



Prep-Air[®] II

Miniature FRL Series

*Catalogue: PDE2591TCUK-ca
Edition: May 2007*



Miniature FRL Series



Important !

Before carrying out any service work, ensure that the valve and manifold have been vented. Remove the primary supply air hose to ensure total disconnection of the air supply before dismantling valves or blank connection blocks.



NB !

All technical data in this catalogue is typical only. The air quality is decisive for the valve life: see ISO 8573.



WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met. The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

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⚠ CAUTION:

Polycarbonate bowls and sight domes, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to direct sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls and sight domes should not be exposed to chlorinated hydro-carbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids such as phosphate ester and di-ester types.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents, but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

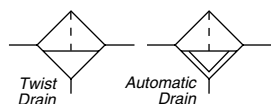
TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY! DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

Metal bowl guards are recommended for all applications.

⚠ CAUTION:

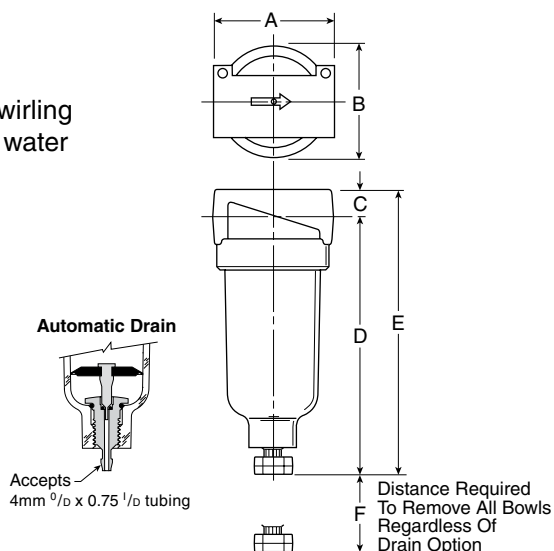
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

14F Filters - Miniature



Features

- Excellent water removal efficiency.
- Unique deflector plate that creates swirling of the air stream ensuring maximum water and dirt separation.
- 5 micron element standard.
- High Flow: 1/8" – 10 l/s[§]
 1/4" – 11 l/s[§]



Port Size	BSPP	
	Twist Drain	Automatic Pulse Drain
Poly Bowl		
1/8"	14F01BB1	14F05BB1
1/4"	14F11BB1	14F15BB1

14F Filter Dimensions		
A 43	B 39)	C 10
D 97	D† 99	E 107
E† 108	F 41	

Standard part numbers shown bold.
 For other models refer to ordering information below.

§ L/s = 6.2 bar inlet and 0.3 bar pressure drop.

† For polycarbonate bowl see Caution on page 3.

† With Automatic Pulse Drain.

Ordering Information

1
4
F
1
1
B
B
1

Port size	
0	1/8 Inch
1	1/4 Inch

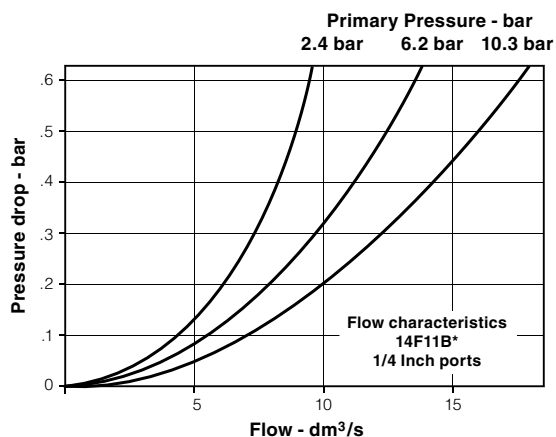
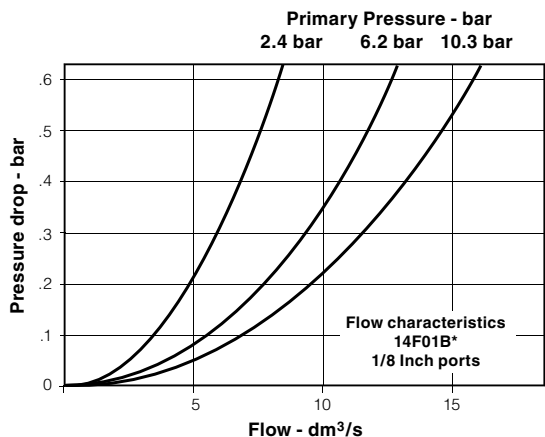
Bowl options	
1	Twist drain
5	Automatic pulse drain

