

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



Prep-Air® II

Miniature FRL Series

Catalogue PDE2591TCUK May 2020



ENGINEERING YOUR SUCCESS.

PDE2591TCUK

Prep-Air® II Miniature FRLs



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.



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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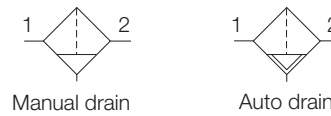


Air Line Filters	
Series 14F	4 - 5
Air Line Coalescing Filters	
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14F Filters



Symbols



Manual drain

Auto drain

- 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[§]

Options:

1	4	F	1	1	B	B	1																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="2">Port size</th></tr> <tr><td>1/8</td><td style="text-align: center;">0</td></tr> <tr><td>1/4</td><td style="text-align: center;">1</td></tr> </table>		Port size		1/8	0	1/4	1	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="2">Bowl type</th></tr> <tr><td>Twist drain</td><td style="text-align: center;">1</td></tr> <tr><td>Automatic pulse drain</td><td style="text-align: center;">5</td></tr> </table>		Bowl type		Twist drain	1	Automatic pulse drain	5	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="2">Element</th></tr> <tr><td>5µ element</td><td style="text-align: center;">B</td></tr> </table>		Element		5µ element	B	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="2">Thread type</th></tr> <tr><td>NPT</td><td>Blank</td></tr> <tr><td>BSPP</td><td style="text-align: center;">1</td></tr> </table>		Thread type		NPT	Blank	BSPP	1
Port size																													
1/8	0																												
1/4	1																												
Bowl type																													
Twist drain	1																												
Automatic pulse drain	5																												
Element																													
5µ element	B																												
Thread type																													
NPT	Blank																												
BSPP	1																												
<p>Note: Bold options are standard</p>																													

Port size	Description	Order code	Max bar	Height mm	Width mm	Depth mm
G1/8	Twist drain with 5µ element - Poly bowl	14F01BB1	10.3	107	43	39
G1/8	Auto pulse drain - 5µ element - Poly bowl	14F05BB1	17.2	107	43	39
G1/4	Twist drain with 5µ element - Poly bowl	14F11BB1	10.3	107	43	39
G1/4	Auto pulse drain - 5µ element - Poly bowl	14F15BB1	17.2	107	43	39

§ L/s = 6.2 bar inlet and 0.3 bar pressure drop.
 ‡ For polycarbonate bowl see Caution on page 2.

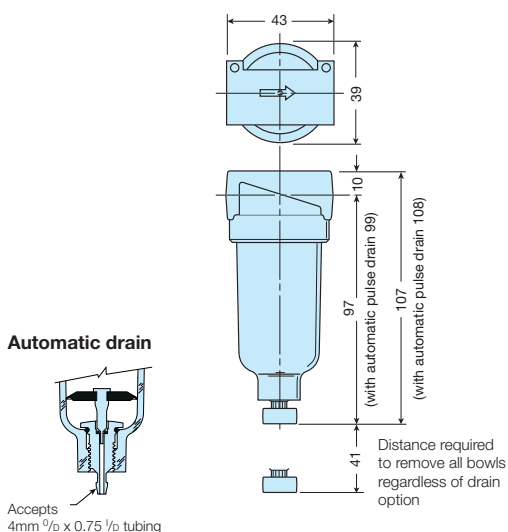
Specifications

Automatic pulse drain tube barb	4mm ^{OD} x 0.75 1/8
Bowl capacity	30 cm ³
Operating temperature	0°C to 52°C
Max supply pressure	Polycarbonate bowl 0 to 10.3 bar
	Automatic pulse drain 0.7 to 17.2 bar
Standard filtration	5 micron
Port size	G1/8 / G1/4
Weight	0.180 gm

