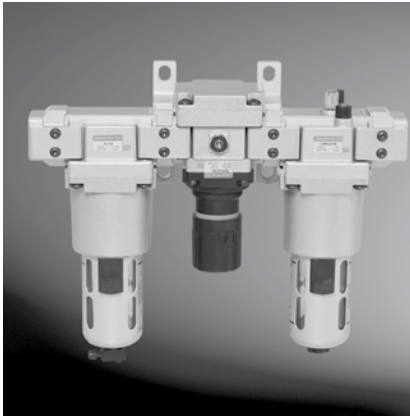


# Frl's



## FRL ORDERING INFORMATION

### FRL FEATURES

- Modular design for service & interchangeability
- Small package size and light weight construction
- Competitively priced

### Filters

MA13 has polycarbonate bowl with metal guard; threaded type  
 MA14, MA15, MA17 have polycarbonate bowl with metal guard, bayonet type

### stock elements

5, 25 or 50 micron  
 Manual, semi-auto or auto drain available

### regulators

Diaphragm operated balanced poppet design, relieving type  
 Superior droop performance  
 Panel, pipe, or bracket mounting  
 Metal body, polycarbonate bonnet and knob  
 Non-rising adjustment knob with push-pull lock ring feature

### Filter regulators

Aluminum and polycarbonate construction  
 Manual, semi-auto or autodrain available  
 Polycarbonate bowl with metal guard  
 Non-rising adjustment knob with push-pull lock ring feature  
 For panel or bracket mounting

### lubricators

Polycarbonate bowl with metal guard; top plug permits filling without removing bowl or shutting off air  
 Adjust drip rate by hand, using needle adjusting knob

		XX	XXX	XX	X	X	X	X
<b>Size</b>								
1/8", 1/4" NPT (11, 21 SCFM)	MA13							
1/4", 3/8" NPT (61, 88 SCFM)	MA14							
1/4", 3/8", 1/2" NPT (80, 167, 140 SCFM)	MA15							
3/4", 1" NPT (175, 228 SCFM)	MA17							
<b>Part Option</b>								
Particulate Filter	F							
Coalescing Filter (not availbel in 1/8")	CF							
Regulator	R							
Lubricator	L							
Filter Regulator	FR							
Filter Regulator PLUS Lubricator	FRP							
Filter Regulator Lubricator	FRL							
<b>Port Size</b>								
1/8" NPT	1N							
1/4" NPT	2N							
3/8" NPT	3N							
1/2" NPT	4N							
3/4" NPT	6N							
1" NPT	8N							
<b>Regulator Pressure Ranges</b>								
0-10 psi	A							
0-30 psi	L							
0-60 psi	M							
0-140 psi	H							
Omit for Filters and Lubricators								
<b>Filters Options</b>								
<b>Particulate</b>								
40 Micron Filter, Standard	C							
25 Micron Filter	B							
5 Micron Filter	F							
<b>Coalescing</b>								
0.1 Micron Filter, Standard	E							
0.01 Micron Filter	V							
Omit for Regulators and Lubricators								
<b>Drain</b>								
Manual Drain, Standard	M							
Semi-Automatic Drain	S							
Auto Drain (NOT AVAILABLE ON MA13)	A							
Omit for Regulators and Lubricators								
<b>Bowl Options</b>								
Metal Bowl, NO Level Indicator	M							
Metal Bowl with Level Indicator	L							

