/2 & 3/4 – Flow to 138 scfm

With THREADED PORTS

Port Size	Model Numbers*			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
1/4	5F11B2101	5F11B2202	5F11B2301	5F11B2402
3/8	5F11B3101	5F11B3202	5F11B3301	5F11B3402
1/2	5F11B4101	5F11B4202	5F11B4301	5F11B4402
3/4	5F11B5101	5F11B5202	5F11B5301	5F11B5402

* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5F11B2101

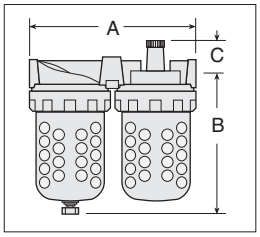
With PIPE NIPPLES

Fittings for Tubing	Model Numbers			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
1/4	5F00B2101	5F00B2202	5F00B2301	5F00B2402
3/8	5F00B3101	5F00B3202	5F00B3301	5F00B3402
1/2	5F00B4101	5F00B4202	5F00B4301	5F00B4402
3/4	5F00B5101	5F00B5202	5F00B5301	5F00B5402

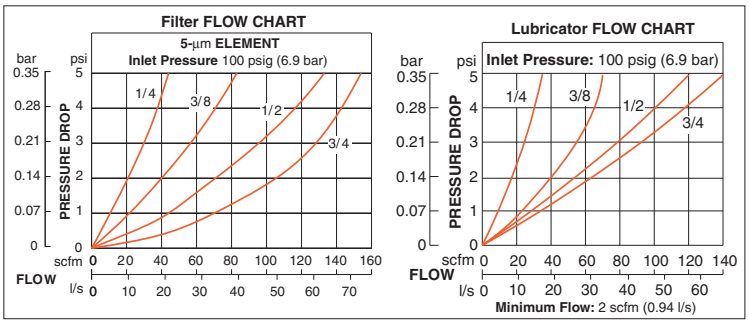
ISO Symbol
Filter-Lubricator
Automatic Drain
Self-relieving

Port Size	Bowl Type	Bowl Capacity	Dimensions inches (mm)				Weight † lb (kg)
			A	B	C	Depth †	
1/4, 3/8, 1/2, 3/4	Polycarbonate	8-oz (240-ml)	7.1 (180)	5.8 (147)	1.3 (33)	2.8 (71)	4.09 (1.86)
1/4, 3/8, 1/2, 3/4	Zinc	8-oz (240-ml)	7.1 (180)	6.4 (163)	1.3 (33)	2.8 (71)	5.9 (2.68)

† Less gauge.



REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	939K77



Pressure Gauge included. Units with Threaded Ports Include 2 female port blocks.
Options: Electronic Drain, refer to page E6.7.
Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber, Lubricator – Sight-Feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Outlet Pressure: Adjustable up to 125 psig (9 bar).
Filter Element: 5-micron rated polyethylene.
Heads: Zinc.
Oil Adjustment: External; tamper-resistant.
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Bowls: Polycarbonate bowl with steel shatterguard, or zinc bowl with clear nylon sight glass.
Bowl Rings: Aluminum.
Regulator: Nylon dome; acetal knob.
Sight Dome: Clear nylon.
Seals: Nitrile.

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

Port Sizes: 3/4 & 1 – Flow to 270 scfm

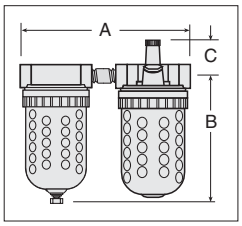
Port Size	Model Numbers*			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
3/4	5H00B5101	5H00B5202	5H00B5301	5H00B5402
1	5H00B6101	5H00B6202	5H00B6301	5H00B6402

* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5H00B5101.

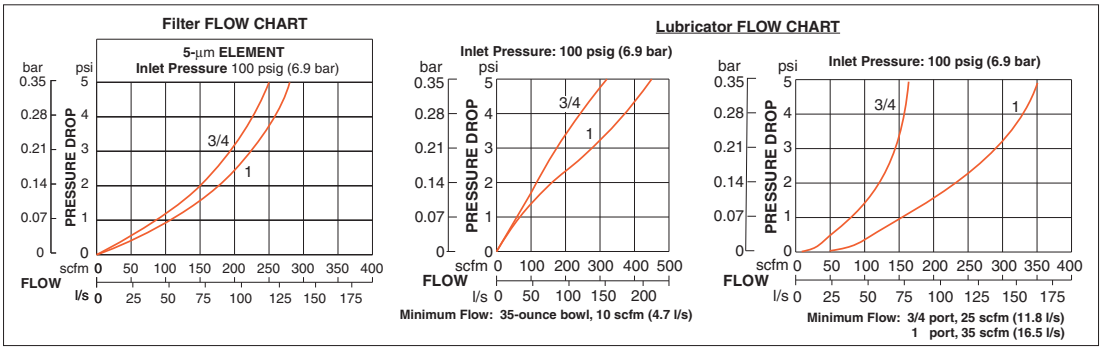
Port Size	Bowl Type	Bowl Capacity	Dimensions inches (mm)				Weight † lb (kg)
			A	B	C	Depth †	
3/4, 1	Polycarbonate	16-oz (480-ml)	9.2 (234)	8.0 (204)	1.4 (37)	4.3 (108)	5.27 (2.39)
3/4, 1	Aluminum	16-oz (480-ml)	9.2 (234)	8.3 (210)	1.4 (37)	4.3 (108)	6.3 (2.86)

† Less gauge.

ISO Symbol
Filter-Lubricator
Automatic Drain
Self-relieving



REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	1010K77



Pressure Gauge included.
Options: Automatic External Drain, Electronic Drain, refer to page E6.7.
Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber, Lubricator – Wick-Feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Filter Element: 5-micron rated polyethylene.
Heads: Aluminum.
Oil Adjustment: External; tamper-resistant.
Bowls: Polycarbonate bowls with steel shatterguard, or aluminum bowls with sight glass.
Bowl Rings: Aluminum.
Seals: Nitrile.

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

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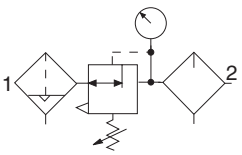
Port Sizes: 1/8 & 1/4 and Tube Fittings – Flow to 23 scfm

Combination with PISTON Type REGULATOR				
Port Size	Model Numbers#			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
With THREADED PORTS*				
1/8	5D01C0115	5D01C0216	5D01C0315	5D01C0416
1/4	5D02C0115	5D02C0216	5D02C0315	5D02C0416
With Quick Connect 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

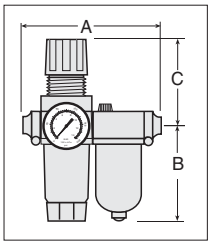
* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5D01C0115.
#Change the ninth digit to "7" for quick fill lubricator cap e.g., 5D01C0117

ISO Symbol
FRL
Automatic Drain
Self-relieving



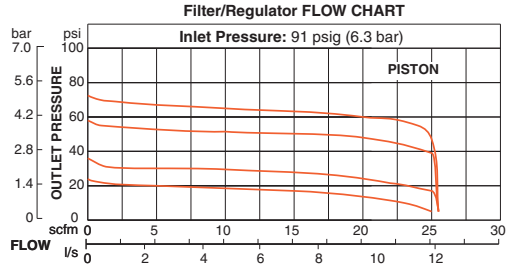
Port Size	Bowl Capacity	Dimensions inches (mm)				Weight † lb (kg)
		A	B**	C	Depth †	
1/8, 1/4	2-oz (60-ml)	4.6 (117)	3.6 (92)	2.6 (67)	1.8 (45)	0.57 (0.32)
Models below have quick-connect tube fittings.						
1/4	2-oz (60-ml)	5.0 (127)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)
3/8	2-oz (60-ml)	5.6 (142)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)
4, 6 mm	2-oz (60-ml)	5.1 (130)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)
8 mm	2-oz (60-ml)	4.7 (120)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)
10 mm	2-oz (60-ml)	5.6 (142)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)

** Dimension for polycarbonate filter bowl; metal bowl is 3.8 (97).
† Less gauge.

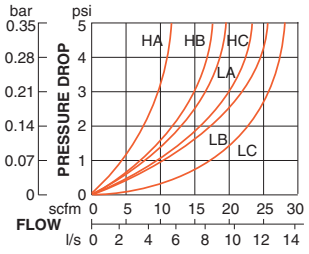


REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	933K77

Filter/Regulator FLOW CHART



Lubricator FLOW CHART



A: Wick Up
B: Wick Down 1 Groove
C: Wick Down 2 Grooves
H: High Oil Delivery
L: Low Oil Delivery
Inlet Pressure: 100 psig (6.9 bar)
Minimum Flow: 1 scfm (0.47 l/s)

Pressure Gauge included. Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber, Regulator - Piston; Lubricator - Wick-Feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Pressure Gauge: 0 to 160 psig (11 bar); 1/8 NPT gauge ports front and rear.
Filter Element: 5-micron rated polyethylene.
Oil Adjustment: External, no shutoff.
Outlet Pressure: Adjustable up to 100 psig (7 bar).
Panel Mounting: 1-3/16 inch (30 mm) hole required.
Filter/Regulator & Lubricator Bodies: Acetal.
Bowls: Polycarbonate bowls or aluminum bowls.
Regulator Dome and Knob: Acetal.
Seals: Nitrile.

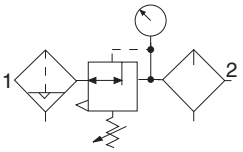
IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS, WARNINGS** on the inside back cover.

Port Sizes: 1/8 & 1/4 and Tube Fittings – Flow to 23 scfm

Combination with DIAPHRAGM Type REGULATOR				
Port Size	Model Numbers#			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
With THREADED PORTS*				
1/8	5D01C0125	5D01C0226	5D01C0325	5D01C0426
1/4	5D02C0125	5D02C0226	5D02C0325	5D02C0426
With Quick Connect TUBE FITTINGS				
1/4	5D03C0125	5D03C0226	5D03C0325	5D03C0426
3/8	5D04C0125	5D04C0226	5D04C0325	5D04C0426
4mm	5D05C0125	5D05C0226	5D05C0325	5D05C0426
6mm	5D06C0125	5D06C0226	5D06C0325	5D06C0426
8mm	5D07C0125	5D07C0226	5D07C0325	5D07C0426
10mm	5D08C0125	5D08C0226	5D08C0325	5D08C0426

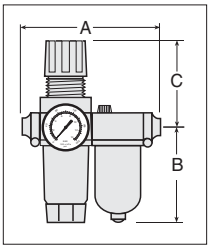
* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5D01C0115.
#Change the ninth digit to "7" for quick fill lubricator cap e.g., 5D01C0127.

ISO Symbol
FRL
Automatic Drain
Self-relieving

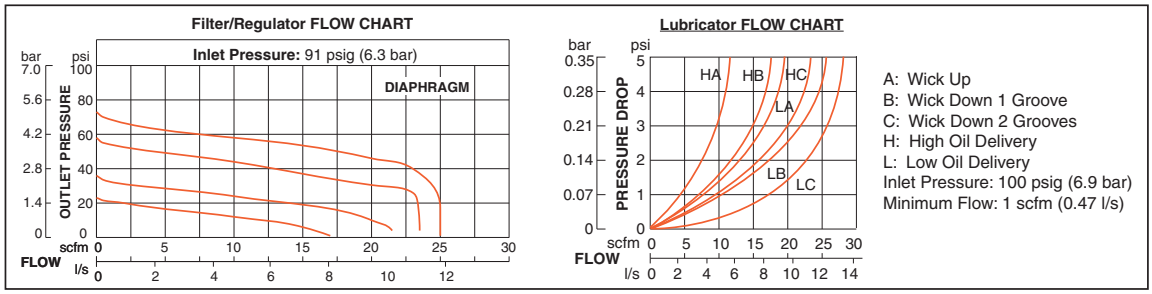


Port Size	Bowl Capacity	Dimensions inches (mm)				Weight † lb (kg)
		A	B**	C	Depth †	
1/8, 1/4	2-oz (60-ml)	4.6 (117)	3.6 (92)	2.6 (67)	1.8 (45)	0.57 (0.32)
Models below have quick-connect tube fittings.						
1/4	2-oz (60-ml)	5.0 (127)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)
3/8	2-oz (60-ml)	5.6 (142)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)
4, 6 mm	2-oz (60-ml)	5.1 (130)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)
8 mm	2-oz (60-ml)	4.7 (120)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)
10 mm	2-oz (60-ml)	5.6 (142)	3.6 (92)	2.6 (67)	1.8 (45)	0.55 (0.31)

** Dimension for polycarbonate filter bowl; metal bowl is 3.8 (97).
† Less gauge.



REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	933K77



Pressure Gauge included. Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber, Lubricator – Diaphragm.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Pressure Gauge: 0 to 160 psig (11 bar); 1/8 NPT gauge ports front and rear.
Filter Element: 5-micron rated polyethylene.
Oil Adjustment: External, no shutoff.
Outlet Pressure: Adjustable up to 100 psig (7 bar).
Panel Mounting: 1-3/16 inch (30 mm) hole required.
Filter/Regulator & Lubricator Bodies: Acetal.
Bowls: Polycarbonate bowls or aluminum bowls.
Regulator Dome and Knob: Acetal.
Seals: Nitrile.

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

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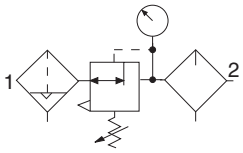
Port Sizes: 1/8 & 1/4 – Flow to 24 scfm

Combination with PISTON Type REGULATOR				
Port Size	Model Numbers*			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
Fill Port Lubricator				
1/8	5351C1006	5352C1006	5351C1005	5352C1005
1/4	5351C2006	5352C2006	5351C2005	5352C2005
With QUICK-FILL Cap Lubricator				
1/8	5351C1106	5352C1106	5351C1105	5352C1105
1/4	5351C2106	5352C2106	5351C2105	5352C2105

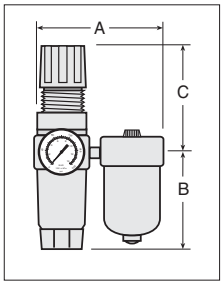
* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5351C1006.