Materials of Construction

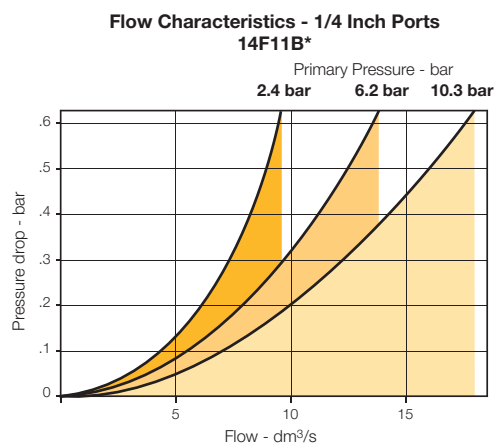
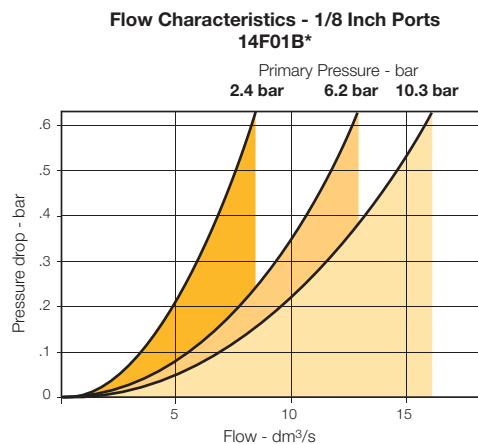
Body	Zinc
Bowl - Transparent	Polycarbonate
Deflector, Element holder & Baffle	Plastic
Drains	Twist drain Body & Stem Plastic
	Seals Nitrile
	Automatic pulse drain Piston & Seals Nitrile
	Stem, Seat, Adaptor & Washers Aluminium
Filter elements 5 micron (standard)	Plastic
Seals	Nitrile

Dimensions



Flow Charts

5µ Filter



Accessories

Bowl kits, Poly bowl	Automatic pulse drain	PS408P
	Twist drain	PS404P
Filter element kits 5 micron		PS403P
Mounting bracket kit		PS417BP



10F Coalescing Filters

Symbol



- 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[§]

Options:

1	0	F	1	1	E	D	1
Port size		Bowl type		Element		Thread type	
1/8	0	Twist drain	1	0.01µ element	E	NPT	Blank
1/4	1	Automatic pulse drain	5			BSPP	1

Note: Bold options are standard

Port size	Description	Order code	Max bar	Height mm	Width mm	Depth mm
G1/8	Twist drain with 0.01µ element - Poly bowl	10F01ED1	0.7	107	43	39.6
G1/8	Auto pulse drain - 0.01µ element - Poly bowl	10F05ED1	0.7	107	43	39.6
G1/4	Twist drain with 0.01µ element - Poly bowl	10F11ED1	0.7	107	43	39.6
G1/4	Auto pulse drain - 0.01µ element - Poly bowl	10F15ED1	0.7	107	43	39.6

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

PDE2591TCUK
Prep-Air® II Miniature FRLs

10F Series

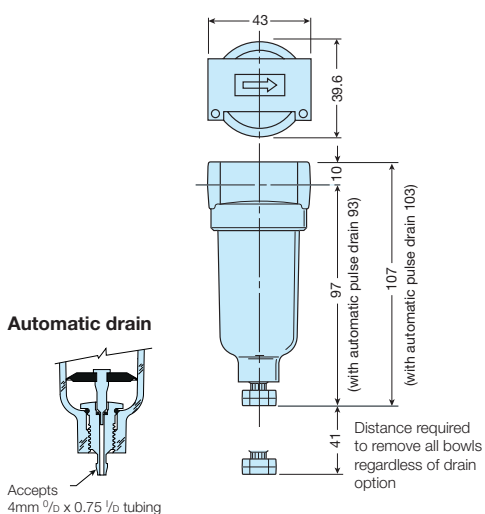
Specifications

Automatic pulse drain tube barb	4mm ^{OD} x 0.75 1/8
Bowl capacity	30 cm ³
Operation	Normal pressure drop 0.1 bar
	Maximum recommended pressure drop 0.7 bar
Operating temperature	0°C to 52°C
Max supply pressure	Polycarbonate bowl 0 to 10.3 bar
Standard filtration	0.01 micron
Port size	G1/8 / G1/4
Weight	0.180 gm