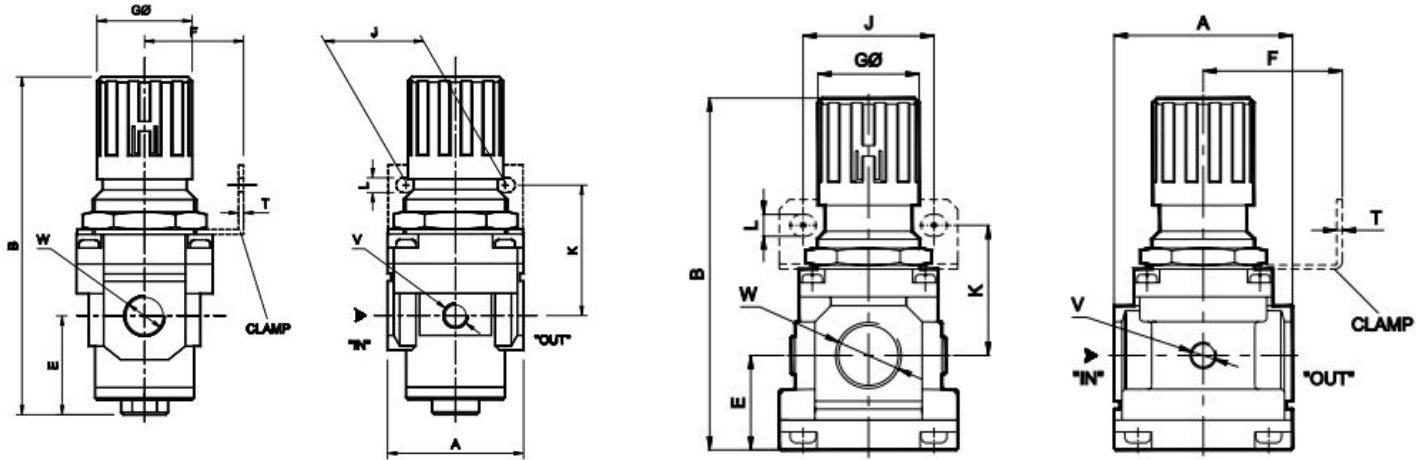
	MA13	MA14	MA15	MA17
<b>FILTERS/ PARTICLE or MIST</b>				
Port Size	1/8, 1/4" NPT	1/4, 3/8" NPT	1/4, 3/8, 1/2" NPT	3/4, 1" NPT
Filtration (micron) Particle/Mist	5μ, 25μ, 50μ / 0.01	5μ, 25μ, 50μ / 0.01	5μ, 25μ, 50μ / 0.01	5μ, 25μ, 50μ / 0.01
Maximum Supply Pressure	140 PSI (10 BAR)/ 280 PSI (20 BAR) with metal bowl	140 PSI (10 BAR)/ 280 PSI (20 BAR) with metal bowl	140 PSI (10 BAR)/ 280 PSI (20 BAR) with metal bowl	140 PSI (10 BAR)/ 280 PSI (20 BAR) with metal bowl
Temperature Range*	41°-120°F (140°F metal bowl) 5°-50° C (60°C metal bowl)	41°-120°F (140°F metal bowl) 5°-50° C (60°C metal bowl)	41°-120°F (140°F metal bowl) 5°-50° C (60°C metal bowl)	41°-120°F (140°F metal bowl) 5°-50° C (60°C metal bowl)
Drain (Mist- Manual only)	Manual / Semi-Auto	Manual / Semi-Auto / Auto	Manual / Semi-Auto / Auto	Manual / Semi-Auto / Auto
Bowl Capacity oz (ml)	0.3 oz (9 ml)	1.1 oz (32 ml) Standard, 1.2 oz (35ml) AD, 2.2 oz (64ml) metal	1.5 oz (44 ml) Standard, 2.2 oz (65ml) AD, 3.1 oz (90ml) metal	5.6 oz (165 ml)
Flow (based on 85 psi inlet pressure with 40 micron filter) Particle/Mist	10,15, 28 SCFM (425, 800 lpm)	27, 35, 78 SCFM (765, 2250 lpm)	29, 76, 60,123 SCFM (815, 2185, 3500 lpm)	77,175, 228 SCFM (5000, 6500 lpm)
<b>REGULATORS</b>				
Max. Supply Pressure	225 PSI (15.5 bar)	225 PSI (15.5 bar)	225 PSI (15.5 bar)	225 PSI (15.5 bar)
Flow Capacity at 100 psig (6.9 BAR)	11,21 SCFM (315, 600 lpm)	61,87 SCFM (1750, 2500 lpm)	80,118, 140 SCFM (2280, 4764, 4000 lpm)	175, 228 SCFM (5000, 6000 lpm)
Output Pressure Ranges	0-10 psig (0-0.69 BAR)	0-10 psig (0-0.69 BAR)	0-10 psig (0-0.69 BAR)	0-10 psig (0-0.69 BAR)
	3-30 psig (0-2.1 BAR)	3-30 psig (0-2.1 BAR)	3-30 psig (0-2.1 BAR)	3-30 psig (0-2.1 BAR)
	3-60 psig (0-4.1 BAR)	3-60 psig (0-4.1 BAR)	3-60 psig (0-4.1 BAR)	3-60 psig (0-4.1 BAR)
	7-140 psig (0-9.6 BAR)	7-140 psig (0-9.6 BAR)	7-140 psig (0-9.6 BAR)	7-140 psig (0-9.6 BAR)
Temperature Range	41°-140° F / 5°-60° C	41°-140° F / 5°-60° C	41°-140° F / 5°-60° C	41°-140° F / 5°-60° C
Port Size	1/8, 1/4" NPT	1/8, 3/8" NPT	1/8, 3/8, 1/2" NPT	3/4, 1" NPT
Mounting Options	Pipe, Panel or Bracket	Pipe, Panel or Bracket	Pipe, Panel or Bracket	Pipe, Panel or Bracket
<b>FILTER-REGULATORS</b>				
Port Size	1/8, 1/4" NPT	1/4, 3/8" NPT	1/4, 3/8, 1/2" NPT	3/4, 1" NPT