Elements	
B	5 Micron

Port type	
Blank	NPT
1	BSPP

NOTE: BOLD OPTIONS ARE STANDARD.

Technical Information



14F Filter Kits & Accessories

Bowl Kits –	
Poly Bowl –	
Automatic Pulse Drain	PS408P
Twist Drain	PS404P
Filter Element Kits –	
5 Micron	PS403P
Mounting Bracket Kit	PS417BP

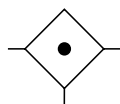
Specifications

Automatic Pulse Drain Tube Barb	4mm ^{OD} x 0.75 1/8
Bowl Capacity	30 cm ³
Port Threads	1/8, 1/4 Inch
Pressure & Temperature Ratings –	
Polycarbonate Bowl	0 to 10.3 bar 0°C to 52°C
Automatic Pulse Drain	0.7 to 17.2 bar at 52°C or less
Weight	0.180 gm

Materials of Construction

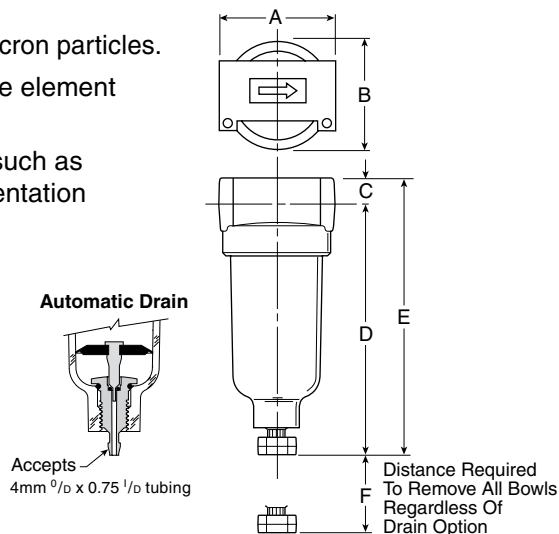
Body	Zinc
Bowl	Transparent Polycarbonate
Deflector, Element Holder & Baffle	Plastic
Drains –	
Twist Drain –	
Body & Stem	Plastic
Seals	Nitrile
Automatic Pulse Drain –	
Piston & Seals	Nitrile
Stem, Seat, Adaptor & Washers	Aluminum
Filter Elements –	
5 Micron (Standard)	Plastic
Seals	Nitrile

10F Coalescing Filters - Miniature



Features

- Removes liquid aerosols and sub-micron particles.
- Liquids gravitate to the bottom of the element and will not re-enter the airstream.
- Oil free air for critical applications, such as air gauging and pneumatic instrumentation and controls.
- 99.97% DOP efficiency.
- High Flow: Grade 6 Element
 1/8" – 8 l/s[§]
 1/4" – 9 l/s[§]



Port Size	BSPP	
	Twist Drain	Automatic Pulse Drain
Poly Bowl		
1/8"	10F01ED1	10F05ED1
1/4"	10F11ED1	10F15ED1

10F Coalescing Filter Dimensions		
A 43	B 39,6	C 10
D 97	D† 93	E 107
E† 103	F 41	

§ L/s = 6.2 bar inlet and 0.3 bar pressure drop.
 ‡ For polycarbonate bowl see Caution on page 3.