Materials of Construction

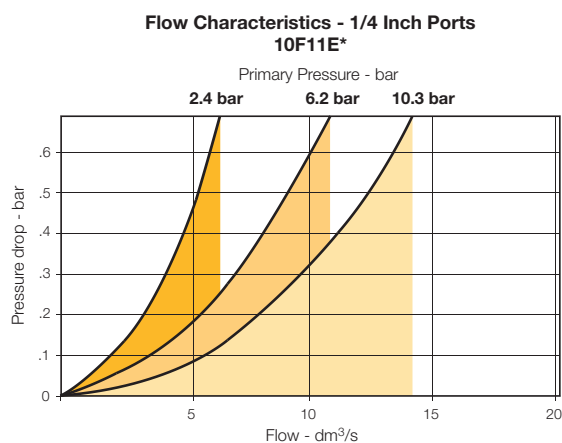
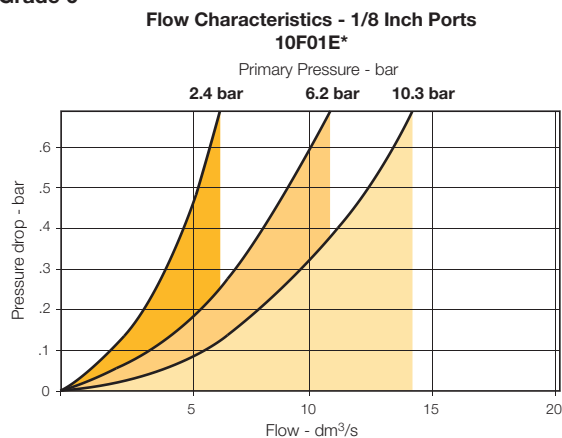
Body	Zinc		
Bowl - Transparent	Polycarbonate		
Drains	Twist drain	Body & Stem	Plastic
		Seals	Nitrile
	Automatic pulse drain	Piston & Seals	Nitrile
		Stem, Seat, Adaptor & Washers	Aluminium
Element holder	Plastic		
Filter element	Borosilicate & felt glass fibers 99.97% DOP efficiency		
Seals	Nitrile		

Dimensions



Flow Charts

Grade 6



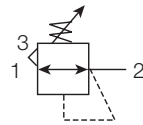
Accessories

Bowl kits, Poly bowl	Automatic pulse drain	PS408P
	Twist drain	PS404P
Filter element kits 0.01 micron		PS446P
Mounting bracket kit		PS417BP



14R Regulators

Symbol



- 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[§]

Options:

1	4	R	1	13	F	C	1	
Port size			Pressure range		Relief		Port type	
1/8" pipe	0		Without gauge -		Relieving	F	NPT	Blank
1/8" gauge port			Yellow knob		Non-relieving	G	BSPP	1
1/4" pipe	1		2 bar	10				
1/8" gauge port			4 bar	11				
			8 bar	13				

Note: Bold options are standard

Port size	Description	Order code	Max bar	Height mm	Width mm	Depth mm
G1/8	8 bar - BSPP - without gauge	14R013FC1	20.7	73	42	40
G1/4	8 bar - BSPP - without gauge	14R113FC1	20.7	73	42	40

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.

Specifications

Gauge ports	G1/8	
Port size	G1/8 / G1/4	
Operating temperature	0°C to 52°C	
Max supply pressure	0 to 20.7 bar	
Secondary pressure range	Standard pressure	0 to 8 bar
	Medium pressure	0 to 4 bar
	Medium pressure	0 to 2 bar
Weight	140 gm	

Materials of Construction

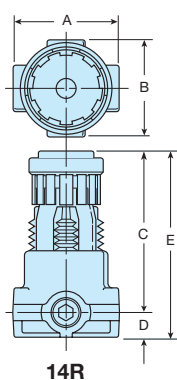
Adjusting nut	Brass
Adjusting stem & spring	Steel
Body	Zinc
Bonnet, Seat, Piston & Valve poppet	Plastic
Seals	Nitrile

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.

Dimensions

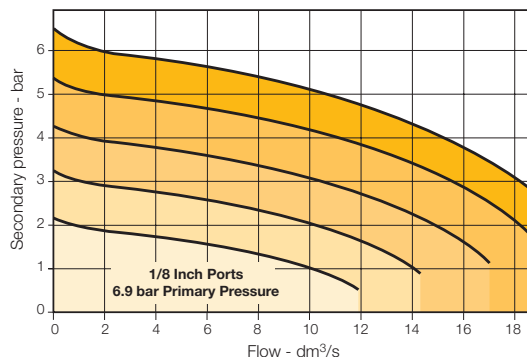


14R Regulator Dimensions

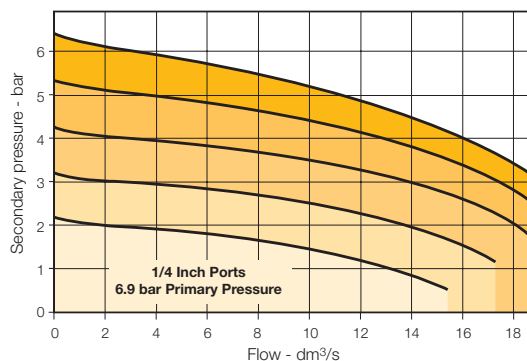
	A	B	C	D	E
14R	42	40	63,5	10	73
14R**L*	1.65	1.56	2.28	0.38	2.68
14RM	A	B	C	D	E
	1.50	1.50	2.36	0.50	2.98
	F	G	H	J	
	1.188	0.594	0.325	0.725	