Filtration (micron)	5μ, 25μ, 40μ	5μ, 25μ, 40μ	5μ, 25μ, 40μ	5μ, 25μ, 40μ
Maximum Supply Pressure	140 PSI (10 BAR)/ 280 PSI (20 BAR) with metal bowl	140 PSI (10 BAR)/ 280 PSI (20 BAR) with metal bowl	140 PSI (10 BAR)/ 280 PSI (20 BAR) with metal bowl	140 PSI (10 BAR)/ 280 PSI (20 BAR) with metal bowl
Temperature Range *	41°-120°F (140°F metal bowl) 5°-50° C (60° C metal bowl)	41°-120°F (140°F metal bowl) 5°-50° C (60° C metal bowl)	41°-120°F (140°F metal bowl) 5°-50° C (60° C metal bowl)	41°-120°F (140°F metal bowl)
Drain	Manual / Semi-Auto	Manual / Semi-Auto / Auto	Manual / Semi-Auto / Auto	Manual / Semi-Auto / Auto
Bowl Capacity oz (ml)	0.3 oz (9 ml)	1.1 oz (32 ml) Standard, 1.2 oz (35ml) AD, 2.2 oz (64ml) metal	2.2 oz (65ml) AD, 3.1 oz (90ml) metal	5.6 oz (165 ml)
Output Pressure Ranges	0-10 psig (0-0.69 BAR)	0-10 psig (0-0.69 BAR)	0-10 psig (0-0.69 BAR)	0-10 psig (0-0.69 BAR)
	3-30 psig (0-2.1 BAR)	3-30 psig (0-2.1 BAR)	3-30 psig (0-2.1 BAR)	3-30 psig (0-2.1 BAR)
	3-60 psig (0-4.1 BAR)	3-60 psig (0-4.1 BAR)	3-60 psig (0-4.1 BAR)	3-60 psig (0-4.1 BAR)
	7-140 psig (0-9.6 BAR)	7-140 psig (0-9.6 BAR)	7-140 psig (0-9.6 BAR)	7-140 psig (0-9.6 BAR)
Flow (based on 100 psi inlet pressure with 40 micron filter)	8.8, 19.3 SCFM (250, 550 lpm)	25, 63 SCFM (725, 1800 lpm)	32, 81, 105 SCFM (915, 2300, 3000 lpm)	210 SCFM (6000 lpm)/ 228SCFM (6800 lpm) STD, metal/ 212 SCFM(6000 lpm)/ 214 SCFM(6000 lpm) AUTO
<b>LUBRICATORS</b>				
Port Size	1/8, 1/4" NPT	1/4, 3/8" NPT	1/4, 3/8, 1/2" NPT	3/4, 1" NPT
Lubrication	Mist	Mist	Mist	Mist
Maximum Supply Pressure	140 PSI (10 BAR) 280 PSI (20 BAR) with metal bowl	140 PSI (10 BAR) 280 PSI (20 BAR) with metal bowl	140 PSI (10 BAR) 280 PSI (20 BAR) with metal bowl	140 PSI (10 BAR) 280 PSI (20 BAR) with metal bowl
Temperature Range *	41°-120°F (140°F metal bowl) 5°-50° C (60° C metal bowl)	41°-120°F (140°F metal bowl) 5°-50° C (60° C metal bowl)	41°-120°F (140°F metal bowl) 5°-50° C (60° C metal bowl)	41°-120°F (140°F metal bowl) 5°-50° C (60° C metal bowl)
Bowl Capacity oz (ml)	0.68 oz (20ml)	2.0 oz (57ml) Standard/ 3.4 oz (100 ml) METAL	5.1 oz(152ml) STD/ 6.8 oz(200 ml) METAL	6.8 oz (200 ml)
Flow (based on 85 psi inlet pressure)	16 SCFM (455 lpm)/ 47 SCFM(1350 lpm)	47 SCFM (1330 lpm)/ 105 SCFM(3000 lpm)	47(1350 ml)/ 115 SCFM(3270 lpm) 198 SCFM(3270 lpm)	254 SCFM (7200 lpm)/ 318 SCFM(9000 lpm)