† With Automatic Pulse Drain.

Ordering Information

1
0
F
1
1
E
D
-

Port size	
0	1/8 Inch
1	1/4 Inch

Bowl options	
1	Twist drain
5	Automatic pulse drain

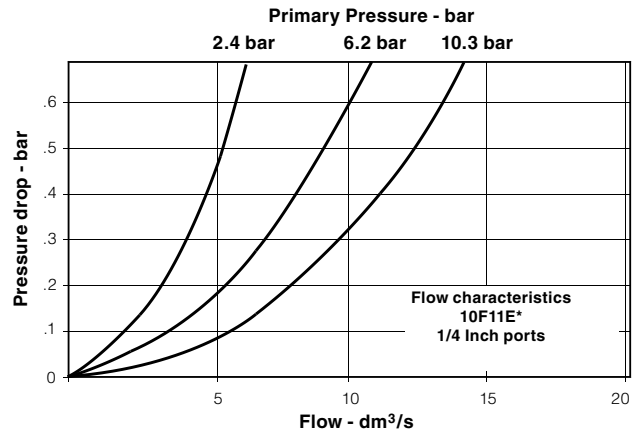
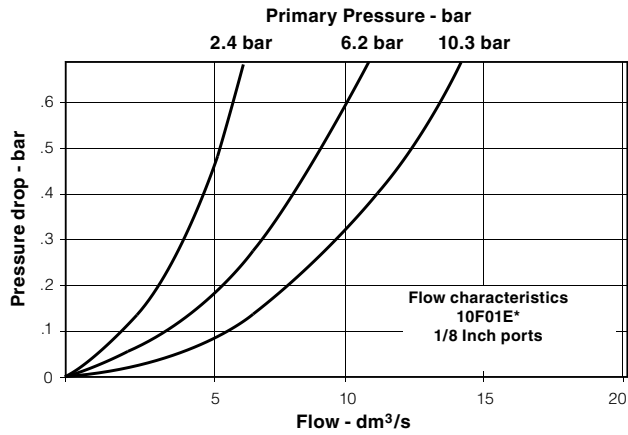
Elements	
E	0.01 um

Port type	
Blank	NPT
1	BSPP

NOTE: BOLD OPTIONS ARE STANDARD.

Technical Information

Grade 6



10F Coalescing Filter Kits & Accessories

- Bowl Kits –**
 Poly Bowl – Automatic Pulse Drain PS408P
 Twist Drain PS404P
- Filter Element Kits – 0.01 um** PS446P
- Mounting Bracket Kit** PS417BP

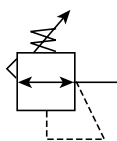
Specifications

- Automatic Pulse Drain Tube Barb** 4mm^{OD} x 0.75 1/2
- Bowl Capacity** 30cm³
- Operation –**
 Normal Operating Pressure Drop 0.1 bar
 Maximum Recommended Pressure Drop 0.7 bar
 (Element should be replaced)
- Port Threads** 1/8, 1/4 Inch
- Pressure & Temperature Ratings –**
 Polycarbonate Bowl –
 0 to 10.3 bar
 0°C to 52°C
- Weight** 180 gm

Materials of Construction

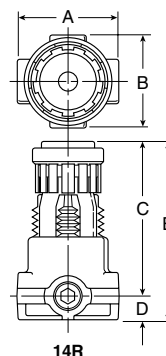
- Body** Zinc
- Bowls** Transparent Polycarbonate
- Drains – Twist Drain –**
 Body & Stem Plastic
 Seals Nitrile
- Automatic Pulse Drain –**
 Piston & Seals Nitrile
 Stem, Seat, Adaptor & Washers Aluminum
- Element Holder** Plastic
- Filter Element –**
 Borosilicate & felt glass fibers 99.97% DOP efficiency
- Seals** Nitrile

14R Regulators - Miniature



Features

- Unbalanced poppet standard.
- Solid control piston with lip seal for extended life.
- Non-rising adjusting knob.
- Compact, 73,2mm high by 42mm wide.
- High Flow: 1/8" – 6 l/s[§]
 1/4" – 7 l/s[§]



Port Size	8 bar - BSP
Without Gauge	
1/8"	14R013FC1
1/4"	14R113FC1

14R Regulator Dimensions					
14R	A	B	C	D	E
	42	40	63,5	10	73

Standard part numbers shown bold. For other models refer to ordering information below.