Flow Charts

**Relief and Flow Characteristics
 14R013F***



**Relief and Flow Characteristics
 14R113F***



Accessories

Bonnet assembly kit		L01369
Gauges	0 to 2 bar	P3D-KAB1AYN
	0 to 4 bar	P3D-KAB1ALN
	0 to 10 bar	P3D-KAB1ANN
Mounting bracket kit (Includes panel mount nut)		PS417BP
Panel mounts nuts	Plastic	P78652
	Metal	P01531
Service kits	Non-relieving	PS422P
	Relieving	PS423P

Warning

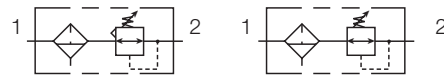
**Product rupture can cause serious injury.
 Do not connect regulator to bottled gas.
 Do not exceed maximum primary pressure rating.**



14E Filter / Regulators



Symbols



- 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[§]

Options:

1	4	E	1	1	B	13	F	C	1
Port size		Bowl type		Element		Relief		Port type	
1/8	0	Twist drain	1	5µ element	E	Relieving	F	NPT	Blank
1/4	1	Automatic pulse drain	5			Non-relieving	G	BSPP	1
Pressure range									
Without gauge - Yellow knob									
2 bar 10									
4 bar 11									
8 bar 13									

Note: Bold options are standard

Port size	Description	Order code	Max bar	Height mm	Width mm	Depth mm
G1/8	Twist drain with 5µ element - 8 bar BSPP - Poly bowl without gauge	14E01B13FC1	10.3	158	41	40
G1/8	Auto pulse drain - 5µ element - 8 Bar BSPP - Poly bowl without gauge	14E05B13FC1	10.3	158	41	40
G1/4	Twist drain with 5µ element - 8 Bar BSPP - Poly bowl without gauge	14E11B13FC1	10.3	158	41	40
G1/4	Auto pulse drain - 5µ element - 8 Bar BSPP - Poly bowl without gauge	14E15B13FC1	10.3	158	41	40

[§] 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 2.

Note: 31mm hole required for panel mounting.

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Prep-Air® II Miniature FRLs

14E Series

Specifications

Automatic pulse drain tube barb	4mm ^{OD} x 0.75 1/8
Bowl capacity	30 cm ³
Gauge ports (2) (can be used for full flow)	G1/8
Port size	G1/8 / G1/4
Operating temperature	0°C to 52°C
Secondary pressure range	Standard pressure 0 to 8 bar Medium pressure 0 to 4 bar Medium pressure 0 to 2 bar
Weight	0.180 gm

Materials of Construction

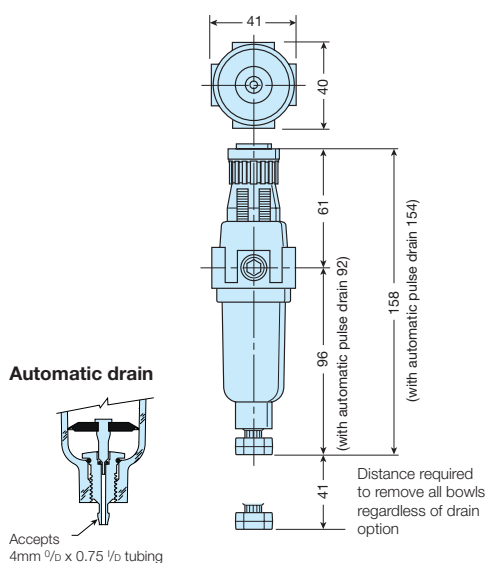
Adjusting nut	Brass
Adjusting stem & spring	Steel
Body	Zinc
Bonnet, Knob, Seat, Piston, Holder & Deflector	Plastic
Bowl - Transparent	Polycarbonate
Drains	Twist drain Body & Stem Plastic Seals Nitrile Automatic pulse drain Piston & Seals Nitrile Stem, Seat, Adaptor & Washers Aluminium
Filter elements - 5 micron (Standard)	Plastic
Seals	Nitrile

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.