ISO Symbol
FRL
Automatic Drain
Self-relieving

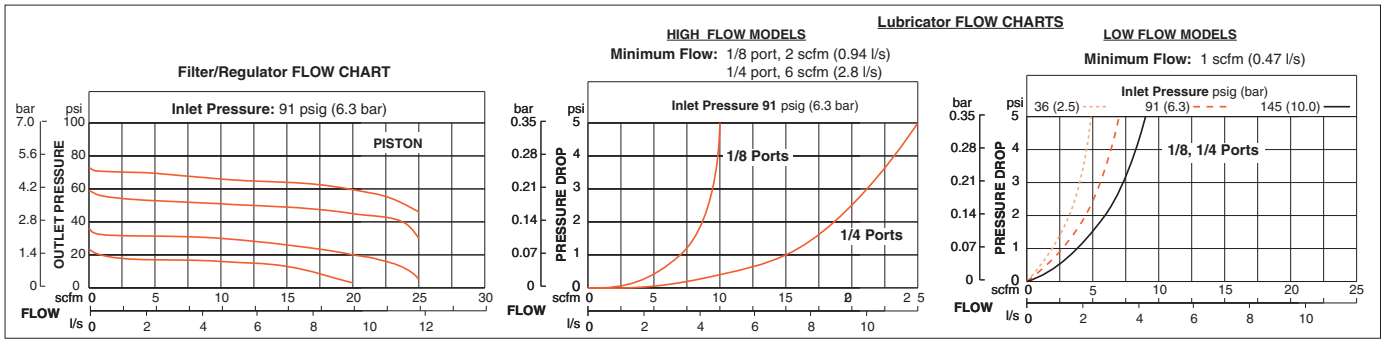


Port Size	Bowl Type	Bowl Capacity	Dimensions inches (mm)				Weight † lb (kg)
			A	B	C	Depth †	
1/8, 1/4	Polycarbonate	2-oz (59.1-ml)	3.7 (94)	3.9 (99)	2.6 (67)	1.6 (41)	0.66 (0.30)
1/8, 1/4	Aluminum	2-oz (59.1-ml)	4.0 (101)	4.3 (109)	2.6 (67)	1.6 (41)	0.66 (0.30)

† Less gauge.



REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	933K77



Pressure Gauge included.

Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber, Regulator - Piston; Lubricator - Wick-Feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Outlet Pressure: Adjustable up to 100 psig (7 bar).
Pressure Gauge: 0 to 160 psig (11 bar); 1/8 NPT gauge ports front and rear.
Oil Adjustment: Internal; tamper-resistant.
Panel Mounting: 1-3/16 inch (30 mm) hole required.
Filter Drain: Internal automatic drain; optional manual drain.
Filter Element: 5-micron rated polyethylene.
Bodies: Aluminum for filter/regulator and lubricator.
Bowls: Polycarbonate bowls or aluminum bowls.
Regulator Dome and Knob: Acetal.
Seals: Nitrile.

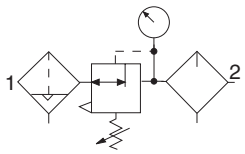
IMPORTANT NOTE: Please read carefully and thoroughly all of the **CAUTIONS, WARNINGS** on the inside back cover.

Port Sizes: 1/8 & 1/4 – Flow to 24 scfm

Combination with DIAPHRAGM Type REGULATOR				
Port Size	Model Numbers*			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
Fill Port Lubricator				
1/8	5341C1006	5342C1006	5341C1005	5342C1005
1/4	5341C2006	5342C2006	5341C2005	5342C2005
With QUICK-FILL Cap Lubricator				
1/8	5341C1106	5342C1106	5341C1105	5342C1105
1/4	5341C2106	5342C2106	5341C2105	5342C2105

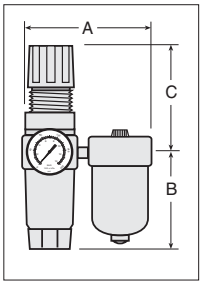
* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5351C1006.

ISO Symbol
FRL
Automatic Drain
Self-relieving



Port Size	Bowl Type	Bowl Capacity	Dimensions inches (mm)				Weight † lb (kg)
			A	B	C	Depth †	
1/8, 1/4	Polycarbonate	2-oz (59.1-ml)	3.7 (94)	3.6 (92)	2.6 (67)	1.6 (41)	0.66 (0.30)
1/8, 1/4	Aluminum	2-oz (59.1-ml)	4.0 (101)	4.3 (109)	2.6 (67)	1.6 (41)	0.66 (0.30)

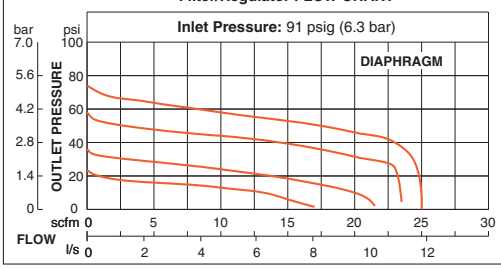
† Less gauge.



REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	933K77

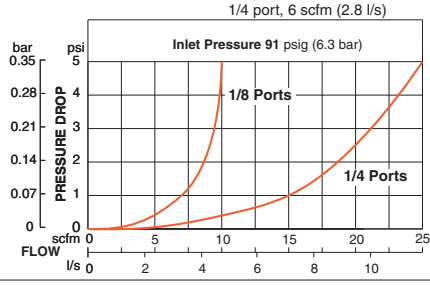
Lubricator FLOW CHARTS

Filter/Regulator FLOW CHART



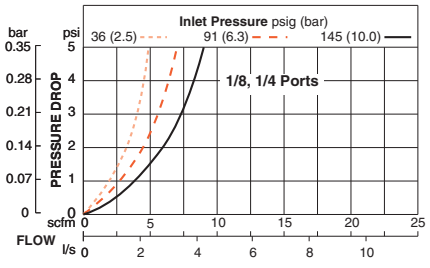
HIGH FLOW MODELS

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



LOW FLOW MODELS

Minimum Flow: 1 scfm (0.47 l/s)



Pressure Gauge included.
Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber, Lubricator – Diaphragm; Lubricator - Week-Feed
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Outlet Pressure: Adjustable up to 100 psig (7 bar).
Pressure Gauge: 0 to 160 psig (11 bar); 1/8 NPT gauge ports front and rear.
Oil Adjustment: Internal; tamper-resistant.
Panel Mounting: 1-3/16 inch (30 mm) hole required.
Filter Drain: Internal automatic drain; optional manual drain.
Filter Element: 5-micron rated polyethylene.
Bodies: Aluminum for filter/regulator and lubricator.
Bowls: Polycarbonate bowls or aluminum bowls.
Regulator Dome and Knob: Acetal.
Seals: Nitrile.

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

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Port Sizes: 1/4, 3/8 & 1/2 – Flow to 100 scfm

HOW TO ORDER

(Choose your options (in red) to configure your valve model number.)

5N	00	B	2	1	0	1

CONNECTIONS	
NPTF Pipe In, Out, Between	00
NPTF Pipe In & Out, Modular Between	09
Modular, Male Ports In & Out	10
Modular, Female Ports In & Out	11

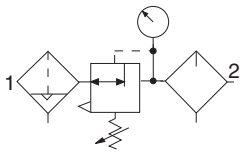
PIPE SIZE	
1/4	2
3/8	3
1/2	4

FILTER DRAIN TYPE	
None	0
Automatic Drain, Plastic Bowl	1
Automatic Drain, Metal Bowl	2
Manual Drain, Plastic Bowl	3
Manual Drain, Metal Bowl	4

Regulator TYPE ADJUSTMENT RANGE	
None	0
0-100 psig (0-6.9 bar)	1
0-50 psig (0-3.4 bar)	3
0-150 psig (0-10 bar)	5

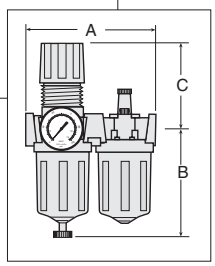
LUBRICATOR FILL TYPE	
None	0
Plastic Bowl	1
Metal Bowl	2
Plastic Bowl, Quick-Fill Cap	3
Metal Bowl, Quick-Fill Cap	4

ISO Symbol
FRL
Automatic Drain
Self-relieving



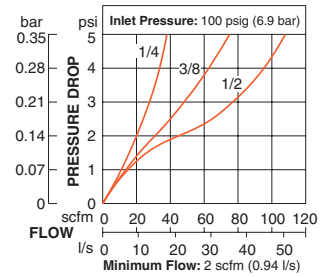
Port Size	Bowl Type	Bowl Capacity	Dimensions* inches (mm) A	B**	C***	Depth †	Weight † lb (kg)
1/4, 3/8, 1/2	Polycarbonate	4-oz (120-ml)	4.9 (124)	4.6 (116)	3.3 (83)	2.4 (60)	2.94 (1.34)
1/4, 3/8, 1/2	Zinc	4-oz (120-ml)	4.9 (124)	4.9 (123)	3.3 (83)	2.4 (60)	2.94 (1.34)

* **Dimensions** for NPTF Pipe In & Out, Modular Between option; dimensions for other combinations consult ROSS.
** Bowl removal clearance: add 3.1 (79).
*** Dome removal clearance: add 0.63 (16).
† Less gauge.

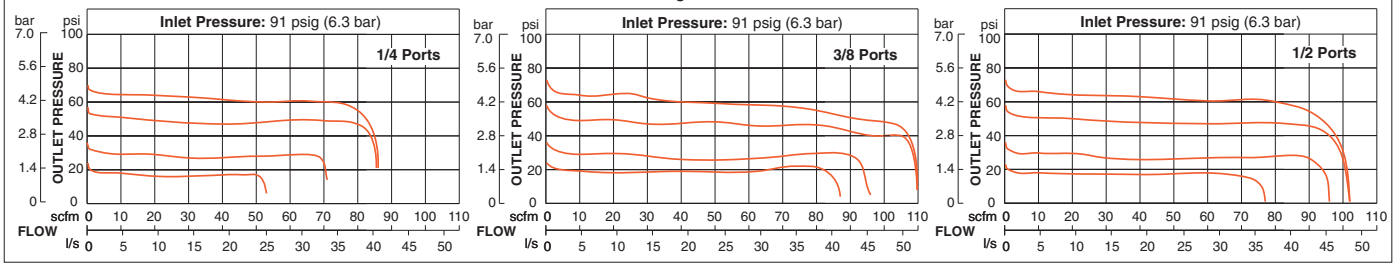


REPLACEMENT FILTER ELEMENTS		
Element Rating	**Element Material**	**Model Number**
5-µm	Polyethylene	936K77

Lubricator FLOW CHART



Filter/Regulator FLOW CHARTS



Pressure Gauge included. Includes 2 Female Port Blocks.
Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber, Regulator - Diaphragm; Lubricator - Sight-feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure:
For automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
For manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Outlet Pressure: Adjustable up to 100 psig (7 bar).
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Oil Adjustment: External; tamper-resistant.
Panel Mounting: 1-9/16 inch (40 mm) hole required.
Filter Element: 5-micron rated polyethylene.
Bodies: Zinc for filter/regulator and lubricator.
Bowls: Polycarbonate bowls with zinc shatterguard, or zinc bowls.
Regulator Dome and Knob: Acetal.
Seals: Nitrile.
Sight Dome: Clear nylon.

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

Port Sizes: 1/4, 3/8 & 1/2 – Flow to 110 scfm

HOW TO ORDER

(Choose your options (in red) to configure your valve model number.)

MD3	53P	B	B	2	C	2	2	Q	1

BOWL SIZE

Polycarbonate Bowl 5.1-oz (151-ml)	**53P**
Metal Bowl 6-oz (177-ml)	53M
Metal Bowl 6-oz (177-ml) - on Filter Metal Bowl 10-oz (295-ml) - on Lubricator	53E
Plastic Bowl 6-oz (177-ml) - on Filter Metal Bowl 10-oz (295-ml) - on Lubricator	53F

ADJUSTMENT RANGE

0-200 psig (0-14 bar)	A
0-150 psig (0-10.3 bar)	**B**
0-100 psig (0-6.9 bar)	C
0-50 psig (0-3.4 bar)	D
Reverse Flow 0-200 psig (0-13.8 bar)	F
Reverse Flow 0-150 psig (0-10.3 bar)	G
Reverse Flow 0-100 psig (0-6.9 bar)	H
Reverse Flow 0-50 psig (0-3.4 bar)	J

FILTER ELEMENT TYPE

40 µm sintered bronze	A
5 µm polyethylene	**B**
5 µm sintered bronze	E
20 µm sintered bronze	F

BOWL DRAIN

Manual Drain	2
Float Drain	0

PIPE SIZE

1/4 NPTF	**2**
3/8 NPTF	3
1/2 NPTF	4
1/4 BSPP	B
3/8 BSPP	C
1/2 BSPP	D

CAP COLOR

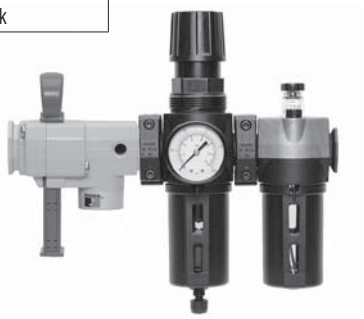
Gold	**2**
Gray	G
Yellow	Y
Red	R
Blue	B

LUBRICATOR FILL TYPE

None	N
Quick Fill Cap	**Q**
Fill Port	S

Lockout Valve

L-O-X® on outlet side	**1**
L-O-X® on the inlet side (must also choose Reverse Flow)	2
L-O-X® with EEZ-ON® on outlet side	3
L-O-X® with EEZ-ON® on inlet side (must also choose Reverse Flow)	4
Without Valve - Leave Blank	



REPLACEMENT FILTER ELEMENTS*

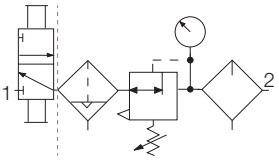
Element Rating	Element Material	Model Number
5-µm	Polyethylene	R-A60F-03PE5
5-µm	Sintered Bronze	R-A60F-03E5
20-µm	Sintered Bronze	R-A60F-03E4
40-µm	Sintered Bronze	R-A60F-03E3

* For polycarbonate and metal bowl types.

ISO Symbol

FRL with Lockout

Automatic Drain
Self-relieving



Accessories ordered separately, refer to page E6.3-5.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber, or Sintered Bronze, Regulator - Diaphragm; Lubricator - Sight-feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Filter Inlet Pressure:
Polycarbonate bowl & Manual drain: 0 to 150 psig (0 to 10 bar).
Polycarbonate bowl & Float drain: 30 to 150 psig (2 to 10 bar).
Filter Inlet Pressure:
Metal bowl & Manual drain: 0-250 psig (0 to 17 bar).
Metal bowl & Float drain: 30-200 psig (2 to 14 bar).
Lubricator Inlet Pressure:
Polycarbonate bowl: 150 psig (10 bar) maximum.
Metal bowl: 250 psig (17 bar) maximum.
Outlet Pressure: Adjustable up to 200 psig (14 bar); optional adjusting springs.
Optional Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0-200 psig (0-13.8 bar)); 1/4 NPT gauge ports front and rear.
Panel Mounting: 2-1/16 inch (52 mm) hole required.
Oil Adjustment: External; tamper resistant.
Filter Element: 5-micron rated polyethylene; 5-, 20- or 40-micron rated sintered bronze.
Body: Zinc.
Dome: Nylon.
Bowl: Polycarbonate bowl with nylon shatterguard, or aluminum bowl with clear nylon sight glass. Lubricator bowl only: extended aluminum bowl with clear nylon sight glass.
Seals: Nitrile.
Valve: Brass.
Sight-Feed Dome: Nylon.