\* Metal Bowls have a higher temp. range; (41°-140° F / 5°-60° C)

# MA Series – Regulator

Model MA13R, MA14R, MA15R

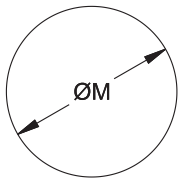
Model MA17R



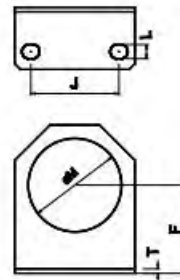
Model - Inch (mm)

	W	V (npt)	A (sq)	B	E	F	GØ	J	K	L	T	ØM
MA13	1/8" 1/4"	1/8"	1.57 (40)	3.18 (81)	0.51 (13)	1.18 (30)	1.10 (28)	1.10 (28)	1.77 (45)	0.21 (5)	0.08 (2)	1.22 (31)
MA14	1/4" 3/8"	1/8"	2.16 (55)	5.31 (135)	1.57 (40)	1.57 (40)	1.57 (40)	1.57 (40)	2.09 (53)	0.26 (6)	0.08 (2)	1.69 (43)
MA15	1/4", 3/8", 1/2"	1/8"	2.75 (70)	6.49 (165)	1.57 (40)	1.97 (50)	2.00 (51)	2.16 (55)	2.44 (62)	0.36 (9)	0.08 (2)	2.09 (53)
MA17	3/4"	1/8"	3.54 (90)	6.96 (177)	1.87 (47)	2.76 (70)	2.00 (51)	2.60 (66)	2.56 (65)	0.43 (11)	0.20 (5)	2.09 (53)
MA17	1"	1/8"	3.54 (90)	6.96 (177)	1.87 (47)	2.76 (70)	2.00 (51)	2.60 (66)	2.56 (65)	0.43 (11)	0.20 (5)	2.09 (53)

