

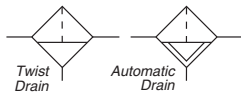


Air Preparation Products General Industrial

F602 Particulate Filters	H2-H7
35F / 43F Particulate Filters	H8-H9
35F / 43F Coalescing Filters	H10-H11
F701 Coalescing Filters	H12-H13
P3TF Flanged Coalescing Filters	H14-H15
R119 Regulators	H16-H25
09R Regulators	H26-H27
L606 Lubricators	H28-H31
09L Lubricators	H32-H33
C628 Combinations	H34

F602 Particulate Filters – Hi-Flow

- Excellent water removal efficiency
- For heavy duty applications with minimum pressure drop requirement
- Unique deflector plate that creates swirling of the air stream ensuring maximum water and dirt separation
- Large filter element surface guarantees low pressure drop and increased element life
- 40 micron filter element standard, 5 micron available
- Metal bowl with sight gauge standard
- Twist drain as standard, optional auto drain
- 3/4" & 1" port, NPT & BSPP



Port size	Description	Part number
3/4"	16 oz. metal bowl / manual drain	F602-06WJ
3/4"	16 oz. metal bowl / auto drain	F602-06WJR
3/4"	32 oz. metal bowl / manual drain	F602-06EJ
3/4"	32 oz. metal bowl / auto drain	F602-06EJR
1"	16 oz. metal bowl / manual drain	F602-08WJ
1"	16 oz. metal bowl / auto drain	F602-08WJR
1"	32 oz. metal bowl / manual drain	F602-08EJ
1"	32 oz. metal bowl / auto drain	F602-08EJR

Operating information

Supply pressure (max):

Aluminum (E)	0 to 300 psig (0 to 20.7 bar)
Zinc with gauge (W)	0 to 250 psig (0 to 17.2 bar)
With internal auto drain [R]	20 to 175 psig (1.14 to 11.9 bar)
With external auto drain [Q]	0 to 250 psig (0 to 17.2 bar)

Operating temperature:

Aluminum (E)	40°F to 150°F (4.4°C to 65.6°C)
Zinc with gauge (W)	40°F to 150°F (4.4°C to 65.6°C)
With internal auto drain [R]	40°F to 125°F (4.4°C to 52°C)
With external auto drain [Q]	40°F to 150°F (4.4°C to 65.6°C)

Flow capacity†:

High flow	3/4"	270 scfm (127.4 dm³/s, ANR)
	1"	300 scfm (141.5 dm³/s, ANR)

Bowl capacity:

Zinc with gauge (W)	16 oz.
Aluminum (E)	32 oz.

Weight:

16 oz.	6.3 lb (2.86)
32 oz.	7.0 lb (3.18 kg)

† scfm = Standard cubic feet per minute at 90 psig inlet and 5 psig pressure drop.

() Bowl type, [] drain type.

Ordering information:

F602 - 06 W J [] /**

Port Threads		Engineering Level
NPT	-	/** Will be entered at factory
G BSPP	G	
Port Size		Drains and Options
3/4 inch	06	Blank Manual twist drain
1 inch	08	Q External heavy duty auto drain
		R Internal auto drain
		U Semi-auto drain
Bowl		Element
32 oz. Large capacity metal without sight gauge	E	G 5 Micron
16 oz. Metal with sight gauge	W	J 40 Micron

Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

Hi-Flow Particulate Filters

Material Specifications

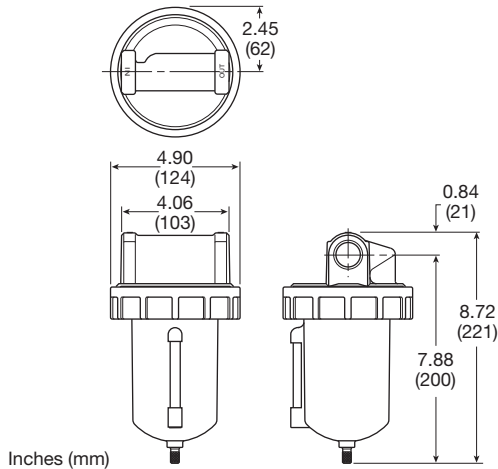
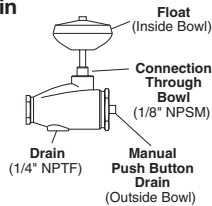
Body	Zinc
Bowl (E) 32 oz. without sight gauge	Aluminum
Bowl (W) 16 oz. with sight gauge	Zinc
Manual twist drain & overnight	Brass
Drain housing "R"	Acetal
Drain housing "Q"	Bronze
Element	Polypropylene
Seals	Nitrile
Sight gauge	Nylon

Repair and Service Kits

Aluminum bowl (E) 32 oz.	BK603B
Zinc bowl with sight gauge (W) 16 oz.	BK605WB
External auto drain (E) 32 oz.	SA603D
External auto drain (W) 16 oz.	SA602D
Internal auto drain (All)	SA602MD
Manual drain (All)	SA600Y7-1
Semi-auto "overnight" drain <i>(drains automatically under zero pressure)</i>	SA602A7
40 micron element (All)	EK602B
5 micron element (All)	EK602VB
Mounting bracket, 3/4" Unit <i>(pair or 2 kits pipe mounted brackets needed)</i>	SA200AW57
Mounting bracket, 1" Unit <i>(pair or 2 kits pipe mounted brackets needed)</i>	SA200CW57
Deflector, baffle assembly, & retaining rod (E,W)	RK602B
External auto drain (All)	RK602D
Internal auto drain (All)	RK602MD
Metal bowl with sight gauge (W) 16 oz.	RKB605WB

"Q" Option External Heavy Duty Auto Drain SA602D / SA603D

For heavy duty applications where the filter is being used to remove large volumes of liquid and/or particulate matter from the airstream, the external automatic drain ("Q" option) should be used.

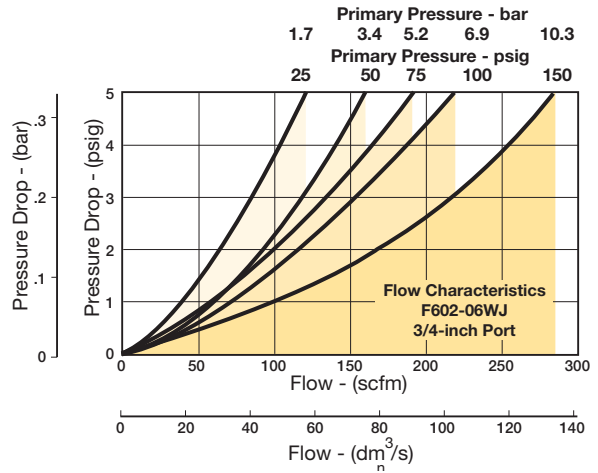


F602-06W, F602-08W (Hi-Flow)

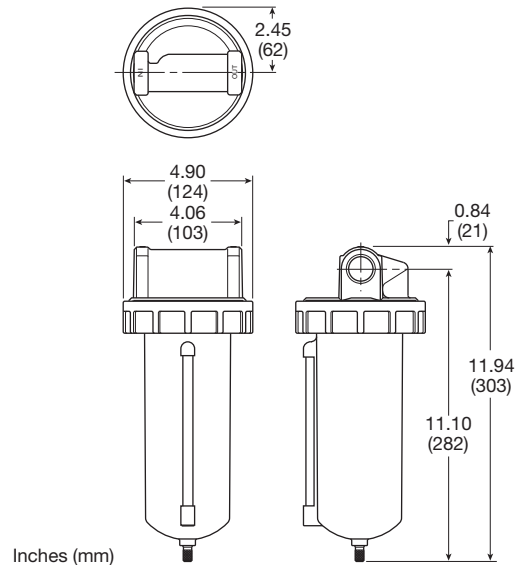
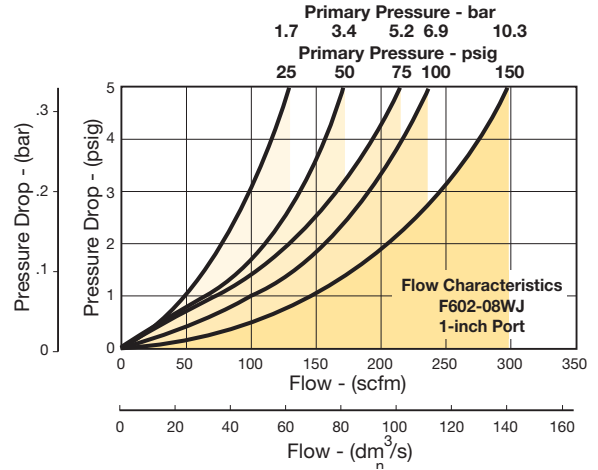
Air Preparation Products General Industrial

Flow Charts

F602 3/4" Particulate Filter



F602 1" Particulate Filter



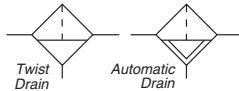
F602-06E, F602-08E (Hi-Flow)



For inventory, lead time, and kit lookup, visit www.pdnplu.com

F602 Particulate Filters – Hi-Flow

- Excellent water removal efficiency
- For heavy duty applications with minimum pressure drop requirement
- Unique deflector plate that creates swirling of the air stream ensuring maximum water and dirt separation
- Large filter element surface guarantees low pressure drop and increased element life
- 40 micron filter element standard, 5 micron available
- Metal bowl with sight gauge standard
- Twist drain as standard, optional auto drain
- Large bowl capacity
- Optional high capacity bowl(s) available
- 1-1/2" port, NPT & BSPP



Port size	Description	Part number
1-1/2"	16 oz. metal bowl / manual drain	F602-12WJ
1-1/2"	16 oz. metal bowl / auto drain	F602-12WJR
1-1/2"	32 oz. metal bowl / manual drain	F602-12EJ
1-1/2"	32 oz. metal bowl / auto drain	F602-12EJR

Operating information

Supply pressure (max):
 Aluminum (E) 0 to 300 psig (0 to 20.7 bar)
 Zinc with gauge (W) 0 to 250 psig (0 to 17.2 bar)
 With internal auto drain [R] 20 to 175 psig (1.14 to 11.9 bar)
 With external auto drain [Q] 0 to 250 psig (0 to 17.2 bar)

Operating temperature:
 Aluminum (E) 40°F to 150°F (4.4°C to 65.6°C)
 Zinc with gauge (W) 40°F to 150°F (4.4°C to 65.6°C)
 With internal auto drain [R] 40°F to 125°F (4.4°C to 52°C)
 With external auto drain [Q] 40°F to 150°F (4.4°C to 65.6°C)

Flow capacity†:
 High flow 1-1/2" 450 scfm (212.4 dm³/s, ANR)

Bowl capacity:
 Zinc with gauge (W) 16 oz.
 Aluminum (E) 32 oz.