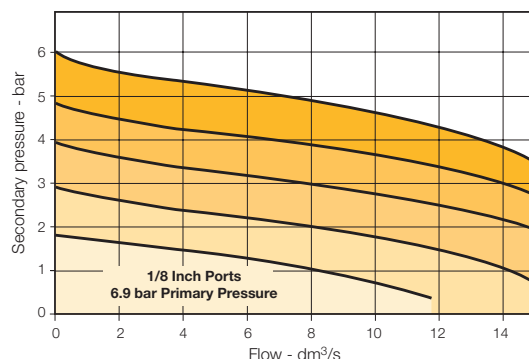
For best performance, regulated pressure should always be set by increasing the pressure up to the desired setting.

Dimensions

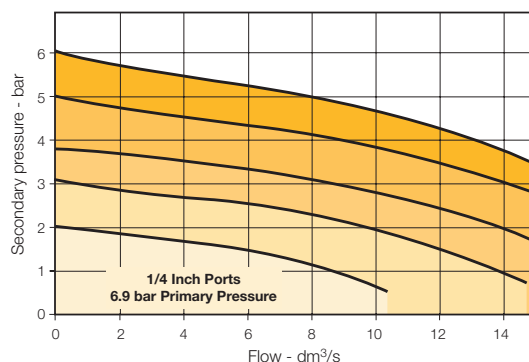


Flow Charts

Relief and Flow Characteristics
14E01B13F*



Relief and Flow Characteristics
14E11B13F*



Accessories

Bowl kits, Poly bowl	Automatic pulse drain	PS408P
	Twist drain	PS404P
Gauges - 1/8	0 to 2 bar	P3D-KAB1AYN
	0 to 4 bar	P3D-KAB1ALN
	0 to 10 bar	P3D-KAB1ANN
Mounting bracket kit (Includes panel mount nut)		PS417BP
Panel mounts nuts	Plastic	P78652
Service kits	Non-relieving	PS422P
	Relieving	PS423P

Warning

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

04L Mist Lubricators

Symbol



- Proportional oil delivery over a wide range of air flows.
- Precision needle valve assures repeatable oil delivery and provides simple adjustment of delivery rate.
- Ideal for low and high flow applications with changing air flow.
- Transparent sight dome for 360° visibility.
- High Flow: 1/8" – 9 l/s[§]
1/4" – 10 l/s[§]

Options:

0	4	L	1	0	G	B	1													
			<table border="1" style="width: 100%; text-align: left; border-collapse: collapse;"> <tr><th colspan="2">Port size</th></tr> <tr><td>1/8</td><td>0</td></tr> <tr><td>1/4</td><td>1</td></tr> </table>	Port size		1/8	0	1/4	1			<table border="1" style="width: 100%; text-align: left; border-collapse: collapse;"> <tr><th colspan="2">Thread type</th></tr> <tr><td>NPT</td><td>Blank</td></tr> <tr><td>BSPP</td><td>1</td></tr> </table>	Thread type		NPT	Blank	BSPP	1		
Port size																				
1/8	0																			
1/4	1																			
Thread type																				
NPT	Blank																			
BSPP	1																			

Note: Bold options are standard

Port size	Description	Order code	Max bar	Height mm	Width mm	Depth mm
G1/8	BSPP no drain - Poly bowl	04L00GB1	10.3	147	44	40
G1/4	BSPP no drain - Poly bowl	04L10GB1	10.3	147	44	40

[§] L/s = 6.2 bar inlet and 0.3 bar pressure drop.
[‡] For polycarbonate bowl see Caution on page 2.