Panel cut hole dia



Clamp for Regulator

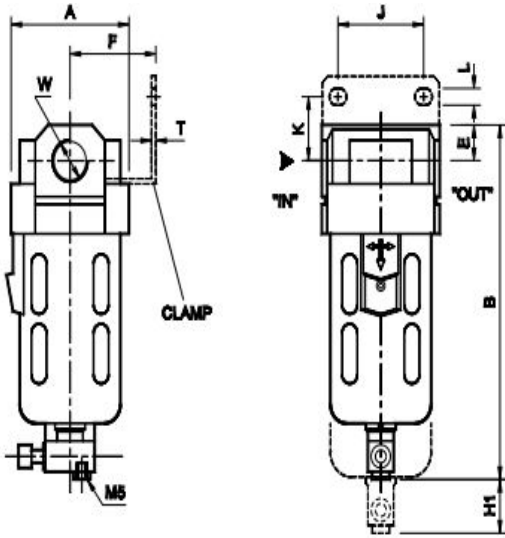


Model - Inch (mm)

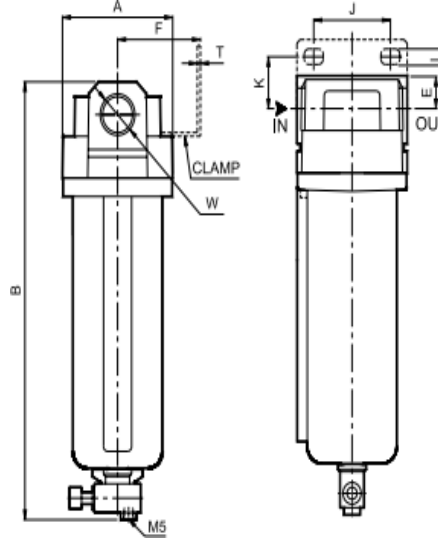
	Part No.	ØM	F	L	J	T
MA13	MA13RB	1.20 (31)	1.81 (30)	0.22 (5)	1.10 (28)	0.08 (2)
MA14	MA14RB	1.67 (42)	1.58 (40)	0.26 (6)	1.58 (40)	0.08 (2)
MA15	MA15RB	2.07 (53)	1.97 (50)	0.34 (8)	2.17 (55)	0.08 (2)
MA17	MA17RB	2.07 (53)	2.75 (70)	0.43 (11)	2.60 (66)	0.20 (5)

## MA Series – Filter

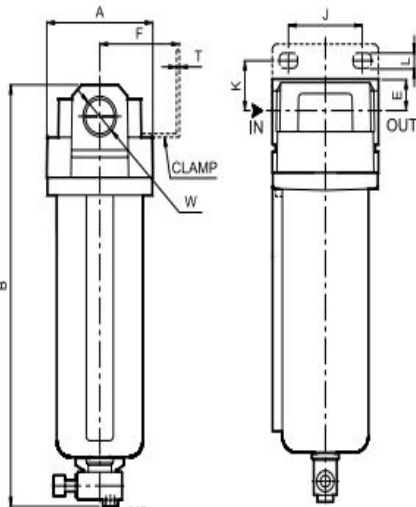
MA13F, MA14F, MA15F, MA17F  
Manual drain



MA14F, MA15F, MA17F  
Auto drain



MA13F, MA14F, MA15F, MA17F  
Metal bowl



### B dimension

		Manual drain	Auto drain	Metal bowl
MA13	1/8" 1/4"	4.45 (113)	N/A	4.53 (115)
MA14	1/4" 3/8"	5.51 (140)	7.60 (193)	7.40 (188)
MA15	1/4", 3/8", 1/2"	6.77 (172)	9.06 (230)	8.82 (224)
MA17	3/4"	10.24 (260)	10.24 (260)	10.43 (265)
MA17	1"	10.24 (260)	10.24 (260)	10.43 (265)