NOTE: 31mm dia. hole required for panel mounting.

§ L/s = 6.9 bar inlet, 6.2 bar no flow secondary setting and 0.7 bar pressure drop.

Ordering Information

1
4
R
1
13
F
C
1

Port size	Port size
0	1/8 Inch pipe 1/8 Inch gauge port
1	1/4 Inch pipe 1/8 Inch gauge port

Pressure range	Pressure range
	Without gauge - Yellow knob
10	2 bar
11	4 bar
13	8 bar

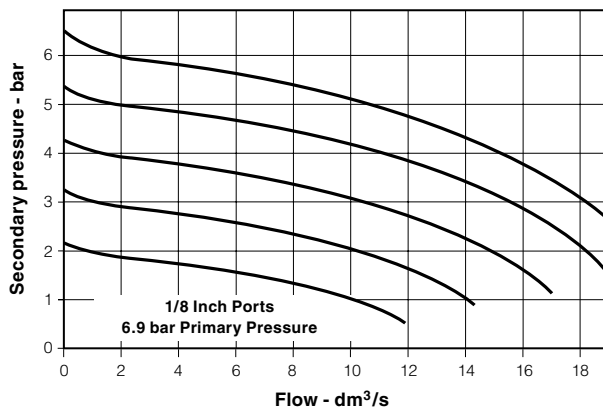
Relief	Relief
F	Relieving
G	Non-Relieving

Port type	Port type
Blank	NPT
1	BSPP

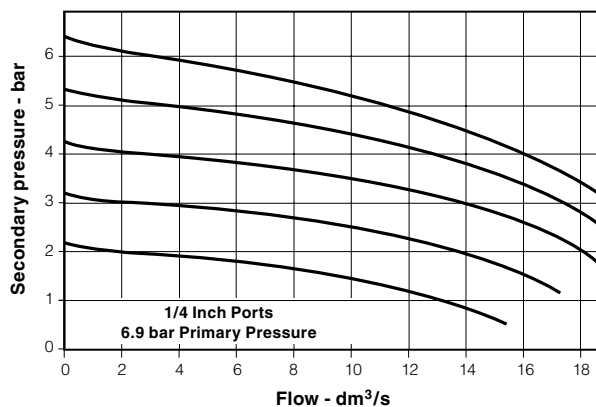
NOTE: BOLD OPTIONS ARE STANDARD.

Technical Information

Relief and Flow Characteristics
14R013F*



Relief and Flow Characteristics
14R113F*



CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design. For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

⚠ WARNING

**Product rupture can cause serious injury.
 Do not connect regulator to bottled gas.
 Do not exceed maximum primary pressure rating.**

14R Regulator Kits & Accessories

Bonnet Assembly Kit	L01369
Gauges – 0 to 2 bar - 1/8.....	P3D-KAB1AYN
0 to 4 bar - 1/8.....	P3D-KAB1ALN
0 to 10 bar - 1/8.....	P3D-KAB1ANN
Mounting Bracket Kit (Includes Panel Mount Nut)	PS417BP
Panel Mount Nuts – Plastic.....	P78652
Metal.....	P01531
Service Kits – Non-Relieving	PS422P
Relieving	PS423P