PDE2591TCUK
Prep-Air® II Miniature FRLs

04L Series

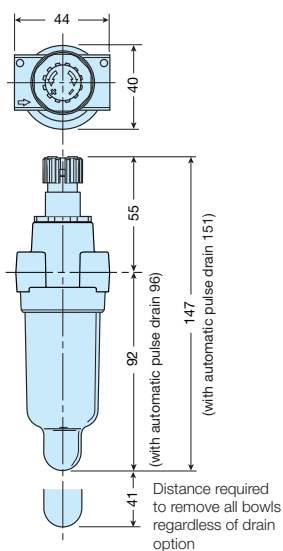
Specifications

Bowl capacity	30 cm ³
Minimum flow for lubrication	0.2 l/s at 6.9 bar
Port size	G1/8 / G1/4
Operating temperature	0°C to 52°C
Max supply pressure	Polycarbonate bowl 0 to 10.3 bar
Weight	0.180 gm

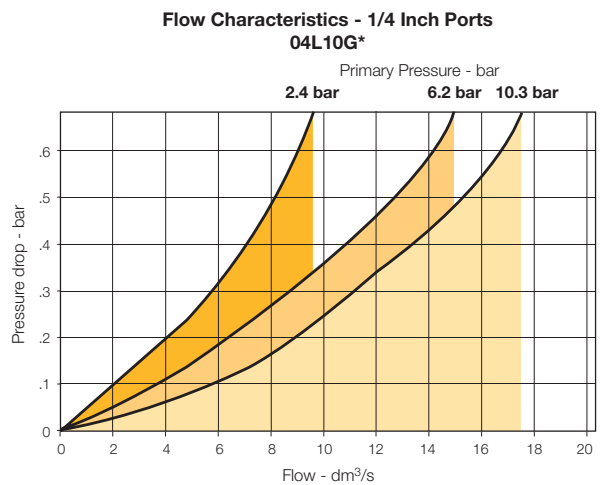
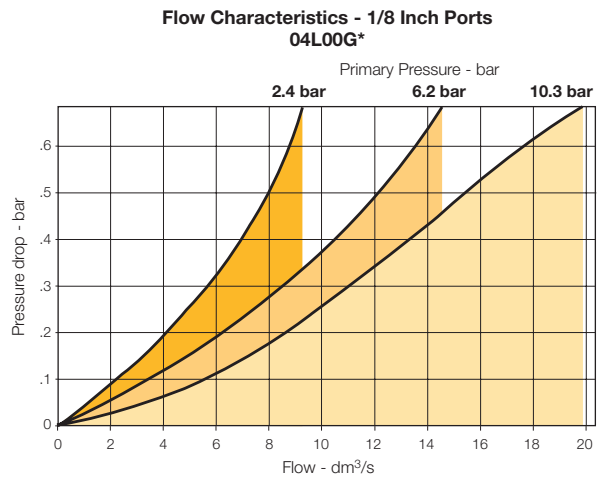
Materials of Construction

Body	Zinc
Bowl - Transparent	Polycarbonate
Seals	Nitrile
Sight dome	Polycarbonate

Dimensions



Flow Charts



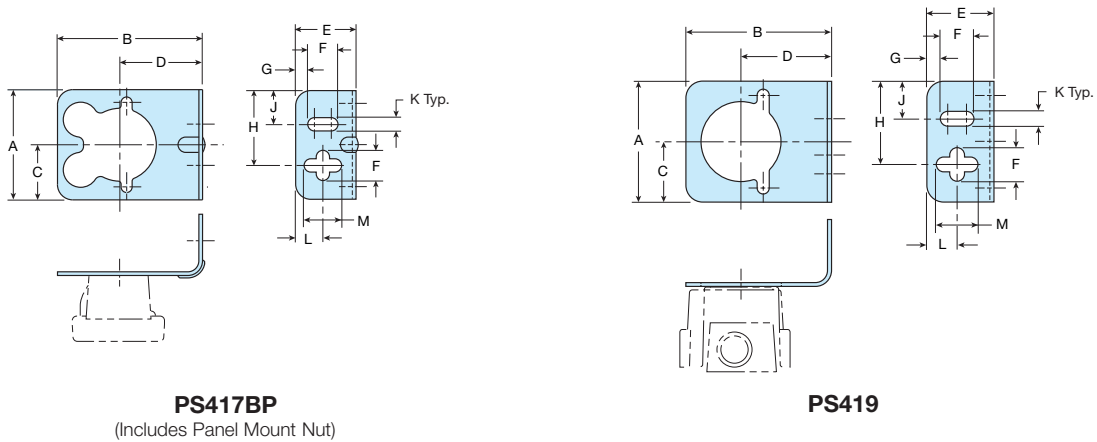
Accessories

Bowl kits, Poly bowl	No drain	PS421P
Mounting bracket kit		PS419



PDE2591TCUK
Prep-Air® II Miniature FRLs

Mounting Bracket Kits



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)

PDE2591TCUK

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