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

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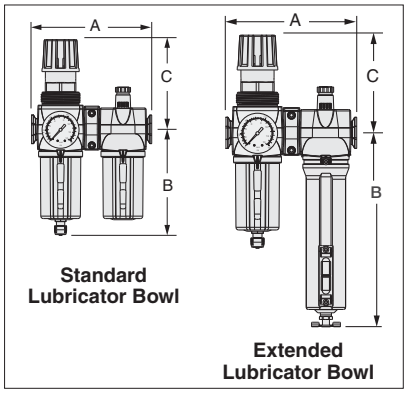
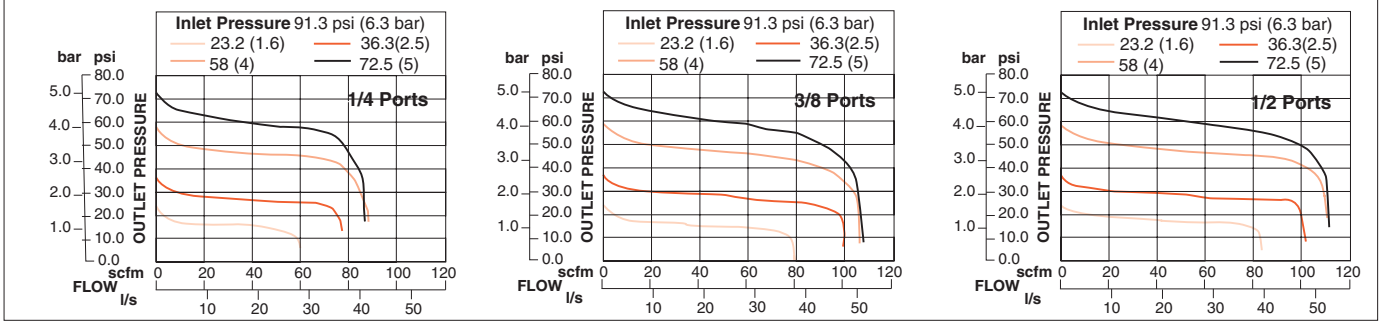
Bowl Type	Dimensions inches (mm)				Weight † lb (kg)
	A	B*	C	Depth †	
Polycarbonate	6.46 (164.1)	5.54 (140.6)	4.68 (119)	2.90 (73.7)	4.7 (2.1)
Metal	6.46 (164.1)	6.42 (163.1)	4.68 (119)	2.90 (73.7)	5.1 (2.3)
Extended Metal	6.46 (164.1)	9.37 (238)	4.68 (119)	2.90 (73.7)	5.3 (2.4)

Lockout: With the lockout valve, add 2.3 (58) to dimension A.
* Bowl (standard) removal clearance: add 3.1 (79)
* Bowl (extended) removal clearance: add 6.1 (155)
† Less gauge.

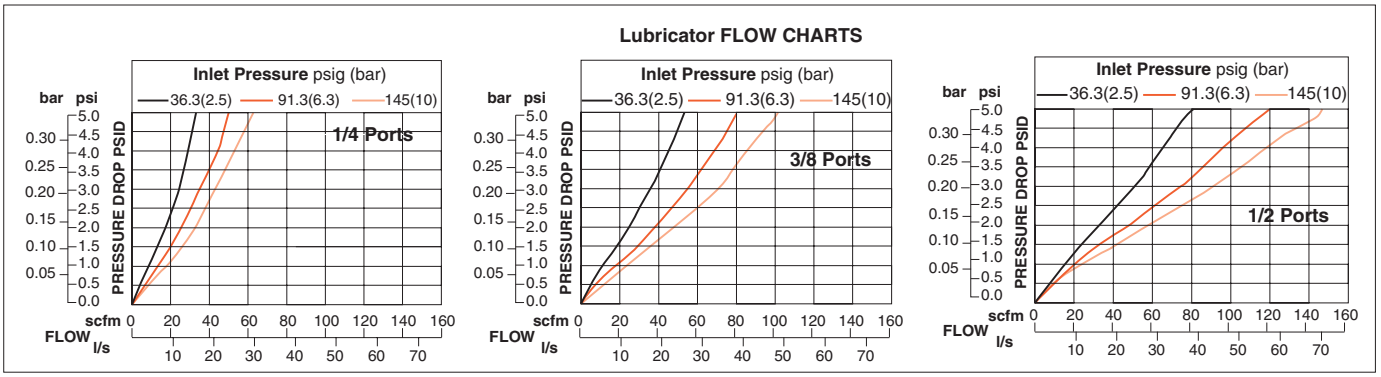


AIR FLOW and CONSTRUCTION DATA

Filter/Regulator FLOW CHARTS



Lubricator FLOW CHARTS



E

E5

Port Sizes: 1/4, 3/8, 1/2 & 3/4 – Flow to 140 scfm

HOW TO ORDER

(Choose your options (in red) to configure your valve model number.)

5E	00	B	2	1	0	5

CONNECTIONS	
NPTF Pipe In, Out, Between	00
NPTF Pipe In & Out, Modular Between	09
Modular, Male Ports In & Out	10
Modular, Female Ports In & Out	11

PIPE SIZE	
1/4	2
3/8	3
1/2	4
3/4	5

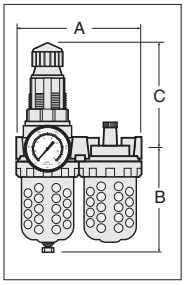
FILTER DRAIN TYPE	
None	0
Automatic Drain, Plastic Bowl	1
Automatic Drain, Metal Bowl	2
Manual Drain, Plastic Bowl	3
Manual Drain, Metal Bowl	4

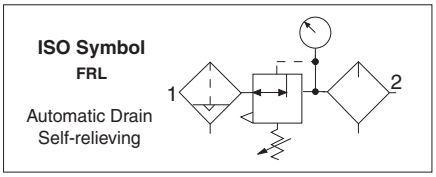
Regulator TYPE ADJUSTMENT RANGE	
None	0
0-125 psig (0-8.6 bar)	2
0-50 psig (0-3.4 bar)	4
0-175 psig (0-12 bar)	6

LUBRICATOR FILL TYPE	
None	0
Sight-Feed, Plastic Bowl	1
Sight-Feed, Metal Bowl	2
Sight-Feed, Plastic Bowl, Quick-Fill Cap	3
Sight-Feed, Metal Bowl, Quick-Fill Cap	4
Wick-Feed, Plastic Bowl	5
Wick-Feed, Metal Bowl	6
Wick-Feed, Plastic Bowl, Quick-Fill Cap	7
Wick-Feed, Metal Bowl, Quick-Fill Cap	8

Port Size	Bowl Type	Dimensions* inches (mm)				Weight † lb (kg)
		A	B**	C***	Depth †	
1/4, 3/8, 1/2, 3/4	Polycarbonate 8-oz (240-ml)	6.7 (170)	5.8 (146)	5.8 (146)	3.5 (89)	5.94 (2.69)
1/4, 3/8, 1/2, 3/4	Metal 8-oz (240-ml)	6.7 (170)	6.4 (163)	5.8 (146)	3.5 (89)	5.94 (2.69)

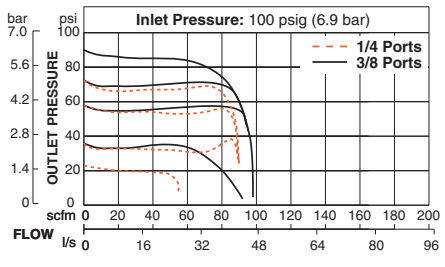
* **Dimensions** for NPTF Pipe In & Out, Modular Between option; dimensions for other combinations consult ROSS.
** Bowl removal clearance: add 3.1 (79).
*** Dome removal clearance: add 0.63 (16).
† Less gauge.

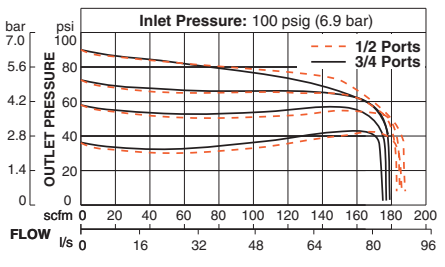




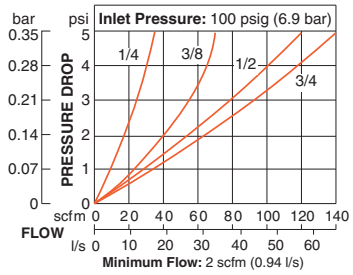
REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	939K77

Filter/Regulator FLOW CHARTS





Lubricator FLOW CHART



Minimum Flow: 2 scfm (0.94 l/s)

Pressure Gauge included. Units with Threaded Ports Include 2 female port blocks.
Options: External Automatic Drain, refer to page E6.7.
Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber, Regulator - Diaphragm; Lubricator - Sight-Feed, or Wick-Feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: Up to 150 psig (up to 10 bar).
Metal bowl: Up to 200 psig (up to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Outlet Pressure: Adjustable up to 125 psig (9 bar).
Filter Element: 5-micron rated polyethylene.
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Oil Adjustment: External; tamper-resistant.
Bodies: Zinc for filter/regulator and lubricator.
Bowls: Polycarbonate bowls with steel shatterguards, or zinc bowls with clear nylon sight glasses.
Bowl Rings: Nylon.
Regulator: Nylon dome; acetal knob.
Sight Dome: Clear nylon. **Seals:** Nitrile.

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

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Port Sizes: 3/8, 1/2 & 3/4 – Flow to 205 scfm

HOW TO ORDER

(Choose your options (in red) to configure your valve model number.)

MD4	53P	B	B	1	B	5	2	S	1

BOWL MATERIAL/SIZE

Two Polycarbonate Bowls 9-oz (270-ml)	**53P**
Two Metal Bowl 9-oz (270-ml)	53M
Metal Bowl 9-oz (270-ml) - on Filter Extended Metal Bowl 15-oz (450-ml) - on Lubricator	53E
Platic Bowl 9-oz (270-ml) - on Filter Extended Metal Bowl 15-oz (450-ml) - on Lubricator	53F

ADJUSTMENT RANGE

0-175 psig (0-12 bar) with 0-200 psig (0-14 bar) gauge	**A**
0-125 psig (0-8.6 bar) standard with 0-200 psig (0-14 bar) gauge	B
0-50 psig (0-3.4 bar) with 0-60 psig (0-4 bar) gauge	C
0-20 psig (0-1.4 bar) with 0-60 psig (0-4 bar) gauge	D
Reverse Flow 0-175 psig (0-12 bar) with 0-200 psig (0-14 bar) gauge	F
Reverse Flow 0-125 psig (0-8.6 bar) standard with 0-200 psig (0-14 bar) gauge	G
Reverse Flow 0-50 psig (0-3.4 bar) with 0-60 psig (0-4 bar) gauge	H
Reverse Flow 0-20 psig (0-1.4 bar) with 0-60 psig (0-4 bar) gauge	J

FILTER ELEMENT TYPE

40 µm sintered bronze	**A**
5 µm polyethylene	B

FILTER REGULATOR DRAIN TYPE

Automatic Drain	**1**
Manual Drain	2

PIPE SIZE

3/8 NPTF	3
1/2 NPTF	4
3/4 NPTF	5
3/8 BSPP	C
1/2 BSPP	D
3/4 BSPP	E

CAP COLOR

Gold	**2**
Gray	G
Yellow	Y
Red	R
Blue	B

Lockout Valve

L-O-X® on outlet side	**1**
L-O-X® on the inlet side (must also choose Reverse Flow)	2
L-O-X® with EEZ-ON® on outlet side	3
L-O-X® with EEZ-ON® on inlet side (must also choose Reverse Flow)	4
Without Valve - Leave Blank	

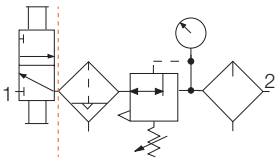
LUBRICATOR FILL TYPE

Quick Fill Cap	**Q**
Fill Port	S

ISO Symbol

FRL with Lockout

Automatic Drain Self-relieving



REPLACEMENT FILTER ELEMENTS*

Element Rating	Element Material	Part Number
5-µm	Polyethylene	R-A115-106PE5
40-µm	Sintered Bronze	R-A115-106PE3

* For Polycarbonate and metal bowl types.

Options: External Bowl Drains, refer to page E6.7.
Accessories ordered separately, refer to page E6.3-5.

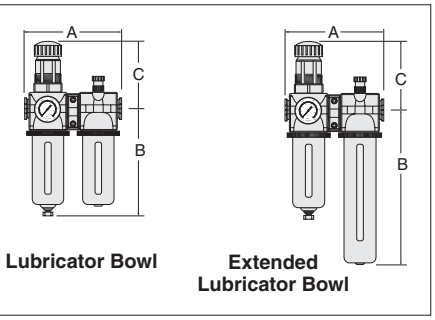
STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber or Sintered Bronze, Regulator - Diaphragm; Lubricator - Sight-Feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: Up to 150 psig up to 10 bar).
Metal bowl: Up to 200 psig (up to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Outlet Pressure: Adjustable up to 125 psig (9 bar).
Filter Element: 5-micron rated polyethylene; optional 40-micron element.
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.
Oil Adjustment: External; tamper-resistant.
Bowls: Aluminum bowl with clear nylon sight glass, polycarbonate bowl with steel shatterguard, or extended aluminum lubricator bowl with clear nylon sight glass.
Regulator Valve: Brass.
Sight Dome: Clear nylon.
Seals: Nitrile.

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

Port Size	Bowl Type	Dimensions inches (mm)				Weight † lb (kg)
		A	B*	C	Depth †	
3/8, 1/2, 3/4	Polycarbonate	7.3 (186)	7.7 (195)	5.4 (137)	2.9 (73)	5.81 (2.64)
	Metal	7.3 (186)	7.6 (193)	5.4 (137)	2.9 (73)	5.81 (2.64)
	Extended Metal	7.2 (183)	10.6 (269)	4.68 (119)	5.4 (137)	6.00 (2.73)

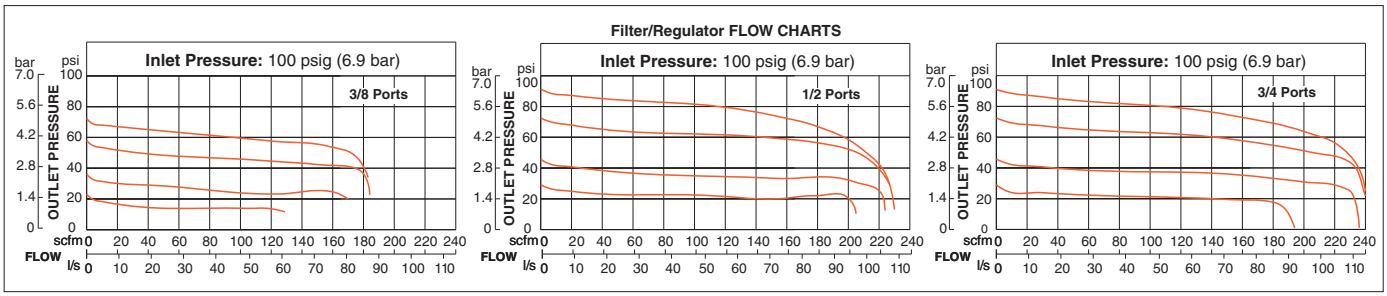
Lockout: With the lockout valve, add 2.3 (58) to dimension A.
* Bowl (standard) removal clearance: add 4.2 (107).
* Bowl (extended) removal clearance: add 6.1 (155)
† Less gauge.