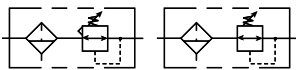
Specifications

Gauge Ports (2)	1/8
(Can be used for Full Flow)	
Port Threads	1/8, 1/4 Inch
Pressure & Temperature Ratings –	0 to 20.7 bar
	0°C to 52°C
Secondary Pressure Ranges –	
Standard Pressure	0 to 8 bar
Medium Pressure	0 to 4 bar
Medium Pressure	0 to 2 bar
Weight – 14R	140 gm

Materials of Construction

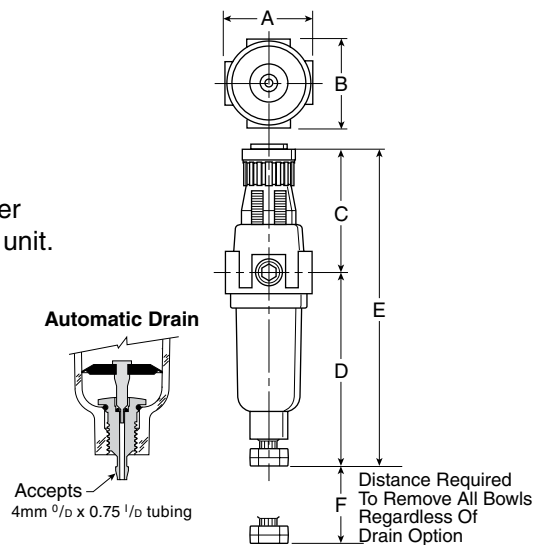
Adjusting Nut	Brass
Adjusting Stem & Spring	Steel
Body	Zinc
Bonnet, Seat, Piston & Valve Poppet	Plastic
Seals	Nitrile

14E Filter / Regulator - Miniature



Features

- Excellent water removal efficiency.
- Unbalanced poppet standard.
- Solid control piston for extended life.
- Space saving package offers both filter and regulator features in one integral unit.
- Non-rising adjustment knob.
- Two full flow 1/8" gauge ports.
- High Flow: 1/8" – 7 l/s[§]
 1/4" – 8 l/s[§]



Port Size	8 BAR - BSPP	
	Twist Drain	Automatic Pulse Drain
Poly Bowl [‡]		
1/8"	14E01B13FC1	14E05B13FC1
1/4"	14E11B13FC1	14E15B13FC1

14E Filter / Regulator Dimensions		
A 41	B 40	C 61
D 96	D[†] 92	E 158
E[†] 154	F 41	

Standard part numbers shown bold. For other models refer to ordering information below.

§ L/s = 6.9 bar inlet, 6.2 bar no flow secondary setting and 0.7 bar pressure drop.

‡ For polycarbonate bowl see Caution on page 3.

NOTE: 31mm hole required for panel mounting.