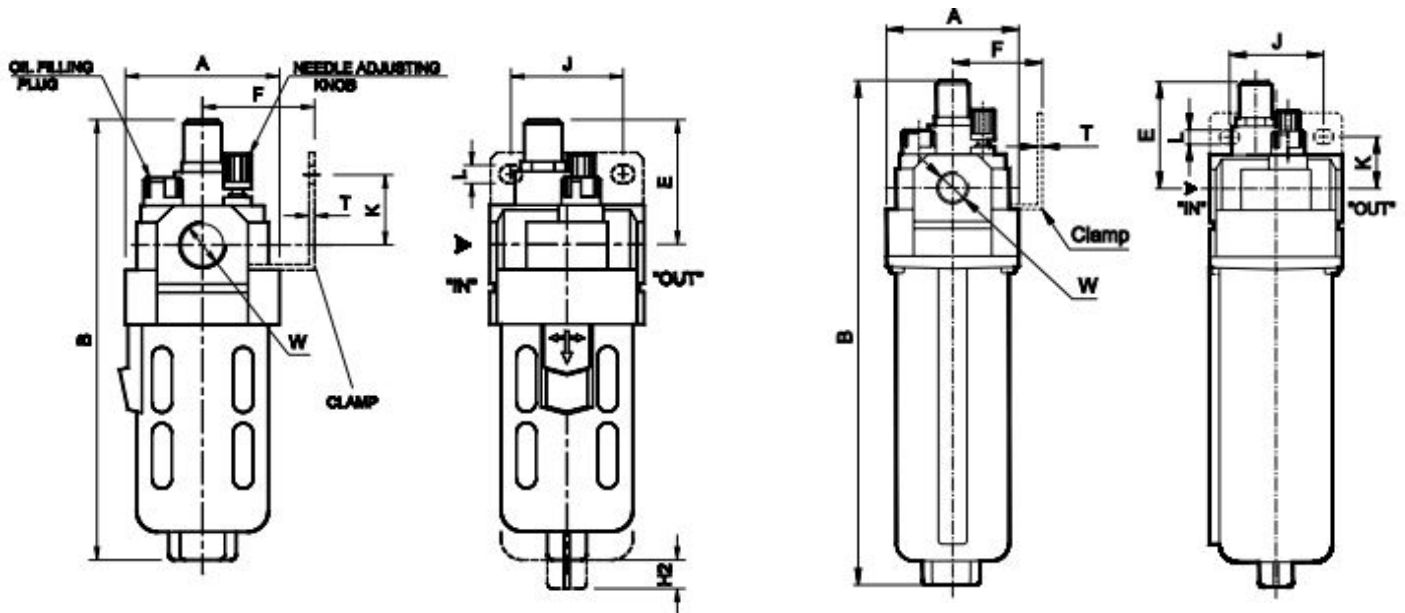
### Model - Inch (mm)

		A (sq)	E	F	J	K	L	T	H1
MA13	1/8" 1/4"	1.57 (40)	0.43 (11)	1.18 (30)	1.10 (28)	0.59 (15)	0.21 (5)	0.08 (2)	1.97 (50)
MA14	1/4" 3/8"	2.16 (55)	0.55 (14)	1.57 (40)	1.57 (40)	0.98 (25)	0.26 (6)	0.08 (2)	2.16 (55)
MA15	1/4", 3/8", 1/2"	2.75 (70)	0.71 (18)	1.97 (50)	2.16 (55)	0.98 (25)	0.36 (9)	0.08 (2)	3.15 (80)
MA17	3/4"	3.54 (90)	0.95 (24)	2.76 (70)	2.60 (66)	1.38 (35)	0.43 (11)	0.20 (5)	3.15 (80)
MA17	1"	3.54 (90)	0.95 (24)	2.76 (70)	2.60 (66)	1.38 (35)	0.43 (11)	0.20 (5)	3.15 (80)

## MA Series – Lubricator

MA13L, MA14L, MA15L, MA17L  
Standard

MA13L, MA14L, MA15L, MA17L  
Metal bowl



### B dimension

		Standard	Metal bowl
MA13	1/8" 1/4"	5.32 (135)	5.32 (135)
MA14	1/4" 3/8"	6.18 (157)	6.07 (205)
MA15	1/4", 3/8", 1/2"	7.48 (190)	9.45 (240)
MA17	3/4"	10.75 (273)	10.95 (279)
MA17	1"	10.75 (273)	10.95 (279)