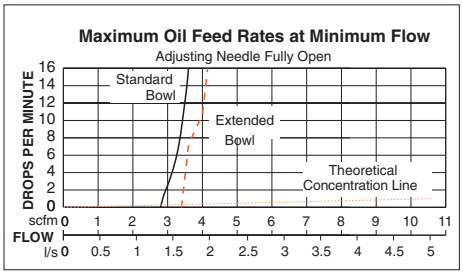


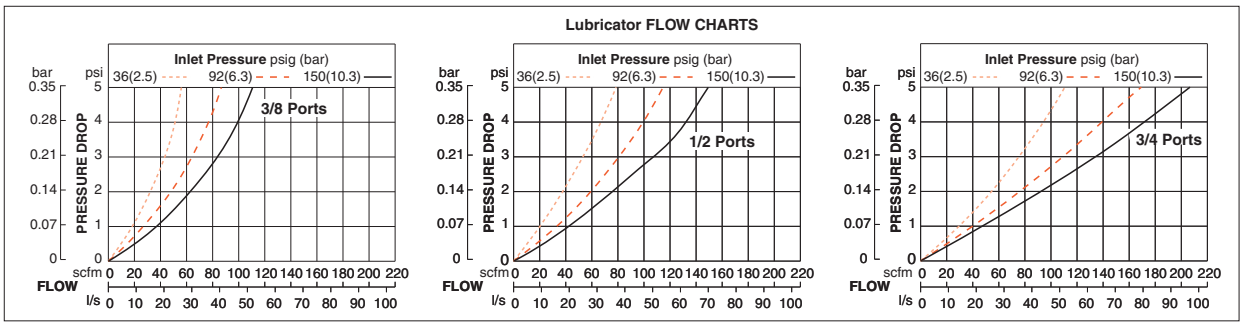
Lubricator Bowl

Extended Lubricator Bowl

AIR FLOW and CONSTRUCTION DATA





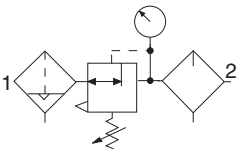


Port Sizes: 1/8 & 1/4 – Flow to 22 scfm

Combination with PISTON Type Regulator - Fill Port Lubricator				
Port Size	Model Numbers*#			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
With THREADED PORTS				
1/8	5B01C0115	5B01C0216	5B01C0315	5B01C0416
1/4	5B02C0115	5B02C0216	5B02C0315	5B02C0416
With Quick Connect 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

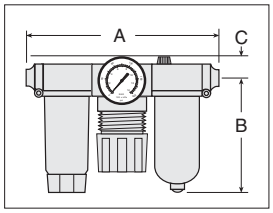
* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5B01C0115.
#Change the ninth digit to "7" for quick fill lubricator cap e.g., 5B01C0117.

ISO Symbol
FRL
Automatic Drain
Self-relieving

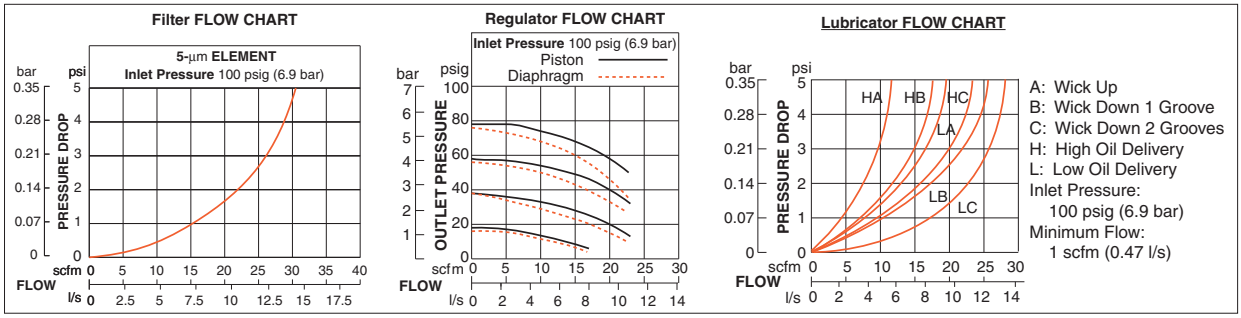


Port Size	Dimensions inches (mm)				Weight † lb (kg)
	A	B**	C	Depth †	
1/8, 1/4	6.3 (160	3.6 (92)	1.7 (43)	3.6 (92)	0.53 (0.24)
Models below have quick-connect tube fittings.					
1/4	6.7 (170)	3.6 (92)	1.7 (43)	3.6 (92)	0.50 (0.23)
3/8	7.2 (183)	3.6 (92)	1.7 (43)	3.6 (92)	0.50 (0.23)
4, 6 mm	6.7 (170)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

** Dimension for polycarbonate filter bowl; metal bowl is 3.8 (97).
† Less gauge.



REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	933K77



Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber; Regulator – Piston; Lubricator - Wick-Feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: Up to 150 psig up to 10 bar).
Metal bowl: Up to 200 psig (up to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Filter Element: 5-micron rated polyethylene.
Oil Adjustment: External, no shutoff.
Outlet Pressure: Adjustable up to 100 psig (7 bar).
Panel Mounting: 1-3/16 inch (30 mm) hole required.
Bodies: Acetal.
Bowls: 2-oz (60-ml) polycarbonate bowls or aluminum bowls.
Regulator Dome and Knob: Acetal.
Seals: Nitrile.

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

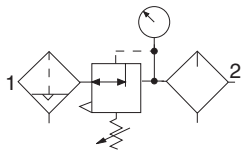
Port Sizes: 1/8 & 1/4 – Flow to 22 scfm

Combination with DIAPHRAGM Type Regulator - Fill Port Lubricator				
Port Size	Model Numbers#			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
With THREADED PORTS*				
1/8	5B01C0125	5B01C0226	5B01C0325	5B01C0426
1/4	5B02C0125	5B02C0226	5B02C0325	5B02C0426
With Quick Connect TUBE FITTINGS				
1/4	5B03C0125	5B03C0226	5B03C0325	5B03C0426
3/8	5B04C0125	5B04C0226	5B04C0325	5B04C0426
4mm	5B05C0125	5B05C0226	5B05C0325	5B05C0426
6mm	5B06C0125	5B06C0226	5B06C0325	5B06C0426
8mm	5B07C0125	5B07C0226	5B07C0325	5B07C0426
10mm	5B08C0125	5B08C0226	5B08C0325	5B08C0426

* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5B01C0115.
#Change the ninth digit to "7" for quick fill lubricator cap e.g., 5B01C0127.

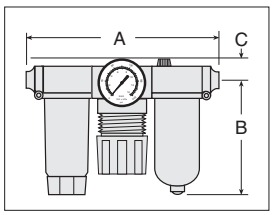
ISO Symbol
FRL

Automatic Drain
Self-relieving

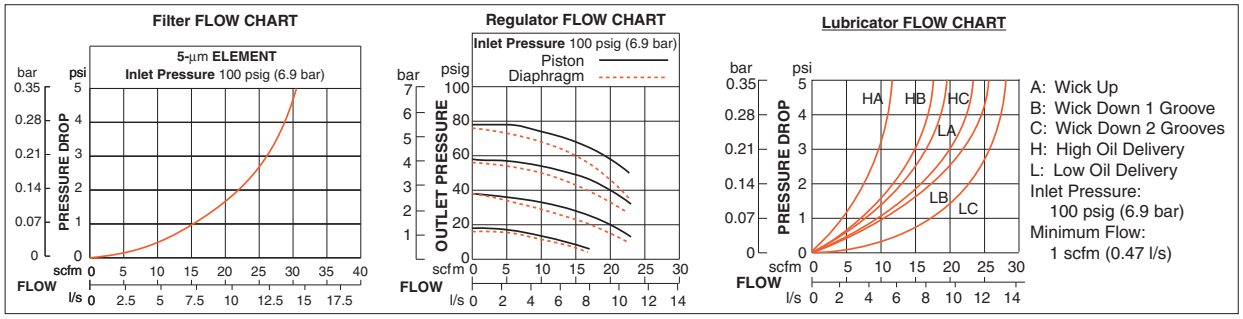


Port Size	Dimensions inches (mm)				Weight † lb (kg)
	A	B**	C	Depth †	
1/8, 1/4	6.3 (160	3.6 (92)	1.7 (43)	3.6 (92)	0.53 (0.24)
Models below have quick-connect tube fittings.					
1/4	6.7 (170)	3.6 (92)	1.7 (43)	3.6 (92)	0.50 (0.23)
3/8	7.2 (183)	3.6 (92)	1.7 (43)	3.6 (92)	0.50 (0.23)
4, 6 mm	6.7 (170)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

** Dimension for polycarbonate filter bowl; metal bowl is 3.8 (97).
† Less gauge.



REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	933K77



Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber; Regulator – Diaphragm; Lubricator - Wick-Feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: Up to 150 psig up to 10 bar).
Metal bowl: Up to 200 psig (up to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Filter Element: 5-micron rated polyethylene.
Oil Adjustment: External, no shutoff.
Outlet Pressure: Adjustable up to 100 psig (7 bar).
Panel Mounting: 1-3/16 inch (30 mm) hole required.
Bodies: Acetal.
Bowls: 2 oz (60 ml) polycarbonate bowls or aluminum bowls.
Regulator Dome and Knob: Acetal.
Seals: Nitrile.

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

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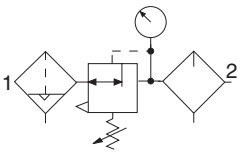
Port Sizes: 1/8 & 1/4 – Flow to 19 scfm

Port Size	Model Numbers*			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
FILL Port Lubricator				
1/8	5331C1006	5332C1006	5331C1005	5332C1005
1/4	5331C2006	5332C2006	5331C2005	5332C2005
With QUICK-FILL CAP				
1/8	5331C1106	5332C1106	5331C1105	5332C1105
1/4	5331C2106	5332C2106	5331C2105	5332C2105

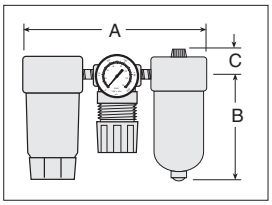
* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5331C1006.

ISO Symbol
FRL
Automatic Drain
Self-relieving

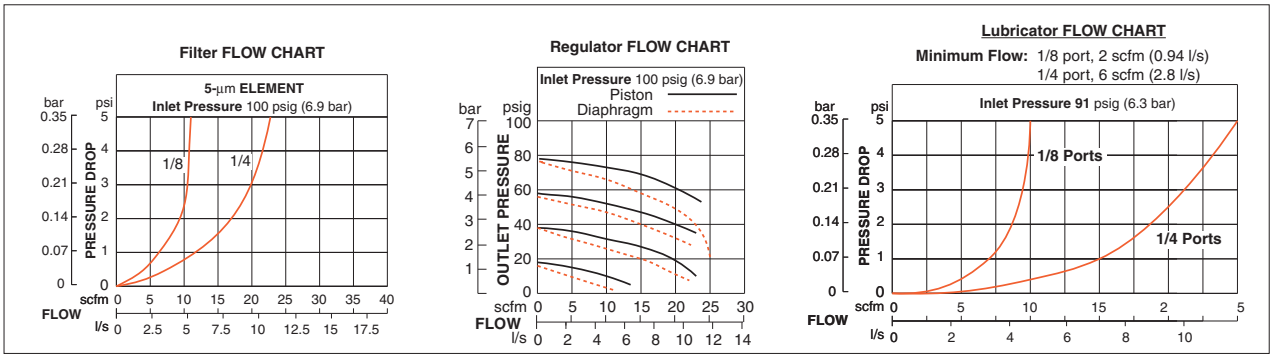


Port Size	Bowl Type	Bowl Capacity	Dimensions inches (mm)				Weight † lb (kg)
			A	B	C	Depth †	
1/8, 1/4	Polycarbonate	2-oz (60-ml)	5.5 (140)	3.6 (90)	0.7 (17)	1.6 (41)	0.76 (0.34)
1/8, 1/4	Aluminum	2-oz (60-ml)	5.5 (140)	4.3 (109)	0.7 (17)	1.6 (41)	0.76 (0.34)

† Less gauge.



REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	933K77



Pressure Gauge included.
Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber; Regulator – Piston; Lubricator - Wick-Feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: Up to 150 psig up to 10 bar).
Metal bowl: Up to 200 psig (up to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Outlet Pressure: Adjustable up to 100 psig (7 bar).
Pressure Gauge: 0 to 160 psig (0 to 11 bar); 1/8 NPT gauge ports front and rear.
Oil Adjustment: Internal; tamper-resistant.
Panel Mounting: 1-3/16 inch (30 mm) hole required.
Filter Element: 5-micron rated polyethylene.
Heads: Aluminum.
Bowls: Polycarbonate or aluminum.
Regulator Dome and Knob: Acetal.
Seals: Nitrile.

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

Port Sizes: 1/4, 3/8 & 1/2 – Flow to 100 scfm

HOW TO ORDER

(Choose your options (in red) to configure your valve model number.)