Weight:
 16 oz. 7.0 lb (3.18 kg)
 32 oz. 7.7 lb (3.49 kg)

† scfm = Standard cubic feet per minute at 90 psig inlet and 5 psig pressure drop.
 () Bowl type, [] drain type.

Ordering information:

F602 - 12 W J [] /**

Port Threads	Engineering Level
NPT -	/** Will be entered at factory
G BSPP G	
Port Size	Drains and Options
1-1/2 inch 12	Blank Manual twist drain
Bowl	Q External heavy duty auto drain
32 oz. Large capacity metal without sight gauge E	R Internal auto drain
16 oz. Metal with sight gauge W	U Semi-auto drain
Element	
G 5 Micron	
J 40 Micron	

Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

Hi-Flow Particulate Filters

Material Specifications

Body	Zinc
Bowl (E) 32 oz. without sight gauge	Aluminum
Bowl (W) 16 oz. with sight gauge	Zinc
Manual twist drain & overnight	Brass
Drain housing "R"	Acetal
Drain housing "Q"	Bronze
Element	Polypropylene
Seals	Nitrile
Sight gauge	Nylon

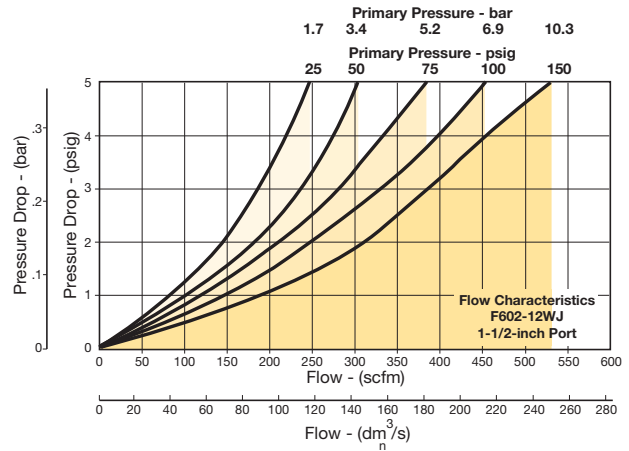
Repair and Service Kits

Aluminum bowl (E) 32 oz.	BK603B
Zinc bowl with sight gauge (W) 16 oz.	BK605WB
External auto drain (E) 32 oz.	SA603D
External auto drain (W) 16 oz.	SA602D
Internal auto drain (All)	SA602MD
Manual drain (All)	SA600Y7-1
Semi-automatic "overnight" drain <i>(drains automatically under zero pressure)</i>	SA602A7
40 micron element (All)	EK602B
5 micron element (All)	EK602VB
Deflector, baffle assembly, & retaining rod (All)	RK602C
External auto drain (All)	RK602D
Internal auto drain (All)	RK602MD
Metal bowl with sight gauge (W) 16 oz.	RKB605WB

Air Preparation Products General Industrial

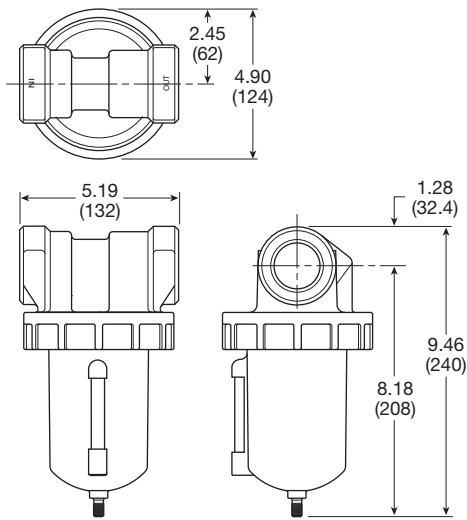
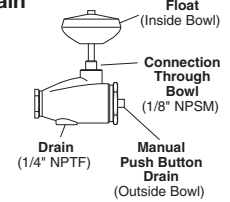
Flow Charts

F602 1-1/2" Particulate Filter



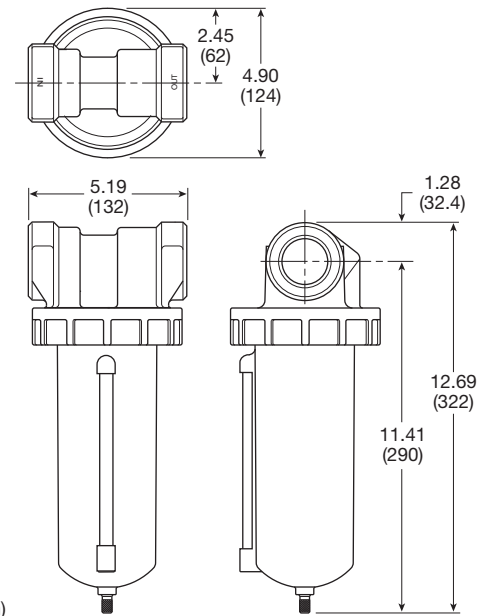
"Q" Option External Heavy Duty Auto Drain SA602D / SA603D

For heavy duty applications where the filter is being used to remove large volumes of liquid and/or particulate matter from the airstream, the external automatic drain ("Q" option) should be used.



Inches (mm)

F602-12W (Hi-Flow)



Inches (mm)

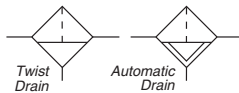
F602-12E (Hi-Flow)



For inventory, lead time, and kit lookup, visit www.pdnplu.com

F602 Particulate Filters – Hi-Flow

- Excellent water removal efficiency
- For heavy duty applications with minimum pressure drop requirement.
- Unique deflector plate that creates swirling of the air stream ensuring maximum water and dirt separation.
- Large filter element surface guarantees low pressure drop and increased element life.
- 40 micron filter element standard.
- Metal bowl with sight gauge standard.
- Twist drain as standard, optional auto drain.
- Large bowl capacity.
- Optional high capacity bowl(s) available
- 2" port, NPT & BSPP



Port size	Description	Part number
2"	16 oz. metal bowl / manual drain	F602-16WJ
2"	16 oz. metal bowl / auto drain	F602-16WJR
2"	32 oz. metal bowl / manual drain	F602-16EJ
2"	32 oz. metal bowl / auto drain	F602-16EJR

Operating information

Supply pressure (max):
 Aluminum (E) 0 to 300 psig (0 to 20.7 bar)
 Zinc with gauge (W) 0 to 250 psig (0 to 17.2 bar)
 With internal auto drain [R] 20 to 175 psig (1.14 to 11.9 bar)
 With external auto drain [Q] 0 to 250 psig (0 to 17.2 bar)

Operating temperature:
 Aluminum (E) 40°F to 150°F (4.4°C to 65.6°C)
 Zinc with gauge (W) 40°F to 150°F (4.4°C to 65.6°C)
 With internal auto drain [R] 40°F to 125°F (4.4°C to 52°C)
 With external auto drain [Q] 40°F to 150°F (4.4°C to 65.6°C)

Flow capacity†:
 High flow 2" 1200 scfm (566.3 dm³/s, ANR)

Bowl capacity:
 Zinc with gauge (W) 16 oz.
 Aluminum (E) 32 oz.

Weight:
 16 oz. 9.8 lb (4.45 kg)
 32 oz. 10.3 lb (4.67 kg)

† scfm = Standard cubic feet per minute at 90 psig inlet and 5 psig pressure drop.
 () Bowl type, [] drain type.

Ordering information:

F602 - 16 W J [] /**

Port Threads	Engineering Level
NPT -	/** Will be entered at factory
G BSPP G	
Port Size	Drains and Options
2 inch 16	Blank Manual twist drain
	Q External heavy duty auto drain
	R Internal auto drain
	U Semi-auto drain
Bowl	Element
32 oz. Large capacity metal without sight gauge E	J 40 Micron
16 oz. Metal with sight gauge W	

Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

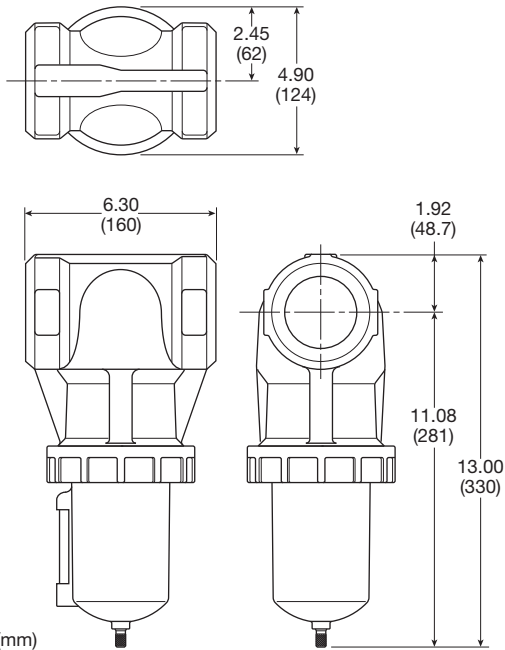
Hi-Flow Particulate Filters

Material Specifications

Body	Aluminum
Bowl (E) 32 oz. without sight gauge	Aluminum
Bowl(W) 16 oz. with sight gauge	Zinc
Manual twist drain & overnight	Brass
Drain housing "R"	Acetal
Drain housing "Q"	Bronze
Element	Polypropylene
Seals	Buna N
Sight Gauge	Nylon

Repair and Service Kits

Aluminum bowl (E) 32 oz.	BK603B
Zinc bowl with sight gauge (W) 16 oz.	BK605WB
External auto drain (E) 32 oz.	SA603D
External auto drain (W) 16 oz.	SA602D
Internal auto drain (All)	SA602MD
Manual drain (All)	SA600Y7-1
Semi-auto "overnight" drain <i>(drains automatically under zero pressure)</i>	SA602A7
40 micron element (All)	EK602G
Deflector, baffle assembly, & retaining rod (All)	RK602C
External auto drain (All)	RK602D
Internal auto drain (All)	RK602MD
Metal bowl with sight gauge (W) 16 oz.	RKB605WB