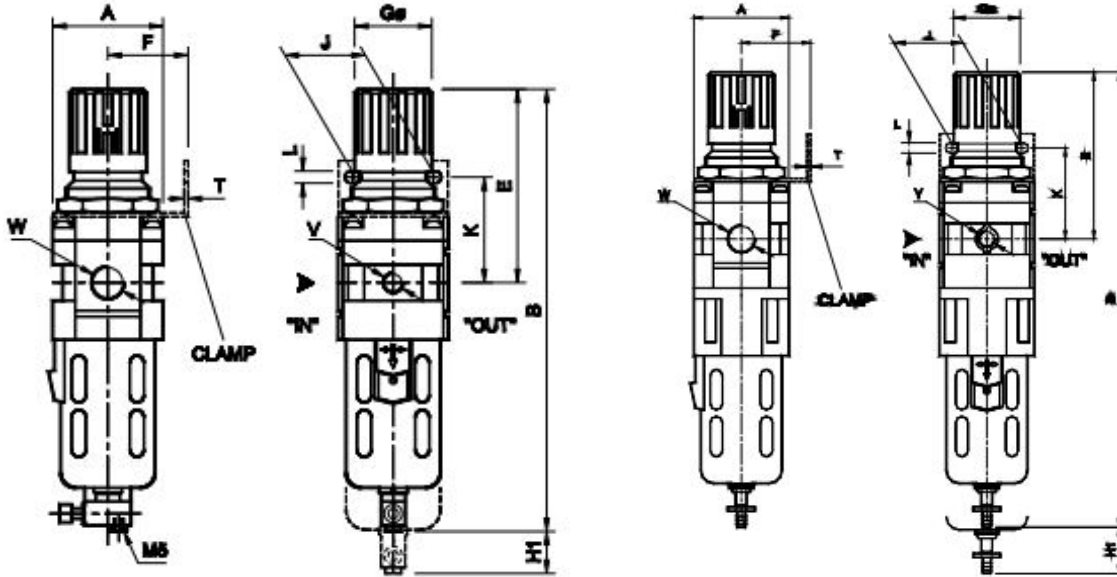
### Model - Inch (mm)

		A (sq)	E	F	J	K	L	T
MA13	1/8" 1/4"	1.57 (40)	1.65 (42)	1.18 (30)	1.10 (28)	0.59 (15)	0.21 (5)	0.08 (2)
MA14	1/4" 3/8"	2.16 (55)	1.73 (44)	1.57 (40)	1.57 (40)	0.98 (25)	0.26 (6)	0.08 (2)
MA15	1/4", 3/8", 1/2"	2.75 (70)	1.81 (46)	1.97 (50)	2.16 (55)	0.98 (25)	0.36 (9)	0.08 (2)
MA17	3/4"	3.54 (90)	1.85 (47)	2.76 (70)	2.60 (66)	1.38 (35)	0.43 (11)	0.20 (5)
MA17	1"	3.54 (90)	1.85 (47)	2.76 (70)	2.60 (66)	1.38 (35)	0.43 (11)	0.20 (5)