	5M	00	B	2	1	0	1

PIPE THREAD

NPTF (Blank)	
BSPP	C

CONNECTIONS

Pipe In, Out, Between	**00**
Pipe In & Out, Modular Between	09
Modular, Male Ports In & Out	10
Modular, Female Ports In & Out	11

PIPE SIZE

1/4	**2**
3/8	3
1/2	4

FILTER BOWL & DRAIN TYPE

None	0
Plastic Bowl, Automatic Drain	**1**
Metal Bowl, Automatic Drain	2
Plastic Bowl, Manual Drain	3
Metal Bowl, Manual Drain	4

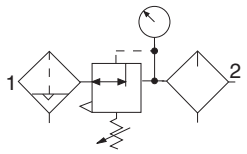
ADJUSTMENT RANGE

None	**0**
0-100 psig (0-6.9 bar)	1
0-50 psig (0-3.4 bar)	3
0-150 psig (0-10 bar)	5

LUBRICATOR BOWL & FILL TYPE

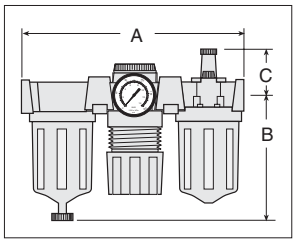
None	0
Plastic Bowl, Fill Port	**1**
Metal Bowl, Fill Port	2
Plastic Bowl, Quick-Fill Cap	3
Metal Bowl, Quick-Fill Cap	4

ISO Symbol
FRL
Automatic Drain
Self-relieving

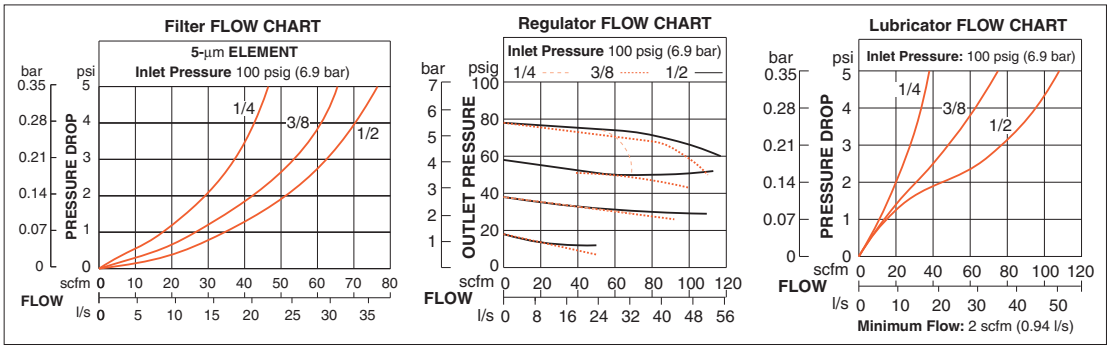


Port Size	Bowl Type	Bowl Capacity	Dimensions* inches (mm)				Weight † lb (kg)
			A	B	C	Depth †	
1/4, 3/8, 1/2	Polycarbonate	4-oz (120-ml)	8.5 (215)	4.6 (117)	1.8 (46)	2.8 (71)	3.75 (1.70)
1/4, 3/8, 1/2	Zinc	4-oz (120-ml)	8.5 (215)	4.7 (119)	1.8 (46)	2.8 (71)	3.75 (1.70)

* **Dimensions** for NPTF Pipe In & Out, Modular Between option; dimensions for other combinations consult ROSS.
† Less gauge.



REPLACEMENT FILTER ELEMENTS		
Element Rating	**Element Material**	**Model Number**
5-µm	Polyethylene	936K77



Pressure Gauge included. Includes 2 Female Port Blocks.
Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber; Regulator – Piston; Lubricator - Sight-Feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: Up to 150 psig up to 10 bar).
Metal bowl: Up to 200 psig (up to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Outlet Pressure: Adjustable up to 100 psig (7 bar).
Filter Element: 5-micron rated polyethylene.
Heads: Zinc.
Oil Adjustment: External; tamper-resistant.
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.
Bowls: Polycarbonate bowls with zinc shatterguards, or zinc bowls.
Sight Dome: Clear nylon.
Seals: Nitrile.

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

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Port Sizes: 1/4, 3/8 & 1/2 – Flow to 110 scfm

HOW TO ORDER

(Choose your options (in red) to configure your valve model number.)

MD3	53P	B	A	6	C	2	2	Q	1

BOWL SIZE

Polycarbonate Bowl 5.1-oz (151-ml)	**53P**
Metal Bowl 6-oz (177-ml)	53M
Metal Bowl 6-oz (177-ml) - on Filter Metal Bowl 10-oz (295-ml) - on Lubricator	53E
Plastic Bowl 6-oz (177-ml) - on Filter Metal Bowl 10-oz (295-ml) - on Lubricator	53F

ADJUSTMENT RANGE

0-200 psig (0-14 bar)	**A**
0-150 psig (0-10.3 bar)	B
0-100 psig (0-6.9 bar)	C
0-50 psig (0-3.4 bar)	D
No Regulator	E
Reverse Flow 0-200 psig (0-14 bar)	F
Reverse Flow 0-150 psig (0-10.3 bar)	G
Reverse Flow 0-100 psig (0-6.9 bar)	H
Reverse Flow 0-50 psig (0-3.4 bar)	J

FILTER ELEMENT TYPE

40 µm sintered bronze	**A**
5 µm polyethylene	B
5 µm sintered bronze	E
20 µm sintered bronze	F

BOWL DRAIN

Manual Drain	**6**
Float Drain	9

PIPE SIZE

1/4 NPTF	**2**
3/8 NPTF	3
1/2 NPTF	4
1/4 BSPP	B
3/8 BSPP	C
1/2 BSPP	D

CAP COLOR

Gold	**2**
Gray	G
Yellow	Y
Red	R
Blue	B

LUBRICATOR FILL TYPE

Quick Fill Cap	**Q**
Fill Port	S

Lockout Valve

L-O-X® on outlet side	**1**
L-O-X® on the inlet side (must also choose Reverse Flow)	2
L-O-X® with EEZ-ON® on outlet side	3
L-O-X® with EEZ-ON® on inlet side (must also choose Reverse Flow)	4
Without Valve - Leave Blank	

REPLACEMENT FILTER ELEMENTS*

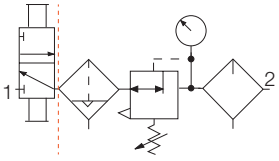
Element Rating	Element Material	Model Number
5-µm	Polyethylene	R-A60F-03PE5
5-µm	Sintered Bronze	R-A60F-03E5
20-µm	Sintered Bronze	R-A60F-03E4
40-µm	Sintered Bronze	R-A60F-03E3

* For polycarbonate and metal bowl types.

ISO Symbol

FRL with Lockout

Automatic Drain
Self-relieving



E

E5

Options: Drains: For additional information, refer to page E6.7.
Accessories ordered separately, refer to page E6.3-5.

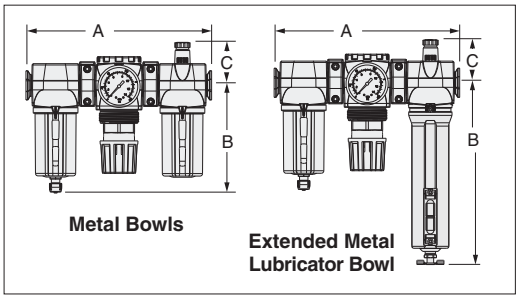
STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber, or Sintered Bronze; Regulator - Diaphragm; Lubricator - Sight-Feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
With metal bowl: 40° to 175°F (4° to 80°C).
Differential Pressure Gauge: Optional.
Fluid Media: Compressed air.
Filter Inlet Pressure:
Polycarbonate bowl & Manual drain: 0 to 150 psig (0 to 10 bar).
Polycarbonate bowl & Float drain: 30 to 150 psig (2 to 10 bar).
Metal bowl & Manual drain: 0 to 250 psig (0 to 17 bar).
Metal bowl & Float drain: 30 to 200 psig (2 to 14 bar).
Outlet Pressure: Adjustable up to 200 psig (13 bar); optional adjusting springs.
Optional 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.
Self-relieving: Non-relieving optional.
Oil Adjustment: External; tamper resistant.
Filter Element: 5-µm-rated polyethylene; 5-µm, 20-µm or 40-µm-rated sintered bronze.
Body: Zinc.
Dome: Nylon.
Regulator Dome: Nylon.
Knob: Acetal.
Bowl: Polycarbonate with nylon shatterguard, or aluminum bowl with clear nylon sight glass. Lubricator bowl only: extended aluminum bowl with clear nylon sight glass.
Seals: Nitrile.
Valve: Brass.
Valve Cap: Nylon.
Sight-Feed Dome: Nylon

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

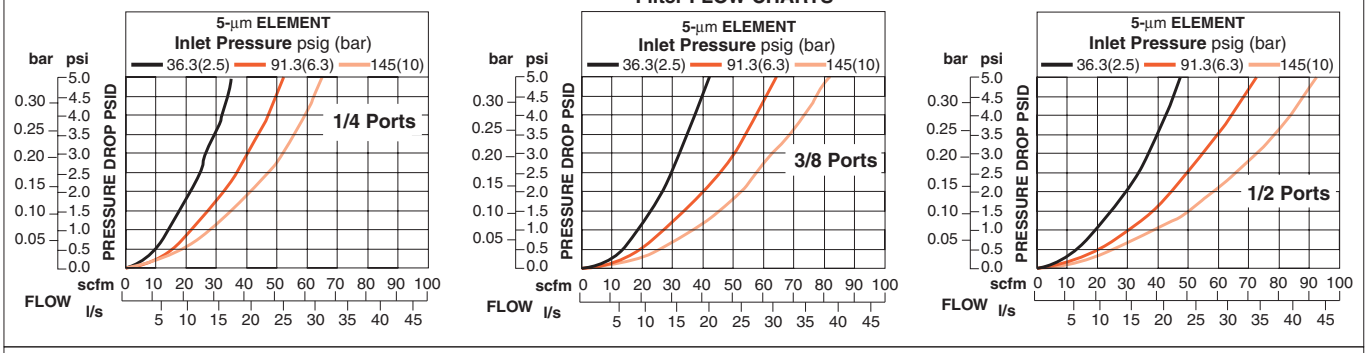
Port Size	Bowl Type	Dimensions inches (mm)				Weight lb (kg)
		A	B*	C	Depth	
1/2, 3/8, 1/2	Polycarbonate	9.72 (247.4)	5.54 (140.6)	2.21 (56.2)	2.90 (73.7)	6.1 (2.8)
	Aluminum	9.72 (247.4)	6.42 (163.1)	2.21 (56.2)	2.90 (73.7)	6.4 (2.9)
	Extended Aluminuml	9.72 (247.4)	9.37 (238)	2.21 (56.2)	2.90 (73.7)	6.6 (3.0)

Lockout: With the lockout valve, add 2.3 (58) to dimension A.
* Bowl (standard) removal clearance: add 3.1 (79)
* Bowl (extended) removal clearance: add 6.1 (155)
Dimensions above reflect less gauge.

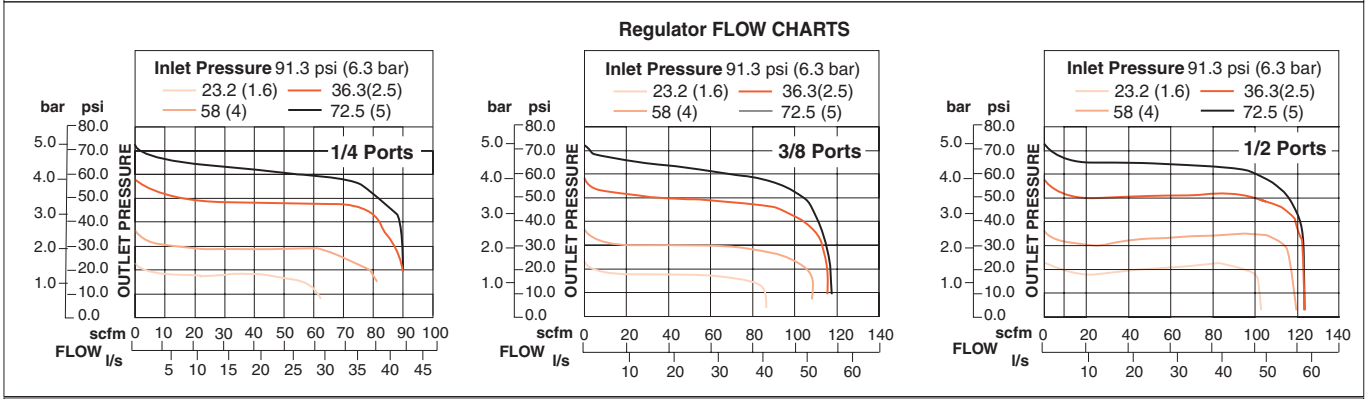


AIR FLOW and CONSTRUCTION DATA

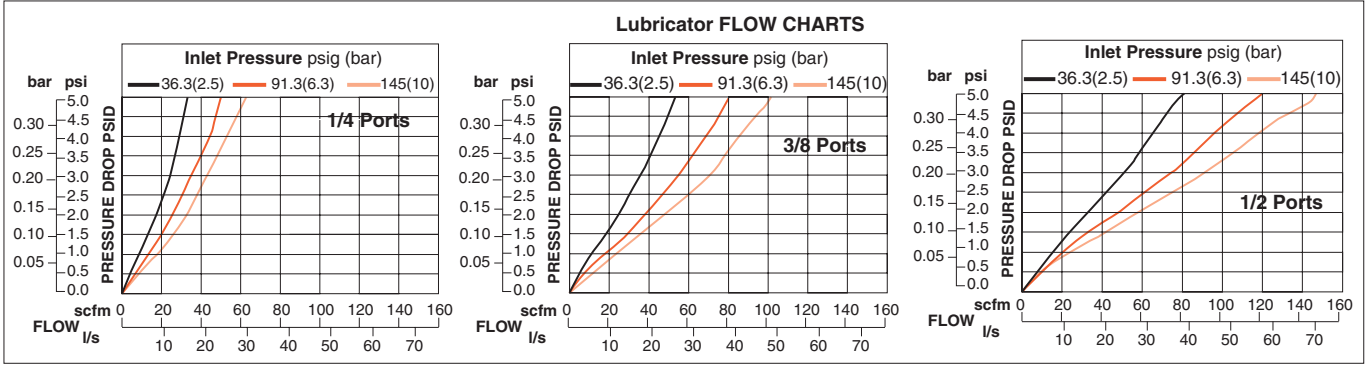
Filter FLOW CHARTS



Regulator FLOW CHARTS



Lubricator FLOW CHARTS



E

E5

Port Sizes: 1/4, 3/8, 1/2 & 3/4 – Flow to 138 scfm

HOW TO ORDER

(Choose your options (in red) to configure your valve model number.)