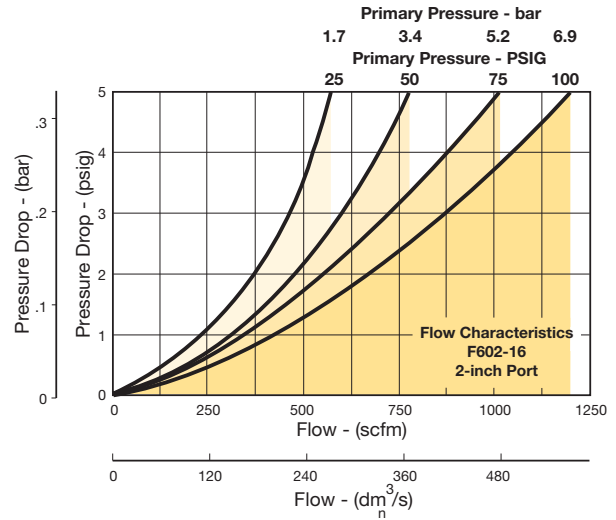


F602-16W (Hi-Flow)

Air Preparation Products General Industrial

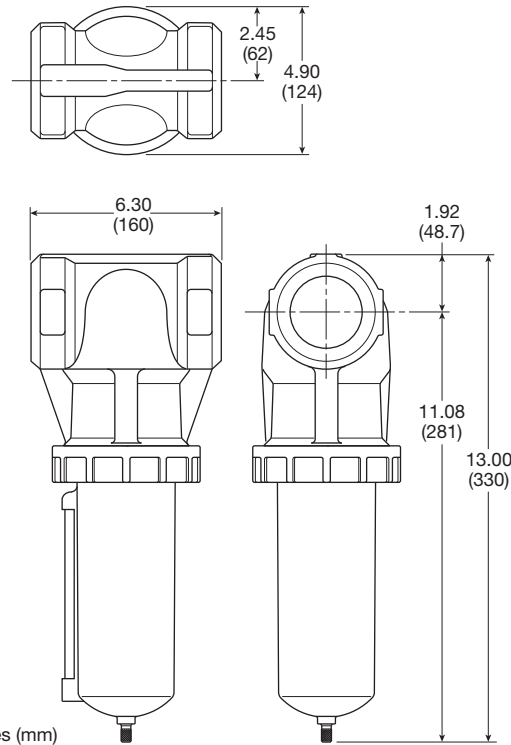
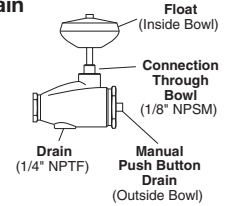
Flow Charts

F602 2" Particulate Filter



"Q" Option External Heavy Duty Auto Drain SA602D / SA603D

For heavy duty applications where the filter is being used to remove large volumes of liquid and/or particulate matter from the airstream, the external automatic drain ("Q" option) should be used.



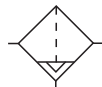
F602-16E (Hi-Flow)



For inventory, lead time, and kit lookup, visit www.pdnplu.com

35F / 43F Particulate Filters – Hi-Flow

- Heavy-duty cast aluminum housings to withstand operating pressures up to 250 psig*
- Differential pressure indicator to eliminate the guesswork of element replacement
- Differential pressure gauge available, order separately, kit DP3-01-000
- Unique drain mounting plate design offers a trouble-free method for interchanging and installing external drains
- 1-1/2" & 2" (35F), 3" (43F) ports, NPT & BSPP



Auto Drain

Port size	Description	Part number
1-1/2"	Metal bowl / auto drain	35F77BAP
2"	Metal bowl / auto drain	35F87BAP
3"	Metal bowl / auto drain	43FN7BAP

Operating information

Supply pressure (max):		
With pressure gauge		
without DPI*		250 psig (17.2 bar)
with DPI		150 psig (10.3 bar)
Operating temperature:		32°F to 150°F (0°C to 65.6°C)
Flow capacity†:		
High flow	1-1/2"	1280 scfm (604.1 dm³/s, ANR)
	2"	1400 scfm (660.7 dm³/s, ANR)
	3"	2900 scfm (1368.6 dm³/s, ANR)
Bowl capacity:		
	35F	13.9 oz.
	43F	17.2 oz.
Standard Filtration:		5 micron
Weight:		
	35F	19.3 lb (8.7 kg)
	43F	32.8 lb (14.9 kg)

† scfm = Standard cubic feet per minute at 90 psig inlet and 5 psig pressure drop.
* Without differential pressure indicator, max supply pressure is 250 psig (17.2 bar).

Ordering information:

35F	7	7	B	A	P	1
Port Size		Element		Options		Port Threads
1-1/2 inch (35F)	7	5 Micron	B	N	Without differential pressure indicator	Blank
2 inch (35F)	8			P*	With differential pressure indicator	NPT
3 inch (43F)	N			G**	With differential pressure gauge	1
Bowl		Element		Options		
Metal without sight gauge, auto float drain		5 Micron		N		
				P*		
				G**		
				A		
				Current		

* Maximum pressure rating 150 psig (10.3 bar).
** Gauge ships loose

Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

General Industrial Products
H
Filters
Coalescers
Regulators
Lubricators
Combinations

Hi-Flow Particulate Filters

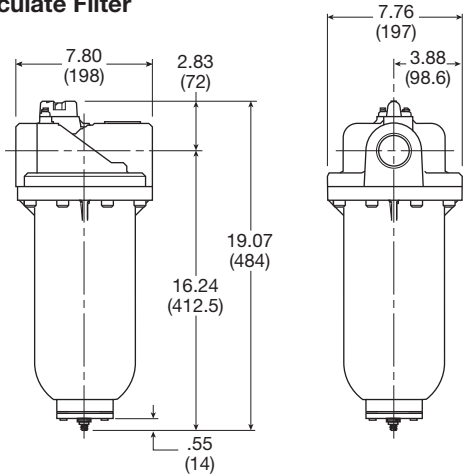
Material Specifications

Baffle	Plated steel
Body	Aluminum
Bowls	Aluminum
Deflector	Plated steel
Element retainer	Plated steel
Filter element	Polyethylene
Seals	Fluorocarbon
Stud	Plated steel

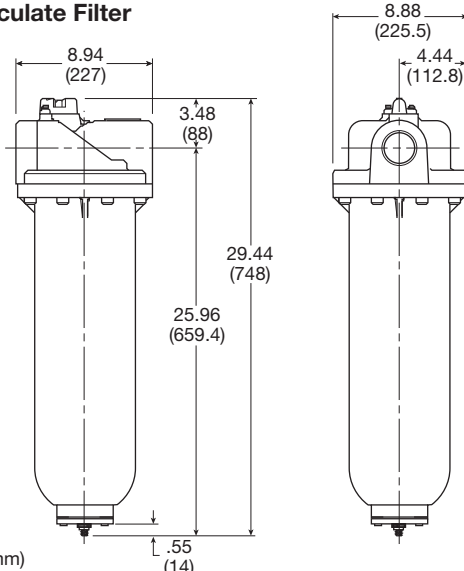
Repair and Service Kits

Differential pressure indicator cap For pressures over 150 psig	GRP-95-022
Differential pressure gauge	DP3-01-000
Differential pressure indicator	DP2-02-001
Auto drain, 1/8 NPT	GRP-95-981
Drain plate kit, 1/2 NPT tapped drain port	GRP-95-393
Element, 5 micron (35F)	FRP-95-505
Element, 5 micron (43F)	FRP-95-508
Manual drain kit with 1/2" drain plate	GRP-95-392

35F Particulate Filter



43F Particulate Filter

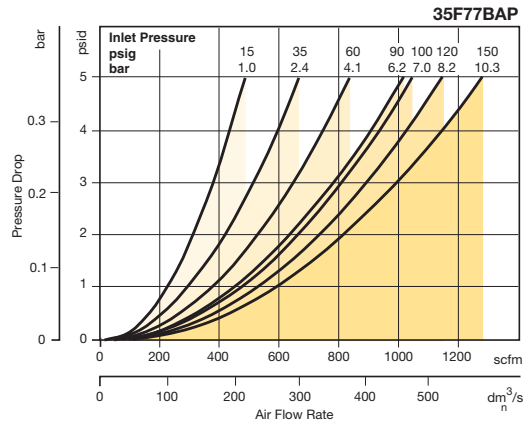


Inches (mm)

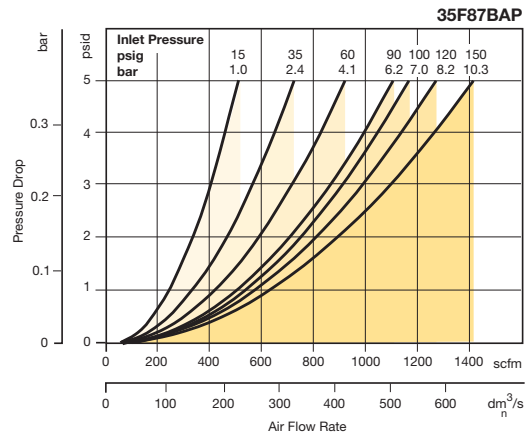
Air Preparation Products General Industrial

Flow Charts

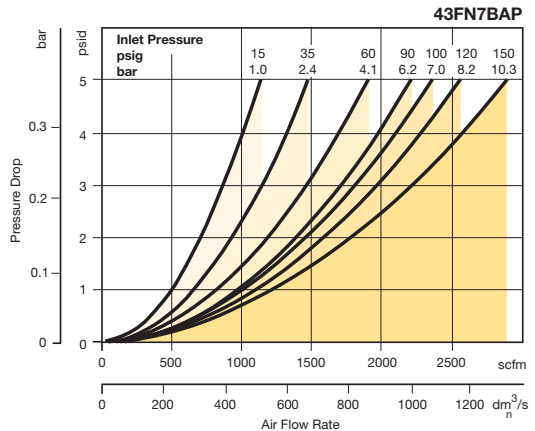
35F, 1-1/2" Particulate Filter



35F, 2" Particulate Filter



43F, 3" Particulate Filter

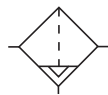


For inventory, lead time, and kit lookup, visit www.pdnplu.com

35F / 43F Coalescing Filters – Hi-Flow

- Heavy-duty cast aluminum housings to withstand operating pressures up to 250 psig*
- Differential pressure indicator to eliminate the guesswork of element replacement
- Differential pressure gauge available, order separately, kit DP3-01-000
- Unique drain mounting plate design offers a trouble-free method for interchanging and installing external drains
- High-flow filter elements: coalescing, 1 micron and 0.01 micron
- 1-1/2", 2", 3" ports (NPT, BSPP, BSPT)

* Without Differential Pressure Indicator – Max. supply pressure is 250 psig (20.1 bar).