† With Auto Drain

Ordering Information

1
4
E
1
1
B
13
F
C
1

Port size	
0	1/8 Inch
1	1/4 Inch

Bowl options	
1	Twist drain
5	Automatic drain

Elements	
B	5 Micron

Relief	
F	Relieving
G	Non-Relieving

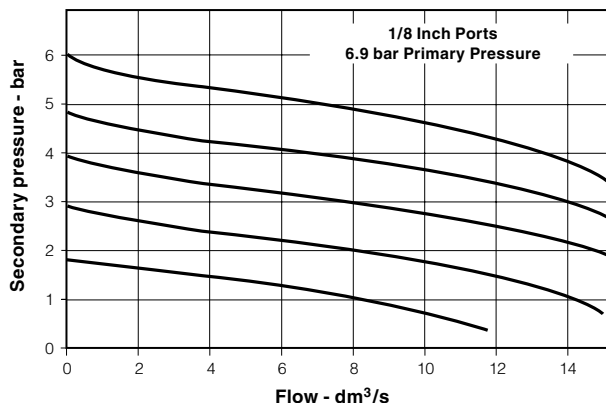
Port type	
Blank	NPT
1	BSPP

Pressure range	
	Without gauge - Yellow knob
10	2 bar
11	4 bar
13	8 bar

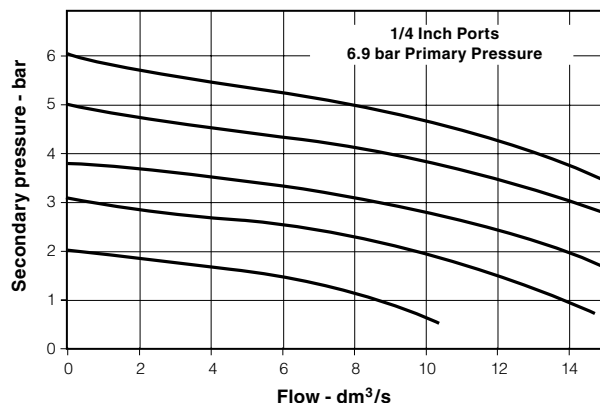
NOTE: BOLD OPTIONS ARE STANDARD.

Technical Information

Relief and Flow Characteristics
14E01B13F*



Relief and Flow Characteristics
14E11B13F*



CAUTION:

REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

⚠ WARNING

**Product rupture can cause serious injury.
 Do not exceed maximum primary pressure rating.**

14E Filter / Regulator Kits & Accessories

- Bowl Kits –**
- Poly Bowl – Automatic Drain PS408P
- Twist Drain PS404P
- Filter Element Kits – 40 Micron PS401P**
- 5 Micron PS403P
- Gauges – 0 to 2 bar - 1/8.....P3D-KAB1AYN**
- 0 to 4 bar - 1/8.....P3D-KAB1ALN
- 0 to 10 bar - 1/8.....P3D-KAB1ANN
- Mounting Bracket Kit (Includes Panel Mount Nut) PS417BP**
- Panel Mount Nut P78652**
- Service Kits – Non-Relieving PS422P**
- Relieving PS423P

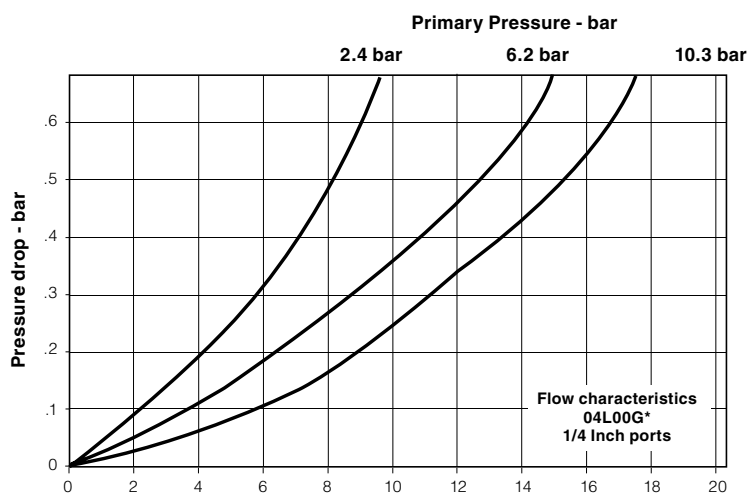
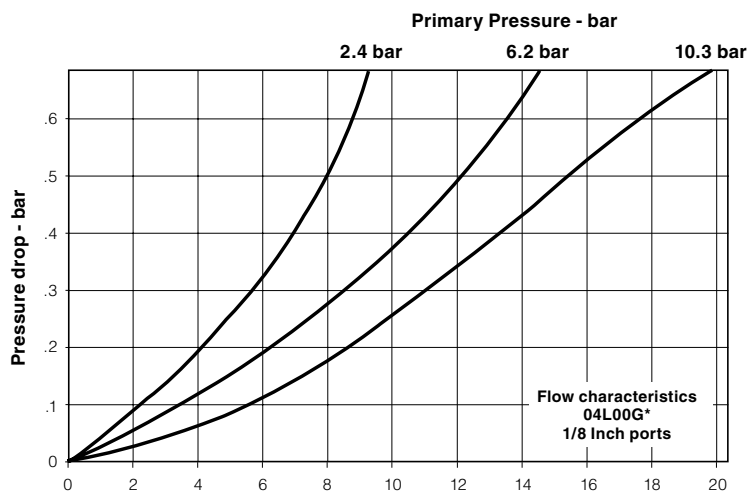
Specifications