	5F	00	B	2	1	0	5

PIPE THREAD

NPTF (Blank)	
BSPP	C

CONNECTIONS

Pipe In, Out, Between	00
Pipe In & Out, Modular Between	09
Modular, Male Ports In & Out	10
Modular, Female Ports In & Out	11

PIPE SIZE

1/4	2
3/8	3
1/2	4
3/4	5

FILTER DRAIN & BOWL TYPE

None	0
Automatic Drain, Plastic Bowl	1
Automatic Drain, Metal Bowl	2
Manual Drain, Plastic Bowl	3
Manual Drain, Metal Bowl	4

Regulator TYPE ADJUSTMENT RANGE

None	0
0-125 psig (0-8.6 bar)	2
0-50 psig (0-3.4 bar)	4
0-175 psig (0-12 bar)	6

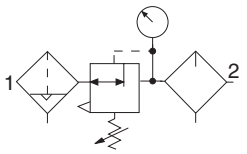
LUBRICATOR FILL & BOWL TYPE

None	0
Sight-Feed, Plastic Bowl, Fill Port	1
Sight-Feed, Metal Bowl, Fill Port	2
Sight-Feed, Plastic Bowl, Quick-Fill Cap	3
Sight-Feed, Metal Bowl, Quick-Fill Cap	4
Wick-Feed, Plastic Bowl, Fill Port	5
Wick-Feed, Metal Bowl, Fill Port	6
Wick-Feed, Plastic Bowl, Quick-Fill Cap	7
Wick-Feed, Metal Bowl, Quick-Fill Cap	8

ISO Symbol

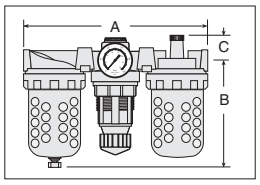
FRL

Automatic Drain
Self-relieving



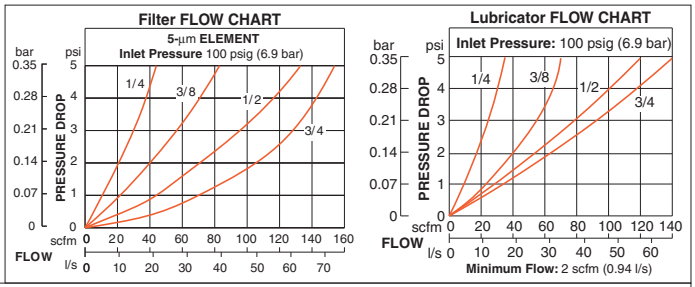
Port Size	Bowl Type	Bowl Capacity	Dimensions* inches (mm) A	B	C	Depth †	Weight † lb (kg)
1/4, 3/8, 1/2, 3/4	Polycarbonate	8-oz (240-ml)	10.1 (256)	5.8 (147)	1.3 (33)	2.8 (71)	7.06 (3.20)
1/4, 3/8, 1/2, 3/4	Zinc	8-oz (240-ml)	10.1 (256)	6.4 (163)	1.3 (33)	2.8 (71)	7.06 (3.20)

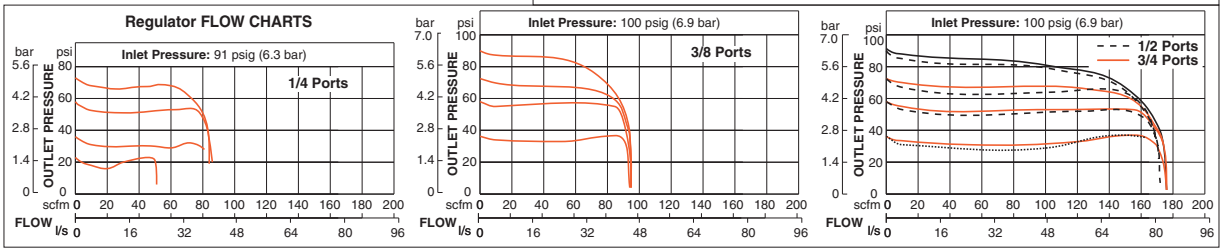
* **Dimensions** for NPTF Pipe In & Out, Modular Between option; dimensions for other combinations consult ROSS. † Less gauge.



REPLACEMENT FILTER ELEMENTS

Element Rating	Element Material	Model Number
5-µm	Polyethylene	939K77





Pressure Gauge included. Units with Threaded Ports Include 2 female port blocks.
Options: Electronic Drain, refer to page E6.7.
Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber; Regulator – Piston; Lubricator - Sight-Feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Outlet Pressure: Adjustable up to 125 psig (9 bar).
Filter Element: 5-micron rated polyethylene.
Heads: Zinc.
Oil Adjustment: External; tamper-resistant.
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Bowls: Zinc bowl with clear nylon sight glass, or polycarbonate bowl with steel shatterguard.
Bowl Rings: Aluminum.
Regulator: Nylon dome; acetal knob.
Sight Dome: Clear nylon. **Seals:** Nitrile.

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

Port Sizes: 3/8, 1/2 & 3/4 – Flow to 205 scfm

HOW TO ORDER

(Choose your options (in red) to configure your valve model number.)

MD4	53P	B	A	6	B	3	2	Q	1

BOWL MATERIAL/SIZE

Two Polycarbonate Bowls 9-oz (270-ml)	**53P**
Two Metal Bowl 9-oz (270-ml)	53M
Metal Bowl 9-oz (270-ml) - on Filter Extended Metal Bowl 15-oz (450-ml) - on Lubricator	53E
Plastic Bowl 9-oz (270-ml) - on Filter Extended Metal Bowl 15-oz (450-ml) - on Lubricator	53F

REGULATOR ADJUSTMENT RANGE

0-175 psig (0-12 bar)	A
0-125 psig (0-8.6 bar)	**B**
0-50 psig (0-3.4 bar)	C
0-20 psig (0-1.4 bar)	D
No Regulator	E
Reverse Flow 0-175 psig (0-12 bar)	F
Reverse Flow 0-125 psig (0-8.6 bar)	G
Reverse Flow 0-50 psig (0-3.4 bar)	H
Reverse Flow 0-20 psig (0-1.4 bar)	J

FILTER ELEMENT TYPE

40 µm sintered bronze	**A**
5 µm polyethylene	B

FILTER REGULATOR DRAIN TYPE

Automatic Drain	**5**
Manual Drain	6

PIPE SIZE

3/8 NPTF	3
1/2 NPTF	4
3/4 NPTF	5
3/8 BSPP	C
1/2 BSPP	D
3/4 BSPP	E

CAP COLOR

Gold	**2**
Gray	G
Yellow	Y
Red	R
Blue	B

LUBRICATOR FILL TYPE

No Lubricator	N
Quick Fill Cap	**Q**
Fill Port	S

Lockout Valve

L-O-X® on outlet side	**1**
L-O-X® on the inlet side (must also choose Reverse Flow)	2
L-O-X® with EEZ-ON® on outlet side	3
L-O-X® with EEZ-ON® on inlet side (must also choose Reverse Flow)	4
Without Valve - Leave Blank	

REPLACEMENT FILTER ELEMENTS*

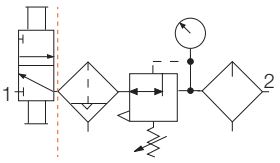
Element Rating	Element Material	Part Number
5-µm	Sintered Bronze	R-A115-106PE5
40-µm	Sintered Bronze	R-A115-106PE3

* For polycarbonate and metal bowl types.

ISO Symbol

FRL with Lockout

Automatic Drain Self-relieving



Options: External Bowl Drains, refer to page E6.7.

Accessories ordered separately, refer to page E6.3-5.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber, or Sintered Bronze; Regulator – Piston; Lubricator - Sight-Feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Outlet Pressure: Adjustable up to 125 psig (9 bar).
Filter Element: 5-micron rated polyethylene or 40-micron element.
Heads: Zinc.
Oil Adjustment: External; tamper-resistant.
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Bowls: Aluminum bowl with clear nylon sight glass, polycarbonate bowl with steel shatterguard; extended aluminum lubricator bowl with two clear nylon sight glasses.
Bowl Rings: Nylon.
Sight Dome: Clear nylon.
Seals: Nitrile.

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

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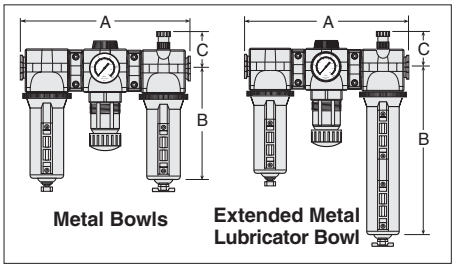
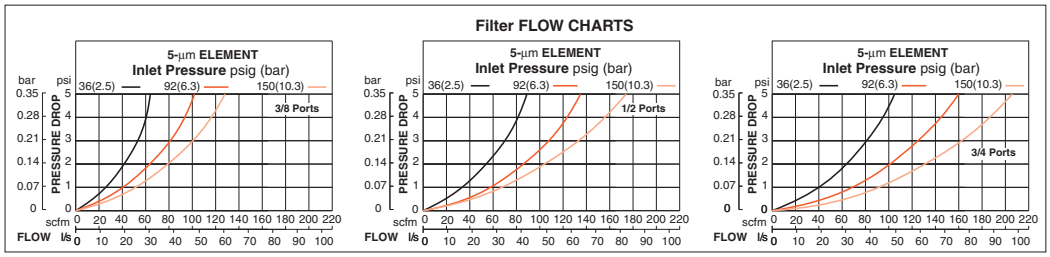
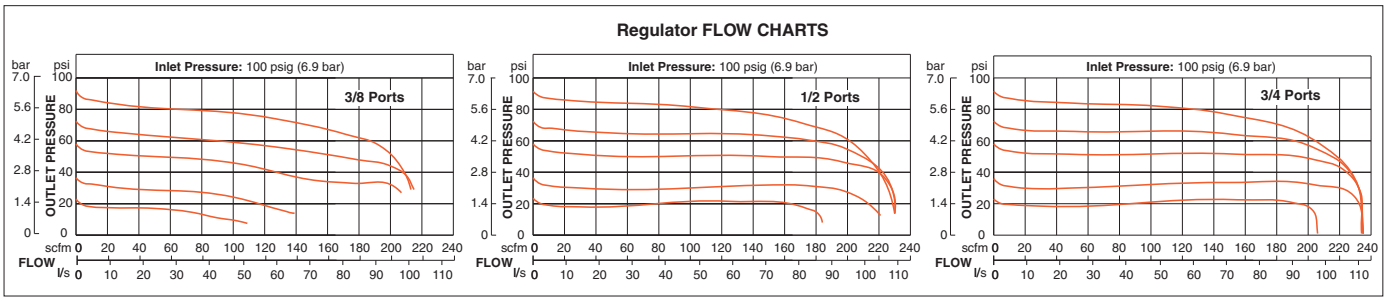
Port Size	Bowl Type	Dimensions inches (mm)				Weight † lb (kg)
		A	B*	C	Depth †	
3/8, 1/2, 3/4	Polycarbonate	10.9 (276)	7.7 (195)	2.2 (56)	2.9 (73)	6.94 (3.15)
3/8, 1/2, 3/4	Aluminum	10.9 (276)	7.6 (193)	2.2 (56)	3.1 (79)	6.94 (3.15)
3/8, 1/2, 3/4	Extended Metal	10.9 (276)	10.6 (269)	2.2 (56)	3.1 (79)	7.13 (3.24)

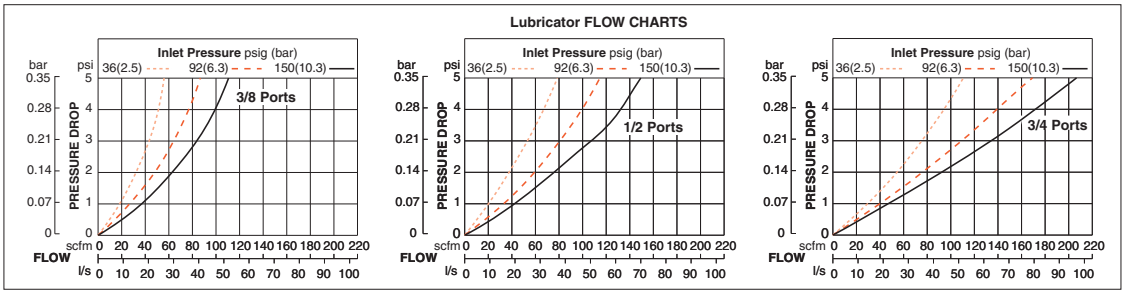
Lockout: With the lockout valve, add 2.3 (58) to dimension A.
* Bowl (standard) removal clearance: add 4.2 (107).
* Bowl (extended) removal clearance: add 6.1 (155)
† Less gauge.



AIR FLOW and CONSTRUCTION DATA







Port Sizes: 3/4 & 1 – Flow to 270 scfm

Port Size	Model Numbers*			
	Automatic Drain		Manual Drain	
	Polycarbonate Bowl	Metal Bowl	Polycarbonate Bowl	Metal Bowl
3/4	5H00C5111	5H00C5212	5H00C5311	5H00C5412
1	5H00C6111	5H00C6212	5H00C6311	5H00C6412

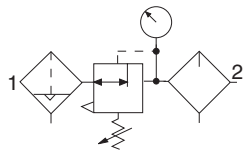
* NPT port threads. For BSPP threads add a "C" prefix to the model number e.g., C5H00C5110.

Port Size	Bowl Type	Bowl Capacity	Dimensions inches (mm)				Weight † lb (kg)
			A	B	C	Depth †	
3/4, 1	Polycarbonate	16-oz (480-ml)	15.8 (401)	8.0 (204)	1.2 (31)	4.3 (108)	8.00 (3.64)
3/4, 1	Aluminum	16-oz (480-ml)	15.8 (401)	8.3 (210)	1.2 (31)	4.3 (108)	8.9 (4.03)

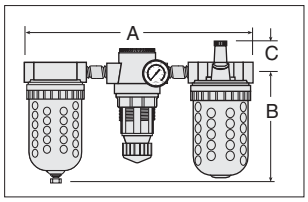
† Less gauge.

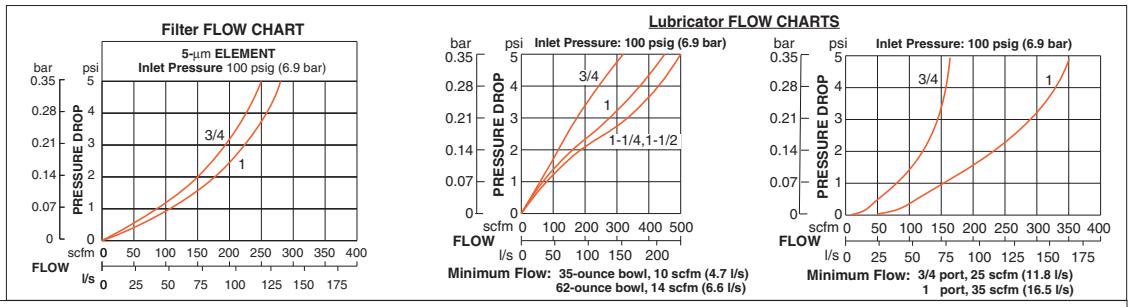
ISO Symbol
FRL

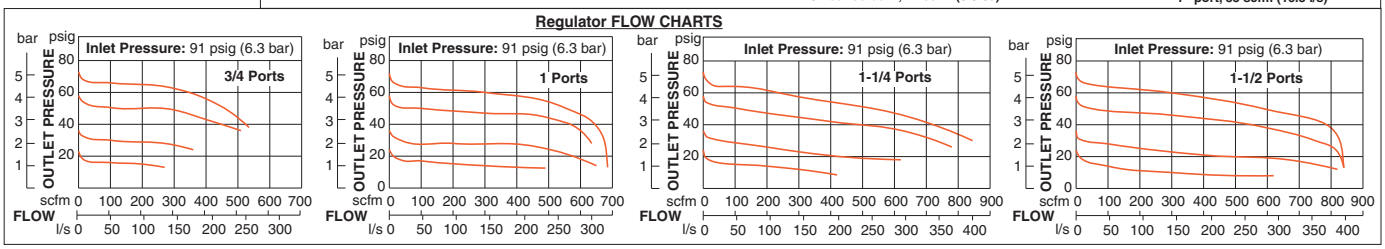
Automatic Drain
Self-relieving



REPLACEMENT FILTER ELEMENTS		
Element Rating	Element Material	Model Number
5-µm	Polyethylene	1010K77







Pressure Gauge included.

Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber; Regulator – Piston; Lubricator - Wick-Feed.
Ambient/Media Temperature:
Polycarbonate bowl: 40° to 125°F (4° to 52°C).
Metal bowl: 40° to 175°F (4° to 80°C).
Fluid Media: Compressed air.
Inlet Pressure - Automatic drain model:
Polycarbonate bowl: 15 to 150 psig (1 to 10 bar).
Metal bowl: 15 to 200 psig (1 to 14 bar).
Inlet Pressure - Manual drain model:
Polycarbonate bowl: 0 to 150 psig (0 to 10 bar).
Metal bowl: 0 to 200 psig (0 to 14 bar).
Filter Element: 5-micron rated polyethylene.
Heads: Aluminum.
Oil Adjustment: External; tamper-resistant.
Outlet Pressure: Adjustable up to 100 psig (7 bar).
Pressure Adjustment Locking Key: Removable.
Pressure Gauge: 0 to 200 psig (0 to 14 bar); 1/4 NPT gauge ports front and rear.
Bowls: Aluminum bowls with sight glass, or polycarbonate bowls with steel shatterguard.
Bowl Rings: Aluminum.
Seals: Nitrile.

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

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Port Sizes: 1¼ & 1½ – Flow to 495 scfm

HOW TO ORDER

(Choose your options (in red) to configure your valve model number.)

	5H	00C	7	1	1	2

PIPE THREAD

NPTF (Blank)	
BSPP	C

PIPE SIZE

1¼	7
1½	8

FILTER DRAIN & ELEMENT TYPE

None	0
Automatic drain, 40-µm	1
Automatic drain, 5-µm	2
Manual drain, 40-µm	3
Manual drain, 5-µm	4

REGULATOR TYPE

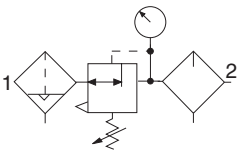
None	0
Piston, 0-100 psig (0-6.9 bar)	1
Internal pilot, 15-200 psig (1.0-14 bar)	8

LUBRICATOR TYPE

None	0
Sight-feed, Fill port	2
Sight-feed, Quick-fill cap	4

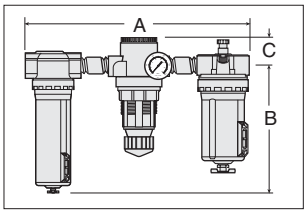
ISO Symbol
FRL

Automatic Drain
Self-relieving



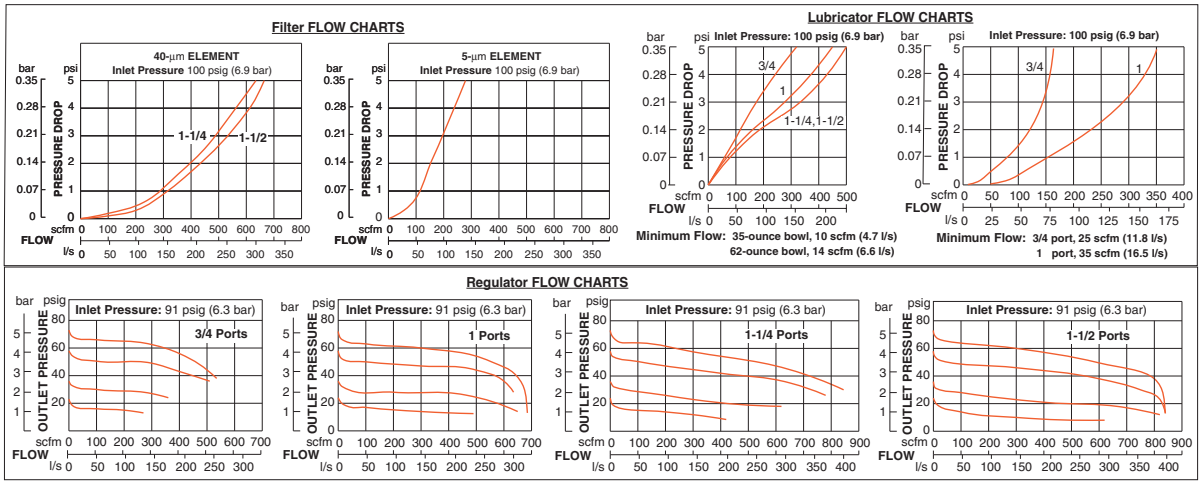
Port Size	Bowl Capacity	Dimensions inches (mm)				Weight† lb (kg)
		A	B	C	Depth†	
1¼, 1½	35-oz (1000-ml)	15.8 (401)	10.6 (268)	2.1 (54)	4.3 (108)	8.00 (3.64)

† Less gauge.



REPLACEMENT FILTER ELEMENTS*

Element Rating	Element Material	Element Number
5-µm	Polyethylene	1656K77
40-µm	Sintered Bronze	R-A114-106E3



Options: Drains: For additional information, refer to page E6.7.

Accessories ordered separately, refer to page E6.3-4.

STANDARD SPECIFICATIONS (for products on this page):

Construction: Filter – Fiber; Regulator – Piston; Lubricator - Sight-Feed.
Ambient/Media Temperature: 40° to 175°F (4° to 79°C).
Bowls: 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.
Inlet Pressure:
Automatic drain model: 15 to 200 psig (1 to 14 bar).
Manual drain model: 0 to 200 psig (0 to 14 bar).
Heads: Aluminum.
Oil Adjustment: External; tamper-resistant.
Outlet Pressure: Adjustable up to 100 psig (7 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.

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

E

ROSS CONTROLS®

Filter, Regulator, and Lubricator Accessories

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E

CONTENT	Page
Mounting Accessories	E6.3
Modular Assembly Components	E6.4
Clamp, Brackets, End Ports & Port Blocks	E6.5
Pressure Gauges	E6.6
External Drains, Silencers	E6.7

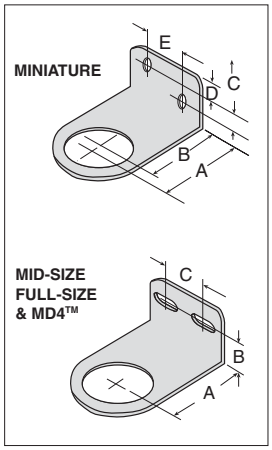
Mounting Screws for BANTAM Models

Usage Models	Kit Number
BANTAM	859K77

BANTAM models mounts with long screws that extend through end plates.

Mounting Brackets for Regulators and Integrated Filter/Regulators

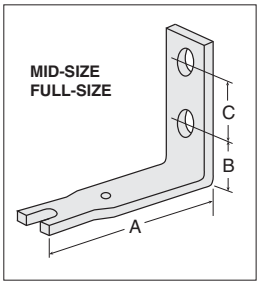
Regulators and integrated filter/regulators can be mounted to a surface with a bracket that attaches to the regulator. Brackets and mounting panel nuts can be ordered separately or in a kit which includes both bracket and mounting panel nut.



Usage Models	Model Number			Dimensions inches (mm)					
	Kit	Bracket	Panel Nut	A	B	C	D	E	Panel Mounting Hole Diameter
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)
MD3™	R-A127-11	–	R-127-11	2.38 (60)	1.00 (25)	1.50 (38)	–	–	2.06 (52)
FULL-SIZE, MD4™	879K77	878K77	880K77	2.38 (60)	1.00 (25)	1.50 (38)	–	–	2.06 (52)

Modular Mounting Brackets for Filters, Regulators, Lubricators, FRL's, or Clean Air Packages

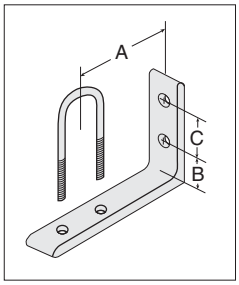
Two L-shaped metal brackets as shown at the right can be used for wall mounting of modular FRLs or Clean Air Packages. A single bracket can be used to mount individual filters or lubricators. Kits include two brackets and four screws for attaching the brackets to the modules.



Usage Models	Kit Number	Dimensions inches (mm)			
		A	B	C	D
MID-SIZE & FULL-SIZE	915K77	3.0 (76)	0.88 (22)	1.00 (25)	1.20 (31)

FRLs Inline Mounting Pipe Brackets

Two pipe brackets can be used for wall mounting of FRLs 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 a bracket assembly kit.

Kit Number	R-A37-381

E
E6

MID-SIZE and FULL-SIZE Units

The modular designs of the MID-SIZE and FULL-SIZE series offer maximum flexibility in customizing FRLs 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 FRLs components have threaded ports so that conventional pipe fittings may be used where desired.

Female Port Block

Used to connect to piping at inlet or outlet.

Port Size	Model Number	
	NPT Threads	BSPP Threads
1/4	897K77	D897K77
3/8	898K77	D898K77
1/2	899K77	D899K77
3/4	900K77	D900K77

Male Port Block

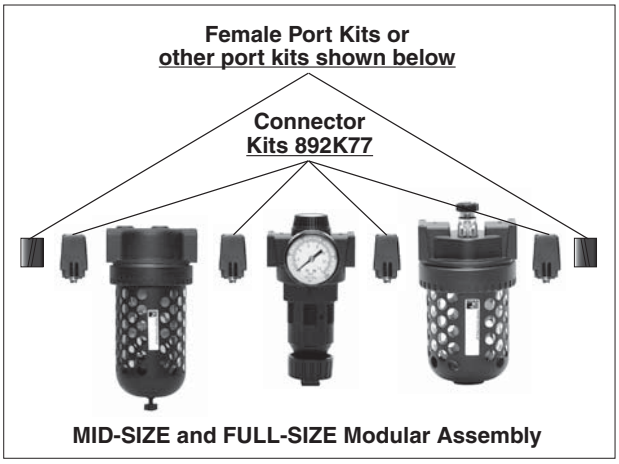
Used to connect modular to non-modular units.

Port Size	Model Number	
	NPT Threads	BSPP Threads
1/4	893K77	D893K77
3/8	894K77	D894K77
1/2	895K77	D895K77
3/4	896K77	D896K77

Connector Kit

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

Kit Number	892K77



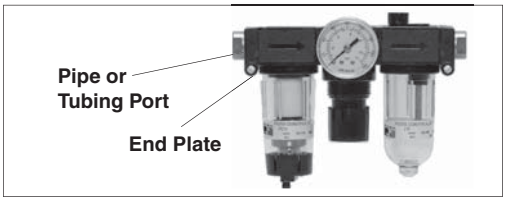
MID-SIZE and FULL-SIZE Modular Assembly

BANTAM Units

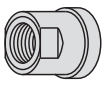
BANTAM modular units use end plates secured with screws to hold the pipe or tubing ports (see below), and also to serve as mounting brackets. Short screws are used to secure the end plates when a single BANTAM unit is used. If two or more units are combined, long screws extend through an end plate and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

Screw kits required are as follows:

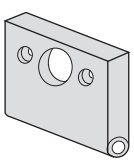
Single Unit: Two short screw kits.
Two-Unit Combination: One each short screw kit and long screw kit.
Three-Unit Combination: Two long screw kits.



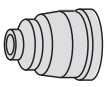
Pipe Ports	
Port Size	Model Number
1/8 NPT	862K77
1/4 NPT	863K77
1/8 BSPP	D864K77
1/4 BSPP	D865K77



Pipe Ports	
Kit Description	Model Number
END PLATE (1)	857K77
Short Screw (2)	858K77
Long Screw (2)	859K77
Small O-Ring (for inlet or mating ports)	860K77
Large O-Ring (for outlet or mating ports)	861K77



Tube Ports	
Port Size	Model Number
1/4	866K77
3/8	867K77
4 mm	868K77
6 mm	869K77
8 mm	870K77
10 mm	871K77



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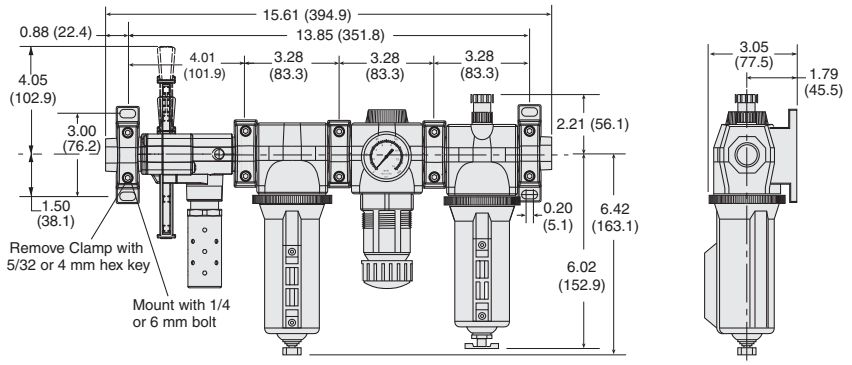
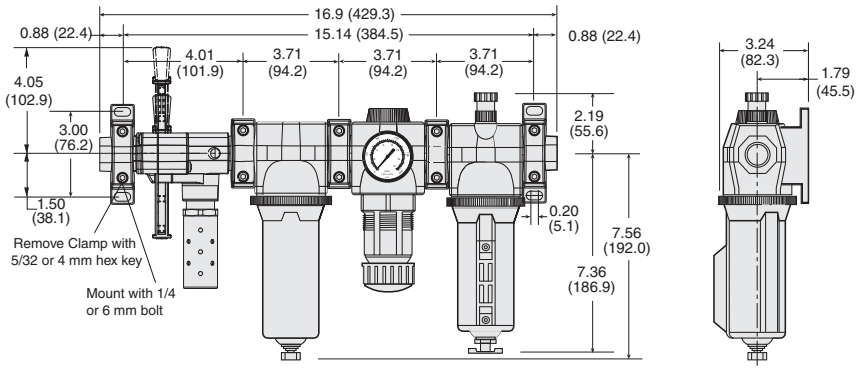
Dimensions: inches (mm)

MD3™ Series



MD4™ Series



Clamp for Module Connections

Specially designed clamps provide a quick and easy assembly or disassembly of MD 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 model number **R-A118-105**.