Auto Drain

Port size	Description	Part number
1-1/2"	0.01 micron / auto float	35F77EAP
1-1/2"	1.0 micron / auto float	35F77HAP
2"	0.01 micron / auto float	35F87EAP
2"	1.0 micron / auto float	35F87HAP
3"	0.01 micron / auto float	43FN7EAP
3"	1.0 micron / auto float	43FN7HAP

Operating information

Supply pressure (max):	
With pressure gauge without DPI*	250 psig (17.2 bar)
with DPI	150 psig (10.3 bar)
Operating temperature: 32°F to 150°F (0°C to 65.6°C)	
Flow capacity†:	
High flow	(35F) 1-1/2" 710 scfm (335 dm ³ /s, ANR)
	(35F) 2" 710 scfm (335 dm ³ /s, ANR)
	(43F) 3" 1770 scfm (835 dm ³ /s, ANR)
Bowl capacity:	
35F	13.9 oz.
43F	17.2 oz.
Standard Filtration: 0.01 & 1 micron	
Weight:	
35F	19.3 lb (8.7 kg)
43F	32.8 lb (14.9 kg)

† scfm = Standard cubic feet per minute at 90 psig inlet and 5 psig pressure drop.
* Filtration temperature of 70°F (21°C) @ 100 psig (6.9 bar) with typical compressor lubricating oil and protected by 0.01 micron filter.

Ordering information:

35F	7	7	H	A	P	 																											
<table border="1"> <thead> <tr><th colspan="2">Port Size</th></tr> </thead> <tbody> <tr><td>1-1/2 inch (35F)</td><td>7</td></tr> <tr><td>2 inch (35F)</td><td>8</td></tr> <tr><td>3 inch (43F)</td><td>N</td></tr> </tbody> </table>		Port Size		1-1/2 inch (35F)	7	2 inch (35F)	8	3 inch (43F)	N	<table border="1"> <thead> <tr><th colspan="2">Bowl</th></tr> </thead> <tbody> <tr><td>Metal without sight gauge, auto float drain</td><td>7</td></tr> </tbody> </table>		Bowl		Metal without sight gauge, auto float drain	7	<table border="1"> <thead> <tr><th colspan="2">Element</th></tr> </thead> <tbody> <tr><td>0.01 Micron</td><td>E</td></tr> <tr><td>1 Micron</td><td>H</td></tr> </tbody> </table>		Element		0.01 Micron	E	1 Micron	H	<table border="1"> <thead> <tr><th colspan="2">Port Threads</th></tr> </thead> <tbody> <tr><td>Blank</td><td>NPT</td></tr> <tr><td>1</td><td>BSPP</td></tr> <tr><td>2</td><td>BSPT</td></tr> </tbody> </table>		Port Threads		Blank	NPT	1	BSPP	2	BSPT
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2	BSPT																																
				<table border="1"> <thead> <tr><th colspan="2">Options</th></tr> </thead> <tbody> <tr><td>N</td><td>Without differential pressure indicator</td></tr> <tr><td>P*</td><td>With differential pressure indicator</td></tr> </tbody> </table>			Options		N	Without differential pressure indicator	P*	With differential pressure indicator																					
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P*	With differential pressure indicator																																
				<table border="1"> <thead> <tr><th colspan="2">Engineering Level</th></tr> </thead> <tbody> <tr><td>A</td><td>Current</td></tr> </tbody> </table>			Engineering Level		A	Current																							
Engineering Level																																	
A	Current																																

* Maximum pressure rating 150 psig.

Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

Hi-Flow Coalescing Filters

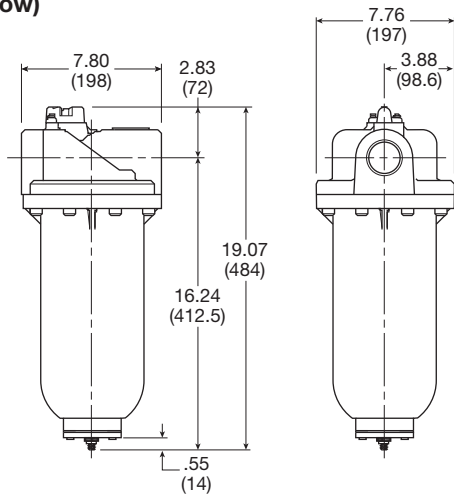
Material Specifications

Body	Aluminum
Bowls	Aluminum
Filter element	Borosilicate cloth
Seals	Fluorocarbon
Stud	Plated steel

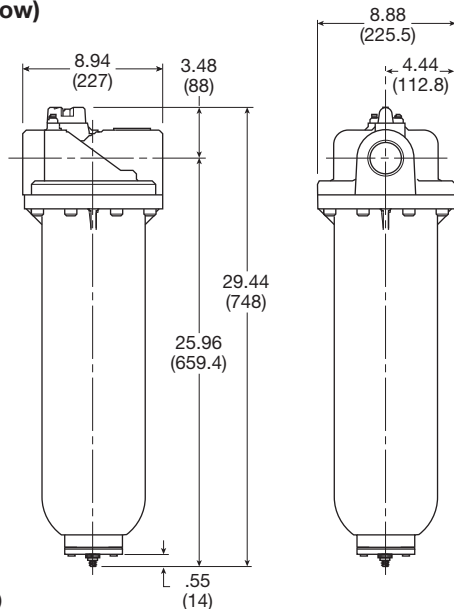
Repair and Service Kits

Differential pressure indicator cap – for pressures over 150 psig	GRP-95-022
Differential pressure indicator	DP2-02-001
Drain, automatic, internal, fluorocarbon, 1/8 NPT	GRP-95-981
Drain plate kit, 1/2 NPT tapped drain port	GRP-95-393
35F: 0.01 Micron element	MTP-95-502
35F: 1.0 Micron element	MSP-95-502
43F: 0.01 Micron element	MTP-95-562
43F: 1.0 Micron element	MSP-95-876
Manual drain kit with 1/2" drain plate	GRP-95-392

35F (Hi-Flow)



43F (Hi-Flow)

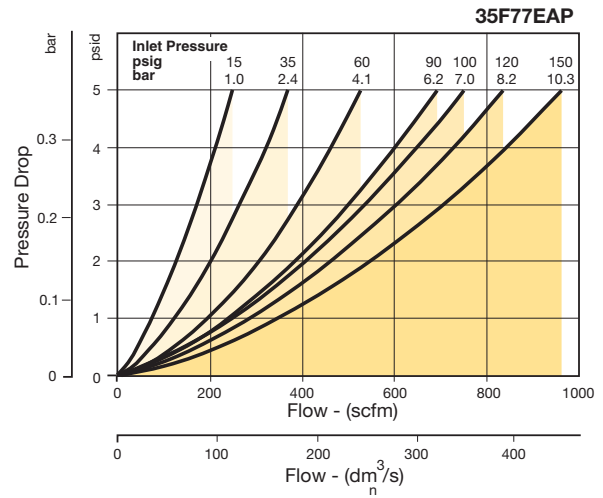


Inches (mm)

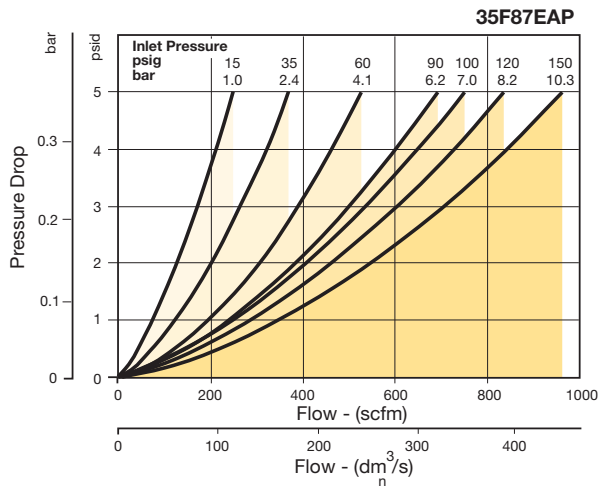
Air Preparation Products General Industrial

Flow Charts

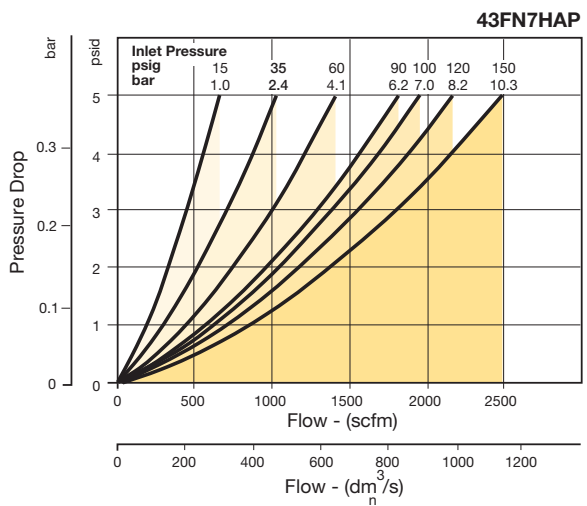
35F 1-1/2" Coalescing Filters



35F 2" Coalescing Filters



43F 3" Coalescing Filters



For inventory, lead time, and kit lookup, visit www.pdnplu.com

H11

Parker Hannifin Corporation
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics

General Industrial
Products

H

Filters

Coalescers

Regulators

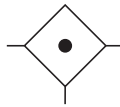
Lubricators

Combinations

F701 Coalescing Filters – Hi-Flow

- Removes liquid aerosols and sub-micron particles.
- Protects pneumatic systems from contamination that standard particulate filters will not catch.
- Two different grade elements available.
- Differential pressure indicator (pop-up) standard.
- Differential pressure gauge optional.
- High flow design
- 3/4", 1" ports (NPT, BSPP)

Note: All coalescing filters should be protected by a particulate filter (i.e., F602, or other) installed upstream.