# MA Series – Filter/Regulator

MA13FR, MA14FR, MA15FR, MA17FR  
Manual drain

MA14FR, MA15FR, MA17FR  
Auto drain



MA13F, MA14F, MA15F, MA17F  
Metal bowl

## Model - Inch (mm)

	W	V (npt)	A (sq)	E	F	G0	J	K	L	T
MA13	1/8" 1/4"	1/8"	1.57 (40)	2.68 (68)	1.18 (30)	1.10 (28)	1.10 (28)	1.77 (45)	0.21 (5)	0.08 (2)
MA14	1/4" 3/8"	1/8"	2.16 (55)	3.74 (95)	1.57 (40)	1.57 (40)	1.57 (40)	2.09 (53)	0.26 (6)	0.08 (2)
MA15	1/4", 3/8", 1/2"	1/8"	2.75 (70)	4.92 (125)	1.97 (50)	2.00 (51)	2.16 (55)	2.44 (62)	0.36 (9)	0.08 (2)
MA17	3/4"	1/8"	3.54 (90)	5.12 (130)	2.76 (70)	2.00 (51)	2.60 (66)	2.56 (65)	0.43 (11)	0.20 (5)
MA17	1"	1/8"	3.54 (90)	5.12 (130)	2.76 (70)	2.00 (51)	2.60 (66)	2.56 (65)	0.43 (11)	0.20 (5)

## B dimension

		Manual drain	Auto drain	Metal bowl
MA13	1/8" 1/4"	6.69 (170)	N/A	6.77 (172)
MA14	1/4" 3/8"	8.66 (220)	10.71 (272)	10.43 (265)
MA15	1/4", 3/8", 1/2"	11.02 (280)	13.19 (335)	12.99 (330)
MA17	3/4"	14.57 (370)	14.49 (368)	14.61 (371)
MA17	1"	14.57 (370)	14.49 (368)	14.61 (371)

## H1 dimension

		Manual drain	Auto drain	Metal bowl
MA13	1/8" 1/4"	1.97 (50)	N/A	0.08 (2)
MA14	1/4" 3/8"	2.17 (55)	2.36 (60)	0.08 (2)
MA15	1/4", 3/8", 1/2"	3.15 (80)	3.35 (85)	0.08 (2)
MA17	3/4"	3.15 (80)	3.35 (85)	0.20 (5)
MA17	1"	3.15 (80)	3.35 (85)	0.20 (5)

## MA Series – Accessories

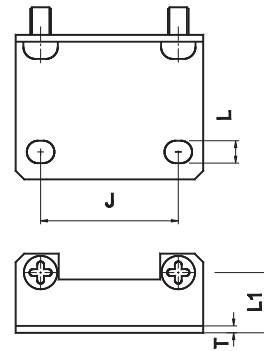
INLINE SLIDE VALVES				
Port Size	1/4"	3/8"	1/2"	3/4"
Flow Rate (scfm)	36	99	159	353
Max Working (psi)	145	145	145	145
Part Number	MA132NIV	MA143NIV	MA154NIV	MA176NIV



INLINE BACK CHECK			
Port Size	1/4"	3/8"	1/2"
Flow Rate (scfm)	35	99	170
Max Working (psi)	145	145	145
Part Number	MA132CV	MA143CV	MA154CV



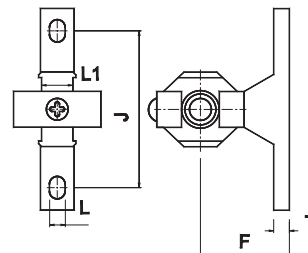
### Clamp for filter, Lubricator



Model - Inch (mm)

	Part No.	J	L	L1	T
MA13	MA13FB	1.10 (28)	0.22 (5)	0.56 (14)	0.08 (2)
MA14	MA14FB	1.58 (40)	0.26 (6)	0.70 (18)	0.08 (2)
MA15	MA15FB	2.17 (55)	0.34 (8)	0.90 (22)	0.08 (2)
MA17	MA17FB	2.60 (66)	0.43 (11)	1.30 (33)	0.20 (5)

### Wall Mounting Bracket



Model - Inch (mm)

	Part No.	J	L	L1	T
MA13	A2W01	1.97 (50)	0.28 (7)	0.47 (12)	0.28 (7)
MA14	A2W02	2.76 (70)	0.28 (7)	0.55 (14)	0.28 (7)
MA15	A2W03	3.54 (90)	0.35 (9)	0.63 (16)	0.35 (9)
MA17	A2W04	3.94 (100)	0.47 (12)	0.63 (16)	0.39 (10)