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

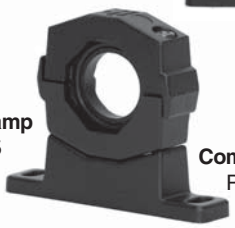
Mounting Brackets

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

Module Connecting Clamp
Part No. R-A118-105

Mounting Bracket
Part No. R-A118-103



Combined Clamp & Bracket
Part No. 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 model numbers:

Port Size	Male Part Number*		Port Size	Female Part Number*	
1/4	R-118-109-2F		1/4	R-118-100-2	
3/8	R-118-109-3F		3/8	R-118-100-3	
1/2	R-118-109-4F		1/2	R-118-100-4	
3/4	R-118-109-6F		3/4	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	Model Number*	
1/4	R-118-106-2	
3/8	R-118-106-3	
1/2	R-118-106-4	

* For BSPP threads, add a "W" suffix to the model number, e.g., R-118-106-2W.

Pressure Gauges

Port Size	Model Number*	Pressure Range psig (bar)	Case Diameter inches (mm)
1/8	5400A1002	0-160 (0-11)	1.5 (38)
1/4	5400A2010	0-60 (0-4)	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)

* Center back mounting; male pipe threads.
** 5400A2014 - Stainless steel case liquid filled.
*** 5400A2015 - Green shade between 40-70 psi (2.7-4.8 bar).

Differential Pressure Gauges

DIFFERENTIAL PRESSURE GAUGE TYPE/SERIES	Small Slide Gauge R-A60F-28	Small Slide Gauge R-K103-151	Large Dual Face Gauge R-106-35	Large Dual Face Gauge with Reed Switch (Normally Open) R-106-35E	Large Dual Face Gauge with Reed Switch (Normally Closed) R-106-35C
FILTERS					
BANTAM	–	–	–	–	–
MINIATURE	–	–	–	–	–
MID-SIZE	–	–	–	–	–
MD3™		–	–	–	–
FULL-SIZE	–	–	–	–	–
MD4™	–				
HIGH-CAPACITY	–	–	–	–	–
COALESCING FILTERS					
BANTAM	–	–	–	–	–
MINIATURE	–	–	–	–	–
MID-SIZE		–	–	–	–
FULL-SIZE	–				
MD3™		–	–	–	–
MD4™	–				
HIGH-CAPACITY	–				
OIL VAPOR REMOVAL (ADSORBING) FILTERS					
MD3™	–	–	–	–	–
MD4™	–	–	–	–	–
CLEAN AIR PACKAGES					
MD3™		–	–	–	–
MD4™	–				

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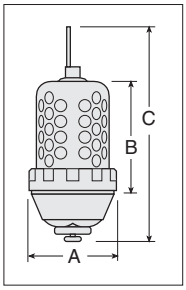
External Automatic Drains

Pipe Size	Model Number*	
	Polycarbonate Bowl**	Metal Bowl
1/8	5057B1001	5058B1001
1/4*	5057B2001	5058B2001

*Use 1/4 size with FULL-SIZE, HIGH-CAPACITY, MD3™ & MD4™ filters. Use kit 1076K77 to convert standard bowl to accept auto drain unit.
**Available for FULL-SIZE filters only. Polycarbonate bowl includes metal bowl guard.

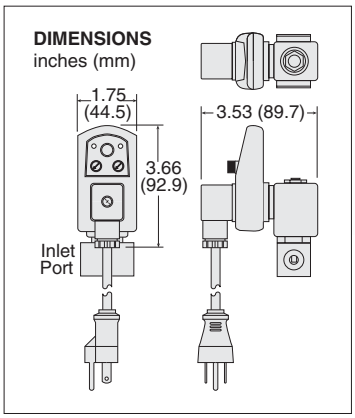
Port Size	Dimensions inches (mm)			Weight lb (kg)
	A	B	C	
1/8, 1/4	3.5 (89)	4.2 (107)	8.3 (211)	2.6 (1.2)



Electronically Controlled Drain

Pipe Size	Voltage	Model Number**
1/4	110-120 volts AC, 50/60 Hz	R-DED-115V-2
3/8	110-120 volts AC, 50/60 Hz	R-DED-115V-3
1/2	110-120 volts AC, 50/60 Hz	R-DED-115V-4
1/4	24 volts DC	R-DED-24V-2
3/8	24 volts DC	R-DED-24V-3
1/2	24 volts DC	R-DED-24V-4

** NPT port threads. For BSPP threads, add a "W" suffix to the model number, e.g., R-DED-115V-2W.



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).

Silencers

Port Size	Thread Type	Model Number*		Avg. C_v	Dimensions inches (mm)		Weight lb (kg)
		NPT Threads	BSPT Threads		A	B	
3/8	Male	5500A3003	D5500A3003	4.3	1.3 (32)	3.5 (88)	0.2 (0.1)
3/4	Male	5500A5013	D5500A5013	5.1	1.3 (32)	3.6 (92)	0.2 (0.1)
3/4	Male	5500A5003	D5500A5003	11.5	2.0 (51)	5.3 (135)	0.6 (0.3)

Flow Media: Filtered air.
Pressure Range: 0 to 300 psig (0 to 20.7 bar) maximum.

Category	Series	Element Rating	Bowl Type	Element Material	Model Number
Filters	Bantam	5-µm		Polyethylene	933K77
	Miniature	5-µm		Polyethylene	933K77
	MID-SIZE	5-µm		Polyethylene	936K77
	MD3™	5-µm		Polyethylene	R-A60F-03PE5
		5-µm		Sintered Bronze	R-A60F-03E5
		20-µm		Sintered Bronze	R-A60F-03E4
		40-µm		Sintered Bronze	R-A60F-03E3
	FULL-SIZE	5-µm		Polyethylene	939K77
	MD4™	5-µm		Polyethylene	R-A115-106PE5
		40-µm		Sintered Bronze	R-A115-106PE3
	HIGH-CAPACITY Flow to 275 scfm	5-µm		Polyethylene	1010K77
	HIGH-CAPACITY Flow to 660 scfm	5-µm		Sintered Bronze	1656K77
		40-µm		Sintered Bronze	R-A114-106E3
	HIGH-CAPACITY Flow to 1000 scfm	5-µm		Sintered Bronze	942K77
		40-µm		Sintered Bronze	944K77
Coalescing Filters	Bantam, Miniature	0.3-µm		Borosilicate-glass-fiber	945K77
		0.01-µm		Borosilicate-glass-fiber	R-A-10F-16E8
	MID-SIZE	0.3-µm	Standard	Borosilicate-glass-fiber	R-A60F-29
		0.3-µm	Extended	Borosilicate-glass-fiber	R-A60F-32
		0.01-µm	Standard	Borosilicate-glass-fiber	R-A60F-29E8
		0.01-µm	Extended	Borosilicate-glass-fiber	R-A60F-32E8
	MD3™	0.3-µm	Polycarbonate	Borosilicate-glass-fiber	R-A60F-23
			Metal	Borosilicate-glass-fiber	R-A60F-29
			Extended Metal	Borosilicate-glass-fiber	R-A60F-32
		0.01-µm	Polycarbonate	Borosilicate-glass-fiber	R-A60F-23E8
			Metal	Borosilicate-glass-fiber	R-A60F-29E8
			Extended Metal	Borosilicate-glass-fiber	R-A60F-32E8
	FULL-SIZE	0.3-µm	Standard	Borosilicate-glass-fiber	947K77
		0.3-µm	Extended	Borosilicate-glass-fiber	R-A103-160L
		0.01-µm	Standard	Borosilicate-glass-fiber	948K77
		0.01-µm	Extended	Borosilicate-glass-fiber	R-A103-160LE8
	MD4™	0.3-µm	Standard	Borosilicate-glass-fiber	R-A115-117
			Extended	Borosilicate-glass-fiber	R-A115-118
		0.01-µm	Standard	Borosilicate-glass-fiber	R-A115-117E8
			Extended	Borosilicate-glass-fiber	R-A115-118E8
	HIGH-CAPACITY Flow to 220 scfm	0.3-µm	Standard	Borosilicate-glass-fiber	949K77
		0.01-µm	Standard	Borosilicate-glass-fiber	R-A109-106E8
	HIGH-CAPACITY Flow to 295 & 450 scfm	0.3-µm	Standard	Borosilicate-glass-fiber	R-A114-112
			Extended	Borosilicate-glass-fiber	R-A114-113
		0.01-µm	Standard	Borosilicate-glass-fiber	R-A114-112E8
			Extended	Borosilicate-glass-fiber	R-A114-113E8
	HIGH-CAPACITY Flow to 465 scfm	0.3-µm	Standard	Borosilicate-glass-fiber	952K77
			Extended	Borosilicate-glass-fiber	953K77
		0.01-µm	Standard	Borosilicate-glass-fiber	R-A106-24E8
			Extended	Borosilicate-glass-fiber	R-A106-24LE8
	HIGH-CAPACITY Flow to 840 scfm	0.3-µm	Extended	Borosilicate-glass-fiber	953K77
		0.01-µm	Extended	Borosilicate-glass-fiber	R-A106-24E8
Oil Vapor Removal Filters	MD3™		Polycarbonate	Borosilicate-glass-fiber	R-A60F-29E9
			Metal	Borosilicate-glass-fiber	R-A60F-29E9
			Extended Metal	Borosilicate-glass-fiber	R-A60F-32E9
	MD4™	0.01-µm	Standard	Borosilicate-glass-fiber	R-A115-117E9
			Extended	Borosilicate-glass-fiber	R-A115-118E9
Silencers Reclassifiers	Port Size 1/2	20-µm		Sintered Bronze	940K77
	Port Size 3/4, 1	100-µm		Sintered Bronze	981K77

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 Bowls

Use Only with Compressed Air. Filters and lubricators with polycarbonate 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 polycarbonate 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 polycarbonate bowl.
Avoid Harmful Substances. Some compressor oils, chemical cleaners, solvents, paints, and fumes will attack polycarbonate 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 polycarbonate bowl which is crazed, cracked, or deteriorated.

Substances HARMFUL to Polycarbonate Bowls

E

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 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

General Information

Standard Specifications

The standard specifications for the products on each page of this catalog are given on the same page or referenced. For solenoid pilot valves, models with internal pilot supply are listed. Most models are also available for use with external pilot supply or have a built-in pilot supply selector valve.

The products in this catalog are intended for use in industrial pneumatic systems. Most products are adaptable to other uses and conditions not covered by the standard specifications given in this catalog. Weights shown are approximate and are subject to change. Dimensions given, unless otherwise noted, are envelope dimensions (not for mounting). Consult ROSS for further information.

Port Threads

Ports of valves and bases described in this catalog have NPT (ANSI B2.1) threads. Other thread types can be specified by putting an appropriate prefix letter on the model or part number when ordering.

Thread Types by Model Prefix Letter

Pneumatic Port Threads	Prefix Letter	Threaded Electrical Opening
NPT (ANSI B2.1)	None	NPT
ISO 228 - DIN 259 Parallel, BSPP#	**C***	—
ISO 228 - DIN 259 Parallel, BSPP#	**D**	G
ISO 228 - JIS B0203 Tapered#	**J**	ISO
SAE 1926- ISO 11926	**S**	NPT

* Used only for filters, regulators, lubricators.

ISO 228 threads superseds BSPP, G and JIS thread types.

Flow Ratings

Flow ratings are expressed as C_V where C_V = 1 corresponds to a steady state air flow of approximately 32 scfm under the following conditions:

Inlet pressure = 100 psig (6.7 bar)
Pressure drop = 10 psi (0.69 bar)
Air temperature = 68°F (20°C)
Relative humidity = 36%

Note: *Because widely differing test standards are used to measure C_V values, the figures given in this catalog should not be used to compare ROSS valves with those of other makers. The C_V ratings given here are intended only for use with performance charts published by ROSS. The C_V ratings are averages for the various flow paths through the valve and are for steady flow conditions.*

Approvals and Certifications

ROSS products are designed to meet a number of industrial standards, including the Canadian Standards Association (C.S.A.) guidelines.

For more information on specific product approvals, contact your local distributor or ROSS.

Solenoids

All ROSS standard solenoids are rated for continuous duty (unless noted otherwise) and will operate the valve within the air pressure range specified in this catalog.

Explosion-Proof Solenoid Pilot available, for more information consult ROSS.

Voltage & Hertz

When ordering a solenoid valve, also specify the desired solenoid voltage and hertz.

Voltage Types by Model Suffix Letter

Voltage	Suffix Letter
120 volts AC	**Z**
220 volts AC	**Y**
12 volts DC	**H**
24 volts DC	**W**
48 volts DC	**M**
90 volts DC	**K**
110 volts DC	**P**
125 volts DC	**C**

Recommended Solenoid Voltages: 100-110 volts AC, 50 Hz; 100-120 volts AC, 60 Hz; 24 volts DC; 110 volts DC.

In addition, the following voltages are available:

200, 220 volts AC, 50 Hz
200, 240, 480 volts AC, 60 Hz

24, 48, 220 volts AC, 50 Hz
240 volts AC, 60 Hz

200, 220 volts AC, 50 Hz
200, 240 volts AC, 60 Hz.

For example: Model 2773B5001, 120 volts AC, 60 Hz.
Model W6076B2401, 220 volts AC, 50 Hz.

Please note that not all configurations are available for all models.

For additional information or help with voltage configuration, please contact your local distributor or ROSS.

Port Identification

Valve symbols in this catalog conform to the ISO 1219-1:1991 standard of the International Organization for Standardization (ISO) and the SAE J2051 standard of the Society of Automotive Engineers (SAE) respectively.

Information or Technical Assistance

For additional information or application assistance concerning ROSS products, consult ROSS or your local ROSS distributor (see contact information on the back cover).

Order Placement

For order placement, consult ROSS or your local ROSS distributor.

For a current list of countries and local distributors, visit ROSS' website at www.rosscontrols.com.

CAUTIONS, WARNINGS and STANDARD WARRANTY

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. If you have any questions, call your nearest ROSS location listed on the cover of this document.

4. Each ROSS product should be used within its specification limits. In addition, use only ROSS parts to repair ROSS products.

WARNING: 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.

WARNING: 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.

POWER PRESSES

10. Mechanical power presses and other potentially hazardous machinery using a pneumatically controlled clutch and brake mechanism must use a press control double valve with a monitoring device. A double valve without a self-contained monitoring device should be used only in conjunction with a control system which assures monitoring of the valve. All double valve installations involving hazardous applications should incorporate a monitoring system which inhibits further operation of the valve and machine in the event of a failure within the valve mechanism.

ENERGY ISOLATION/EMERGENCY STOP

11. Per specifications and regulations, ROSS **L-O-X®** and **L-O-X®** with **EEZ-ON®** operation products 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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Full-Service Global Locations

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.

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.

For a current list of countries and local distributors, visit ROSS' website at www.rosscontrols.com.

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