Port size	Description	Part number
3/4"	32 oz. metal bowl, grade 6 element	F701-06E3P
3/4"	100 oz. metal bowl, grade 6 element	F701-06L3P
3/4"	32 oz. metal bowl, grade 10 element	F701-06E7P
3/4"	100 oz. metal bowl, grade 10 element	F701-06L7P
1"	32 oz. metal bowl, grade 6 element	F701-08E3P
1"	100 oz. metal bowl, grade 6 element	F701-08L3P
1"	32 oz. metal bowl, grade 10 element	F701-08E7P
1"	100 oz. metal bowl, grade 10 element	F701-08L7P

Operating information

Supply pressure (max):		
Manual drains		0 to 300 psig (0 to 20.7 bar)
Auto drains		
"R" low pressure internal		175 psig (12.0 bar)
"T" High pressure internal		250 psig (17.2 bar)
"Q" external		250 psig (17.2 bar)
Operating pressure drop:		
Normal	Dry	2 psig (0.14 bar)
	Wet	5 psig (0.34 bar)
Max recommended (Element should be replaced)		10 psig (0.7 bar)
Minimum recommended flow:		20% nominal rating of element
Operating temperature (max):		32°F to 150°F (0°C to 65°C)
"R", "T", "Q" drains		125°F (52°C)
Flow capacity†:		
Grade 6	32 oz*	95 scfm (44.8 dm ³ /s, ANR)
(0.01 micron)	100 oz*	170 scfm (80 dm ³ /s, ANR)
Grade 10	32 oz*	158 scfm (75 dm ³ /s, ANR)
(1.0 micron)	100 oz*	285 scfm (135 dm ³ /s, ANR)
Weight:		
	32 oz	5.0 lb (2.3 kg)
	100 oz	8.0 lb (3.6 kg)

† scfm = Standard cubic feet per minute at 90 psig inlet and 5 psig pressure drop.

* Dry media flow, for wet media flow information see table on next page.

Ordering information:

F701	-	06	W	3	/**
Port Threads					Engineering Level
NPT	-				** Will be entered at factory
G BSPP	G				
	Port Size				Drains and Options
	3/4 inch	06			Blank Manual twist drain
	1 inch	08			T High pressure internal auto drain
					Q* External auto drain
					R Low pressure internal auto drain
					* Q option not available with bowl option L.
	Bowl				Element
	32 oz. Metal without sight gauge	E		3	Grade 6
	100 oz. Metal without sight gauge	L		7	Grade 10

Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

Hi-Flow Coalescing Filters

Material Specifications

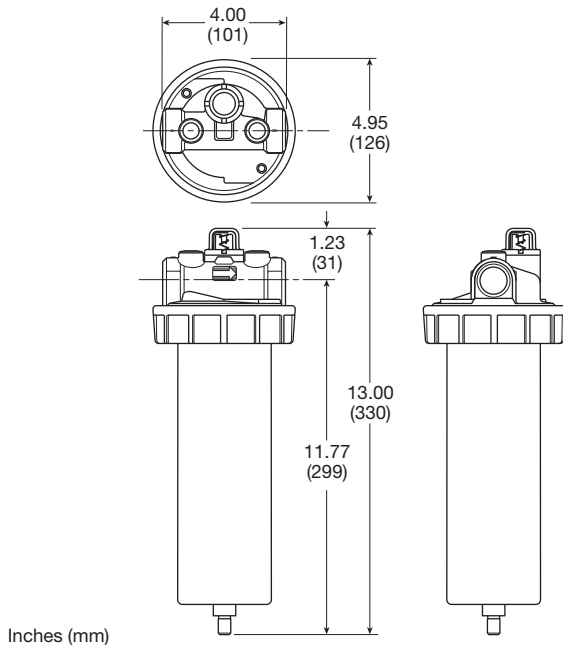
Body & flange ring	Zinc
Metal bowl (E) (L)	Aluminum
Auto float drain, housing "R", "T" (internal)	Acetal
Auto float drain, housing "Q" (external)	Bronze
Auto float drain, manual twist drain	Brass
Seals & float	Buna N
Springs	Stainless steel
Element (media)	Borosilicate fibers & felt
Element end caps	Urethane
Seals	Buna N

Repair and Service Kits

Bracket - 3/4 (pair of pipe mounted brackets)	SA200AW57
Bracket - 1 (pair of pipe mounted brackets)	SA200CW57
32 oz bowl kit - 3/4, 1 inch (E)	BK603B
32 oz bowl kit - 3/4, 1 inch (L) 100 oz.	BK603C
Differential pressure pop up Indicator repair kit (only works with originally equipped units)	RK701P
Differential pressure gauge (only works on units without pop-up indicator)	DP276-P
Internal automatic drain kit, high pressure (T)	SA702MD
Manual twist drain kit	SA600Y7-1
Grade 6 element - 3/4, 1 Inch (E) 32 oz.	F701-C3-0773
Grade 6 element - 3/4, 1 Inch (L) 100 oz.	F701-C3-0774
Grade 10 element - 3/4, 1 Inch (E) 32 oz.	F701-C7-0773
Grade 10 element - 3/4, 1 Inch (L) 100 oz.	F701-C7-0774

() = Bowl Type

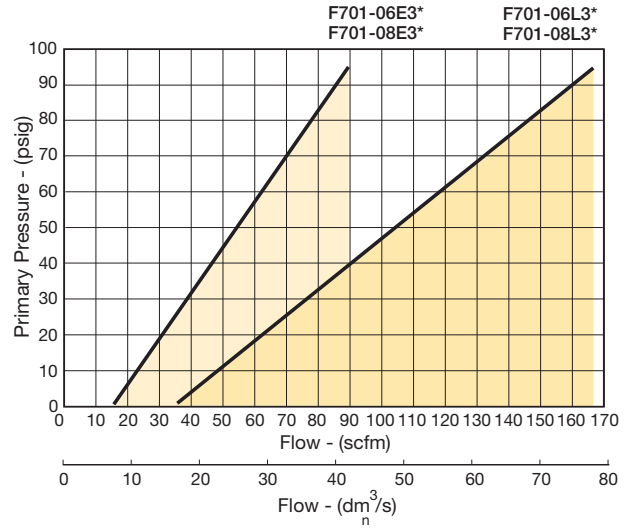
F701 - 32 oz. bowl (Hi-Flow)



Air Preparation Products General Industrial

Flow Charts

F701 3/4" & 1" Coalescing Filter



Media Specifications

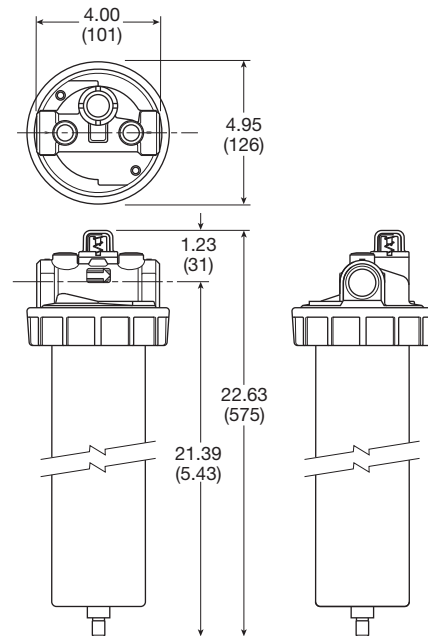
Grade	D.O.P. Coalescing efficiency 0.3 to 0.6 micron particles	Maximum oil carryover ¹ PPM w/w	Pressure drop (PSID) ² @ rated flow	
			Media dry	Media Wet with 10-20 wt. oil
6	99.97%	0.008	1.0	2-3
10	95%	0.85	0.5	0.5

¹ Tested per BCAS 860900 at 40 ppm inlet.

² Add dry + wet for total pressure drop.

D.O.P. = Dioctylphthalate

F701 - 100 oz. bowl (Hi-Flow)



For inventory, lead time, and kit lookup, visit www.pdnplu.com

P3TF Flanged Coalescing Filters

P3TF Series Flanged Coalescing Filters

- No tie rod element design
- Pleated element technology
- New high efficiency drainage layer
- Designed in accordance with ASME and CRN
- Connection sizes: 4" & 6" flange
- Acrylic polyurethane coating for corrosion protection
- Float drain is standard
- DP gauge is standard



Port size	Element type	Number of elements	Part number
4"	0.01 micron	4	P3TFAFFD2AN
4"	1.0 micron	4	P3TFAFFQ2AN
6"	0.01 micron	6	P3TFAFGD3AN
6"	1.0 micron	6	P3TFAFGQ3AN

Operating information

Supply pressure (max):	232 psig (16 bar)
Operating temperature:	35°F to 212°F (1.5°C to 100°C)
Flow capacity†:	4" 2119 scfm (1000 dm ³ /s, ANR)
	6" 4132 scfm (1950 dm ³ /s, ANR)
Standard Filtration:	0.01 & 1 micron
† scfm = Standard cubic feet per minute at 90 psig inlet and 5 psig pressure drop.	

Material Specifications

Body	Steel
Baffle	Plated steel
Deflector	Plated steel
Element	Borosilicate cloth
Seals	Fluorocarbon
Stud	Plated steel

Repair and Service Kits

DP gauge replacement kit	DPG-Kit
Float drain kit - 1/2" NPT	HDF-120-NPT-A
0.01 Micron element (4 or 6 required)	PSY1035002
1.0 Micron element (4 or 6 required)	PSY1035001

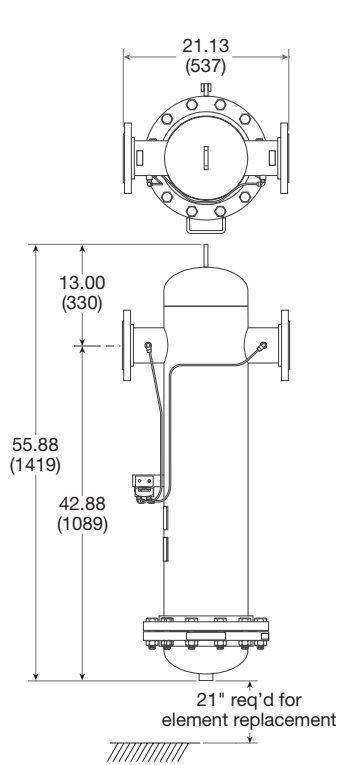
Most popular.