- Automatic Pulse Drain Tube Barb 4mm^{OD} x 0.75^{1/D}**
- Bowl Capacity 30 cm³**
- Gauge Ports (2) (Can be used for Full Flow)..... 1/8 Inch**
- Port Threads 1/8, 1/4 Inch**
- Pressure & Temperature Ratings –**
- Polycarbonate Bowl..... 0 to 10.3 bar, 0°C to 52°C
- Secondary Pressure Ranges –**
- Standard Pressure 0 to 8 bar
- Medium Pressure 0 to 2 bar
- Medium Pressure 0 to 4 bar
- Weight 180 gm**

Materials of Construction

- Adjusting Nut Brass**
- Adjusting Stem & Spring Steel**
- Body Zinc**
- Bonnet, Knob, Seat, Piston, Holder & Deflector Plastic**
- Bowl Available – Transparent Polycarbonate**
- Drains – Manual – Twist Type**
- Body & Stem Plastic
- Seals Nitrile
- Automatic – Pulse Type
- Piston & Seals Nitrile
- Stem, Seat, Adaptor & Washers Aluminum
- Filter Elements – 5 Micron (Standard) Plastic**
- Seals Nitrile**

Technical Information



04L Mist Lubricator Kits & Accessories

Bowl Kits –

Poly Bowl – No Drain PS421P

Specifications

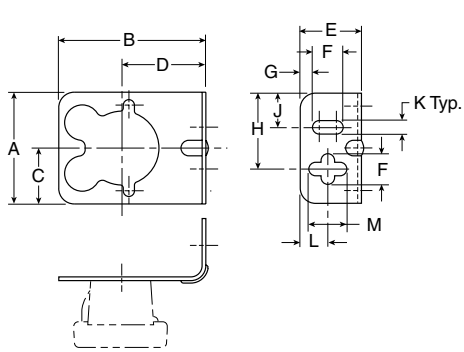
Bowl Capacity 30 cm³
Minimum Flow for Lubrication 0.2 l/s at 6.9 bar
Port Threads 1/8, 1/4 Inch
Pressure & Temperature Ratings –
 Polycarbonate Bowl – 0 to 10.3 bar
 0°C to 52°C
Weight 180 gm

Materials of Construction

Body Zinc
Bowls – Transparent Polycarbonate
Seals Nitrile
Sight Dome Polycarbonate

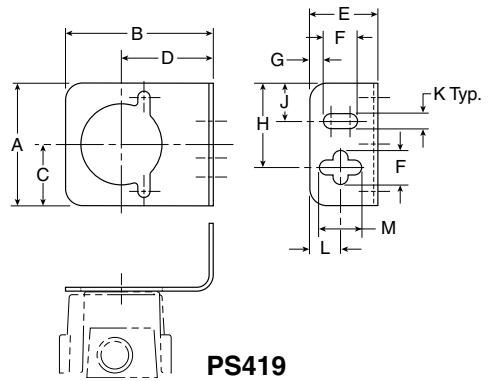
Miniature FRL Series

Mounting Bracket Kits



PS417BP

(Includes Panel Mount Nut)



PS419

Dimensions (mm)

A	B	C	D	E	F	G	H	J	K	L	M	Kit
46	60	23	34	25	13	5	31	14	6	11	16	PS417BP (10F, 14F, 14R, 14E)
46	55	23	34	25	13	5	31	14	6	11	16	PS419 (04L)

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