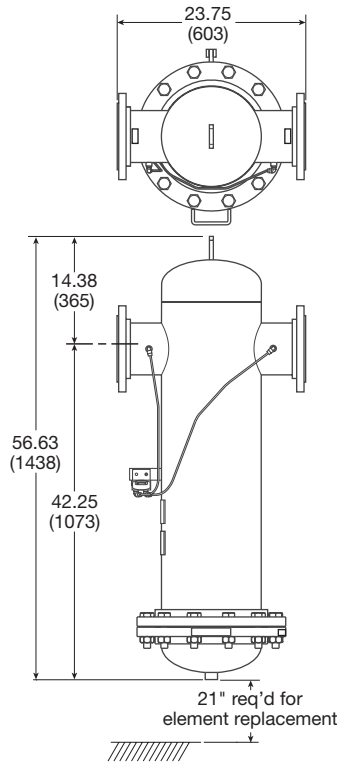
For inventory, lead times, and kit lookup, visit www.pdnplu.com

P3TF Flanged Coalescing Filters

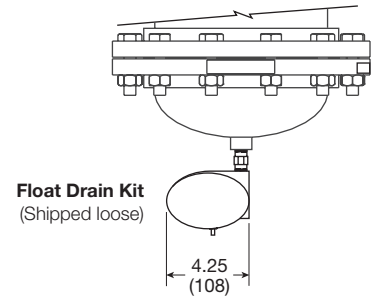
General Industrial



P3TFAFFD2AN & P3TFAFFQ2AN



P3TFAFGD3AN & P3TFAFGQ3AN



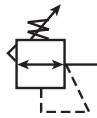
General Industrial Products
H
Filters
Coalescers
Regulators
Lubricators
Combinations



For inventory, lead time, and kit lookup, visit www.pdnplu.com

R119 Regulators – Standard

- High flow performance featuring rugged design for the most demanding applications
- Ideal for those installations calling for constant pressure with wide variation in flow
- Diaphragm operated design with balanced poppet design for quick and accurate regulation
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- Heavy duty tee handle adjustment
- Reverse flow version available
- Panel mount version available
- 1/4", 3/8", 1/2" ports (NPT, BSPP)



Port size	Description (0-125 psig reduced pressure)	Part number
1/4"	Without gauge, relieving, NPT	R119-02C
1/4"	With gauge, relieving, NPT	R119-02CG
3/8"	Without gauge, relieving, NPT	R119-03C
3/8"	With gauge, relieving, NPT	R119-03CG
1/2"	Without gauge, relieving, NPT	R119-04C
1/2"	With gauge, relieving, NPT	R119-04CG

Operating information

Supply pressure (max):	300 psig (0 to 20.7 bar)	
Reduced pressure range:	2 to 125 psig (0.15 to 8.5 bar)	
Operating temperature:	40°F to 125°F (4.4°C to 52°C)	
Flow capacity†:		
High flow	1/4"	100 scfm (47.2 dm ³ /s, ANR)
	3/8"	110 scfm (51.9 dm ³ /s, ANR)
	1/2"	150 scfm (70.8 dm ³ /s, ANR)
Gauge ports (2):	1/4 inch	
Weight:	1/4"	1.8 lb (0.82 kg)
	3/8"	1.8 lb (0.82 kg)
	1/2"	3.2 lb (1.45 kg)

† scfm = Standard cubic feet per minute at 100 psig inlet, 75 psig no flow secondary setting and 20 psig pressure drop.

Ordering information:

R119
-
02
C
/
/**

Port Threads

NPT	-
G BSPP	G

Port Size

1/4 inch	02
3/8 inch	03
1/2 inch	04

Reduced Pressure Range

0-25 psig	A
0-60 psig	B
0-125 psig	C
0-250 psig	D

Engineering Level

/**	Will be entered at Factory
-----	----------------------------

Options

Blank	None
G	Gauge
K†	Non-relieving
X64**	Fluorocarbon o-rings and diaphragm
X80*	Reverse flow
X7	Brass bottom plug

* Reverse flow for use downstream of control valves.
 ** Brass bottom plug standard with X64 option.
 † Not available with 250 psig spring.

 Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

General Industrial Products
H
 Filters
 Coalescers
 Regulators
 Lubricators
 Combinations

Standard Regulators

Material Specifications

Adjusting screw, springs	Steel
Body, spring cage	Zinc
Bottom plug	Nylon
Innervalve	Brass
Seals	Buna N

Repair and Service Kits

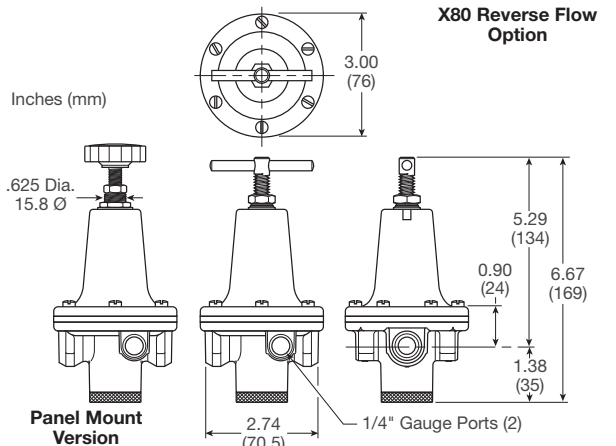
2" dial face 60 psig (0 to 4.1 bar), gauge	K4520N14060
2" dial face 160 psig (0 to 11.0 bar), gauge	K4520N14160
2" dial face 300 psig (0 to 20.7 bar), gauge	K4520N14300
1-3/4" digital round face	
160 psig (0 to 11.0 bar), gauge	K4517N14160D
Mounting bracket, 1/4", 3/8"	SA15Y57
Mounting bracket, 1/2"	18A57
Panel mount conversion kit, 1/4", 3/8"	4202
Panel mount conversion kit, 1/2"	4204
Non-relieving diaphragm, valve assembly (1/4", 3/8"; all psig)	RK118Y
Relieving diaphragm, valve assembly (1/4", 3/8"; all psig)	RK119Y
Non-Relieving diaphragm, valve assembly (1/2"; 25, 60, 125 psig)	RK118A
Relieving diaphragm, valve assembly (1/2"; 25, 60, 125 psig)	RK119A
Relieving diaphragm, valve assembly (1/2"; 250 psig)	RK119A250
Spring cage & T-handle kit (1/4 & 3/8)	RKC119Y
Spring cage & insert only kit (1/2)	SAC18A3/BK

For fluorocarbon repair kits, add X64 to kit number suffix.

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.

R119-02C, R119-03C

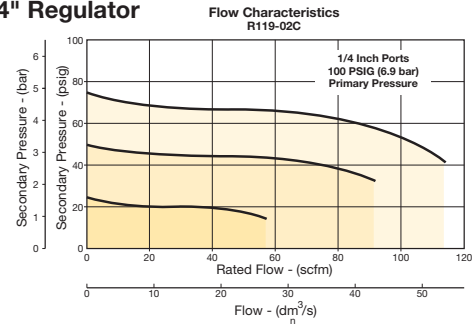


Air Preparation Products

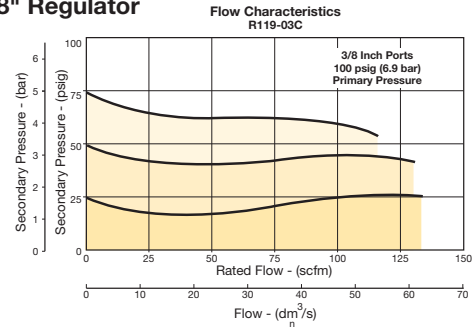
General Industrial

Flow Charts

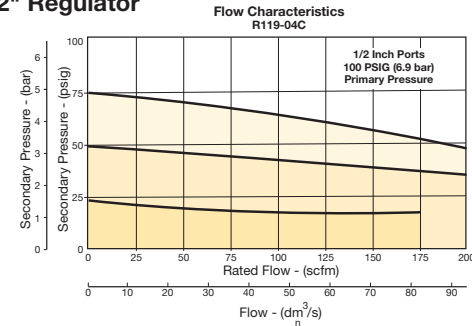
R119 1/4" Regulator



R119 3/8" Regulator



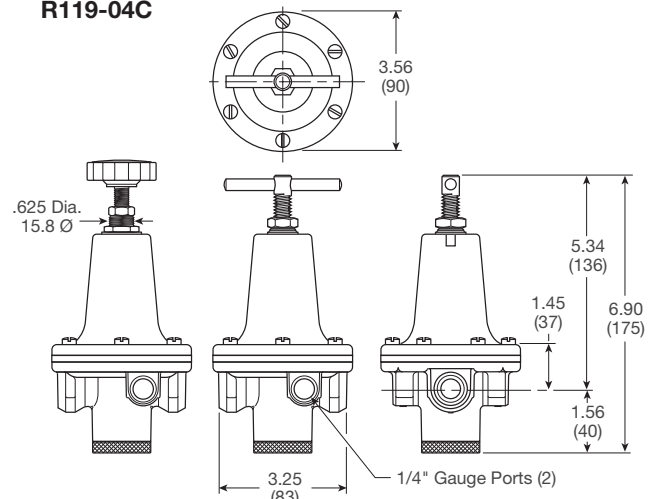
R119 1/2" Regulator



WARNING

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

R119-04C

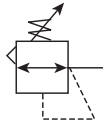


For inventory, lead time, and kit lookup, visit www.pdnplu.com

Hi-Flow Regulators

R119 Regulators – Hi-Flow

- High flow performance featuring rugged design for the most demanding applications
- Ideal for those installations calling for constant pressure with wide variation in flow
- Diaphragm operated design with balanced poppet design for quick and accurate regulation
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- Heavy duty tee handle adjustment
- Reverse flow version available
- 3/4", 1", 1-1/2" ports (NPT, BSPP)



Port size	Description (0-125 psig reduced pressure)	Part number
3/4"	Without gauge, relieving, NPT	R119-06C
3/4"	With gauge, relieving, NPT	R119-06CG
1"	Without gauge, relieving, NPT	R119-08C
1"	With gauge, relieving, NPT	R119-08CG
1-1/2"	Without gauge, relieving, NPT	R119-12C
1-1/2"	With gauge, relieving, NPT	R119-12CG

Operating information

Supply pressure (max):	300 psig (0 to 20.7 bar)	
Reduced pressure range:	2 to 125 psig (0.15 to 8.5 bar)	
Operating temperature:	40°F to 125°F (4.4°C to 52°C)	
Flow capacity†:		
High flow	3/4"	300 scfm (141.6 dm ³ /s, ANR)
	1"	400 scfm (188.8 dm ³ /s, ANR)
	1-1/2"	500 scfm (236 dm ³ /s, ANR)
Gauge ports (2):	1/4 inch	
Weight:	3/4"	6.2 lb (2.81 kg)
	1"	6.2 lb (2.81 kg)
	1-1/2"	7.2 lb (3.27 kg)

† scfm = Standard cubic feet per minute at 100 psig inlet, 75 psig no flow secondary setting and 20 psig pressure drop.

Ordering information:

R119	-	06	C		/**	
Port Threads		Port Size			Engineering Level	
NPT	-	3/4 inch	06		/** Will be entered at Factory	
G BSPP	G	1 inch	08			
		1-1/2 inch	12			
		Reduced Pressure Range			Options	
		0-125 psig	C		Blank	None
		0-250 psig	D		G	Gauge
					K	Non-relieving
					X64**	Fluorocarbon o-rings and diaphragm
					X80*	Reverse flow
					X7	Brass Bottom Plug

* Reverse flow for use downstream of control valves.
** Brass bottom plug standard with X64 option.

Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

Hi-Flow Regulators

Material Specifications

Adjusting screw, springs	Steel
Body, spring cage	Zinc
Bottom plug	Nylon
Innervalve	Brass
Seals	Buna N

Repair and Service Kits

2" dial face 60 psig (0 to 4.1 bar), gauge	K4520N14060
2" dial face 160 psig (0 to 11.0 bar), gauge	K4520N14160
2" dial face 300 psig (0 to 20.7 bar), gauge	K4520N14300
1-3/4" digital round face 160 psig (0 to 11.0 bar), gauge	K4517N14160D
Mounting bracket kit	18B57
Non-relieving diaphragm, valve assembly (3/4", 1")	RK118B
Non-relieving diaphragm, valve assembly (1-1/2")	RK118D
Relieving diaphragm, valve assembly (3/4", 1")	RK119B
Relieving diaphragm, valve assembly (1-1/2")	RK119D

For Fluorocarbon Repair Kits, add X64 to kit number suffix.

WARNING

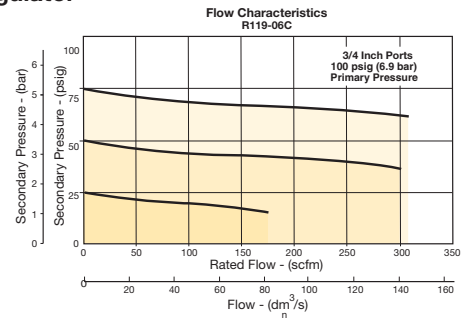
**Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed Maximum primary pressure rating.**

CAUTION:

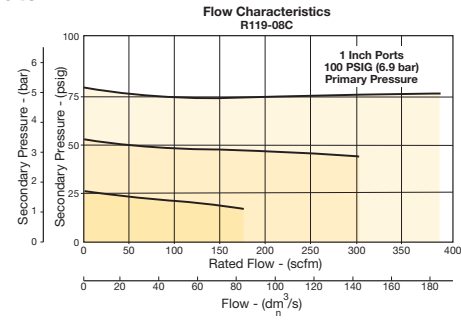
REGULATOR PRESSURE ADJUSTMENT – The working range of knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting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

Flow Charts

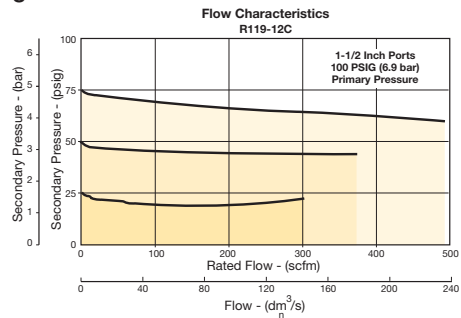
3/4" Regulator



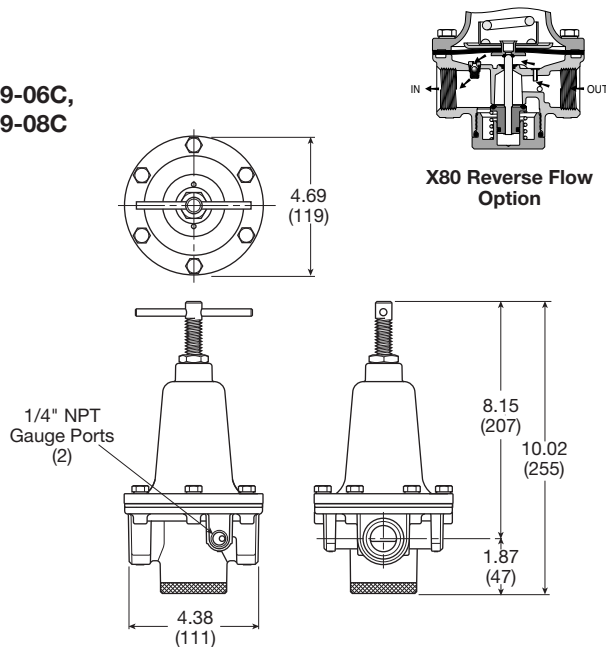
1" Regulator



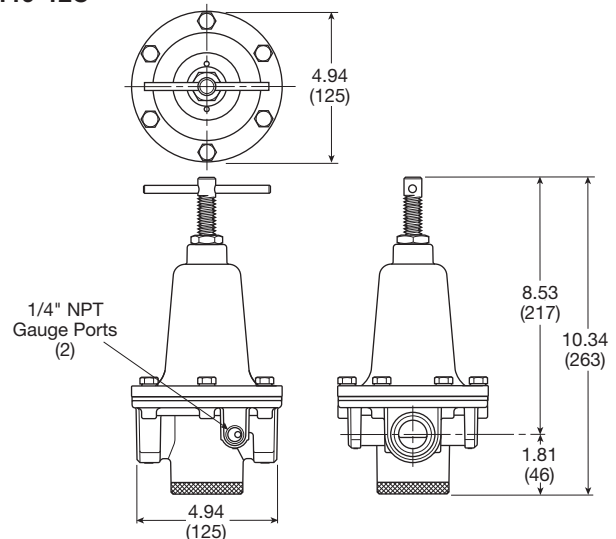
1-1/2" Regulator



R119-06C, R119-08C



R119-12C



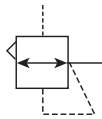
Inches (mm)



For inventory, lead time, and kit lookup, visit www.pdnplu.com

R119 – Pilot Operated Regulators

- Adapted for control by a remote or distant small pilot regulator. Ideal for maximum capacity requirements in applications where units are not readily accessible
- High flow performance featuring rugged design for the most demanding applications
- Ideal for those installations calling for constant pressure with wide variation in flow
- Diaphragm operated design with balanced poppet and constant bleed pilot for quick and accurate regulation.
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- Reverse flow available
- 1/4", 3/8", 1/2" ports (NPT, BSPP)



Port size	Description (0-125 psig reduced pressure)	Part number
1/4"	Without gauge, relieving, NPT	R119-02J
3/8"	Without gauge, relieving, NPT	R119-03J
1/2"	Without gauge, relieving, NPT	R119-04J

Operating information

Supply pressure (max):	300 psig (0 to 20.7 bar)	
Air consumption:	Constant bleed from air pilot chamber: approx. 0.17 scfm (10 scfh)	
Operating temperature:	40°F to 125°F (4.4°C to 52°C)	
Pilot pressure:	1/4", 3/8" thread - 1/8" 1/2" thread - 1/4"	
Reduced pressure range:	Adjustable to within 5 to 7 psig (0.34 to 0.48 bar) of supply pressure	
Flow capacity†:		
High flow	1/4"	100 scfm (47.2 dm³/s, ANR)
	3/8"	110 scfm (51.9 dm³/s, ANR)
	1/2"	150 scfm (70.8 dm³/s, ANR)
Gauge ports (2):	1/4 inch	
Weight:	1/4"	1.6 lb (0.73 kg)
	3/8"	1.6 lb (0.73 kg)
	1/2"	2.6 lb (1.18 kg)

† scfm = Standard cubic feet per minute at 100 psig inlet, 75 psig no flow secondary setting and 20 psig pressure drop.

Ordering information:

R119	-	02	J		/**
Port Threads					Engineering Level
NPT	-				/** Will be entered at Factory
BSPP	G				
		Port Size			Options
		1/4 inch	02		Blank
		3/8 inch	03		K
		1/2 inch	04		X64*
					X71
					X7
		Reduced Pressure Range			
		Air pilot operated	J		

* Brass bottom plug standard with X64 option.

Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

H20

Parker Hannifin Corporation
 Pneumatic Division
 Richland, Michigan
www.parker.com/pneumatics

R119 Regulators

Material Specifications

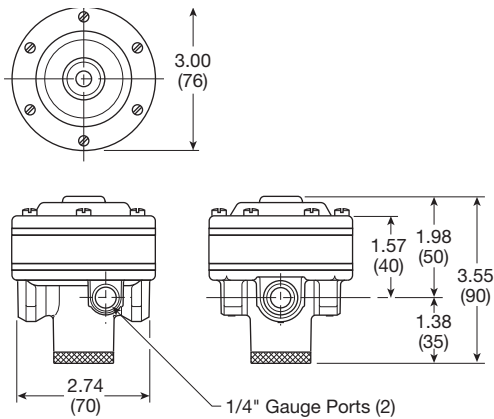
Body, ring, top plate	Zinc
Bottom plug	Nylon
Innervalve	Brass
Seals	Buna N

Repair and Service Kits

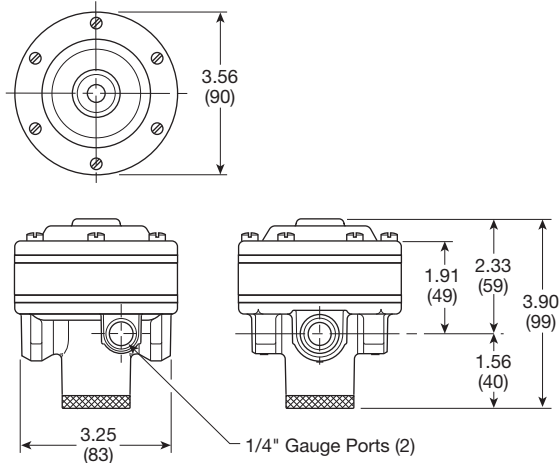
2" dial face 60 psig (0 to 4.1 bar), gauge	K4520N14060
2" dial face 160 psig (0 to 11.0 bar), gauge	K4520N14160
2" dial face 300 psig (0 to 20.7 bar), gauge	K4520N14300
1-3/4" digital round face 160 psig (0 to 11.0 bar), gauge	K4517N14160D
Non-relieving diaphragm, valve assembly (1/2")	RK118X20A
Non-relieving diaphragm, valve assembly (1/4", 3/8")	RK118X20Y
Relieving diaphragm, valve assembly (1/2")	RK119X20A
Relieving diaphragm, valve assembly (1/4", 3/8")	RK119X20Y

For fluorocarbon repair kits, add X64 to kit number suffix.
For non-bleed pilot repair kits, add X71 to kit number suffix.

R119-02J, R119-03J



R119-04J

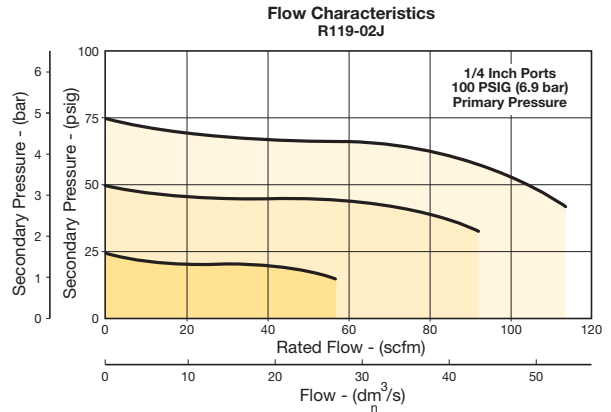


inches (mm)

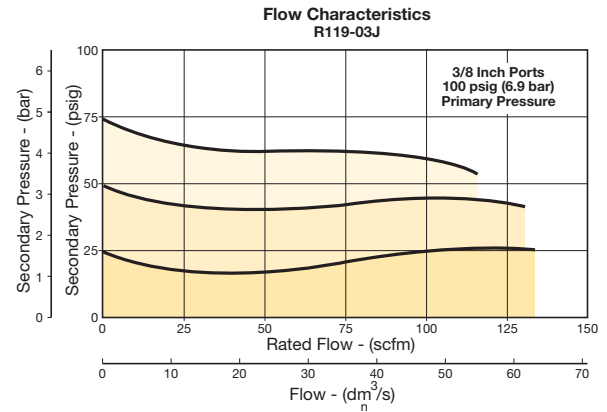
Air Preparation Products General Industrial

Flow Charts

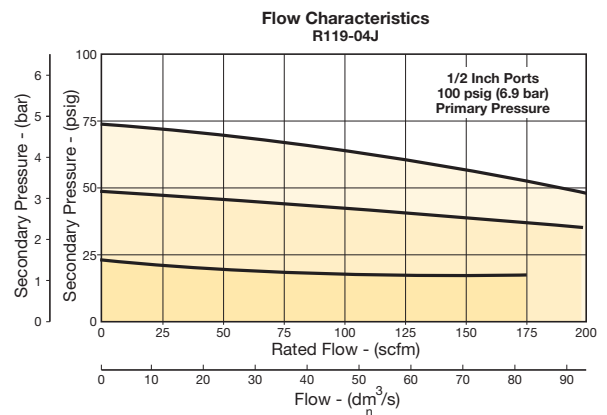
R119 1/4" Regulator



R119 3/8" Regulator



R119 1/2" Regulator



⚠ WARNING

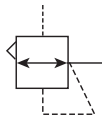
**Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed Maximum primary pressure rating.**



For inventory, lead time, and kit lookup, visit www.pdnplu.com

R119 Pilot Operated Regulators - Hi-Flow

- Adapted for control by a remote or distant small pilot regulator. Ideal for maximum capacity requirements in applications where units are not readily accessible
- High flow performance featuring rugged design for the most demanding applications
- Ideal for those installations calling for constant pressure with wide variation in flow
- Diaphragm operated design with balanced poppet and constant bleed pilot for quick and accurate regulation
- Secondary aspiration plus balanced poppet provides quick response and accurate pressure regulation
- Reverse flow version available
- 3/4", 1", 1-1/2" ports (NPT, BSPP)



Port size	Description (0-125 psig reduced pressure)	Part number
3/4"	Without gauge, relieving, NPT	R119-06J
1"	Without gauge, relieving, NPT	R119-08J
1-1/2"	Without gauge, relieving, NPT	R119-12J

Operating information

Supply pressure (max):	300 psig (0 to 20.7 bar)	
Air consumption:	Constant bleed from air pilot chamber: approx. 0.17 scfm (10 scfh)	
Operating temperature:	40°F to 125°F (4.4°C to 52°C)	
Reduced pressure range:	Adjustable to within 5 to 7 psig (0.34 to 0.48 bar) of supply pressure	
Flow capacity†:		
High flow	3/4"	300 scfm (141.6 dm³/s, ANR)
	1"	300 scfm (141.6 dm³/s, ANR)
	1-1/2"	500 scfm (236 dm³/s, ANR)
Gauge ports (2):	1/4 inch	
Weight:	3/4"	5.2 lb (2.36 kg)
	1"	5.2 lb (2.36 kg)
	1-1/2"	5.6 lb (2.54 kg)

† scfm = Standard cubic feet per minute at 100 psig inlet, 75 psig no flow secondary setting and 20 psig pressure drop.

Ordering information:

R119	-	06	J	/**
Port Threads				Engineering Level
NPT	-			/** Will be entered at Factory
BSPP	G			
	Port Size			Options
	3/4 inch	06		Blank None
	1 inch	08		K Non-relieving
	1-1/2 inch	12		X64* Fluorocarbon o-rings and diaphragm
				X71 Non-bleed (for use with electronic controllers)
				X80 Reverse flow
	Reduced Pressure Range			
	Air pilot operated	J		

* Brass bottom plug standard with X64 option.

Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

H22

Parker Hannifin Corporation
 Pneumatic Division
 Richland, Michigan
www.parker.com/pneumatics

Hi-Flow Regulators

Material Specifications

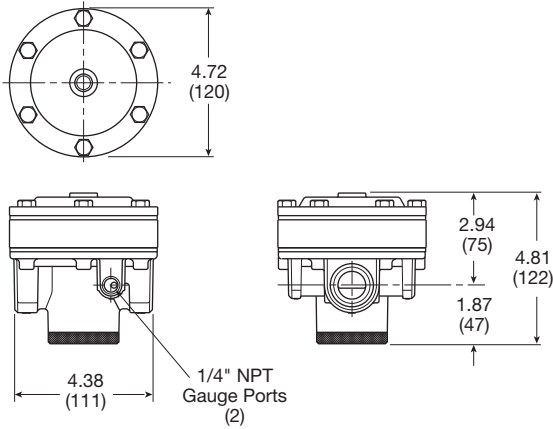
Body, ring, top plate	Zinc
Bottom plug, innervalve	Brass
Seals	Buna N

Repair and Service Kits

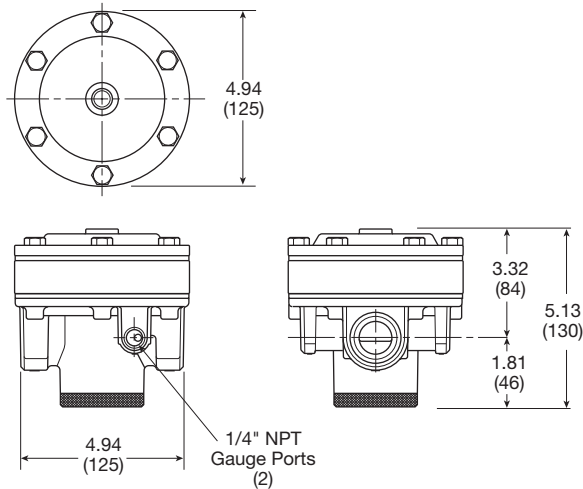
2" dial face 60 psig (0 to 4.1 bar), gauge	K4520N14060
2" dial face 160 psig (0 to 11.0 bar), gauge	K4520N14160
2" dial face 300 psig (0 to 20.7 bar), gauge	K4520N14300
1-3/4" digital round face 160 psig (0 to 11.0 bar), gauge	K4517N14160D
Non-relieving diaphragm, valve assembly (3/4", 1")	RK118X20B
Non-relieving diaphragm, valve assembly (1-1/4", 1-1/2")	RK118X20D
Relieving diaphragm, valve assembly (3/4", 1")	RK119X20B
Relieving diaphragm, valve assembly (1-1/4", 1-1/2")	RK119X20D

For Fluorocarbon Repair Kits, add X64 to Kit Number suffix.

R119-06J, R119-08J



R119-12J

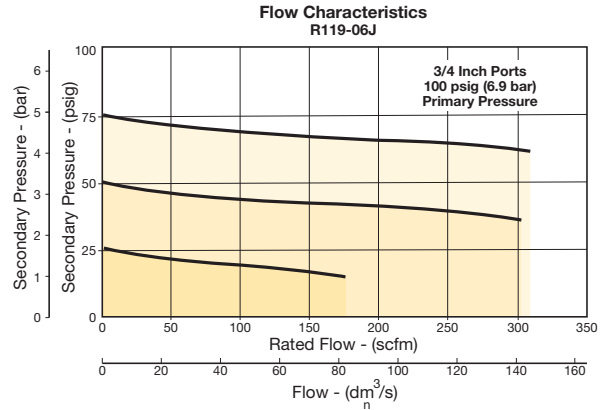


Inches (mm)

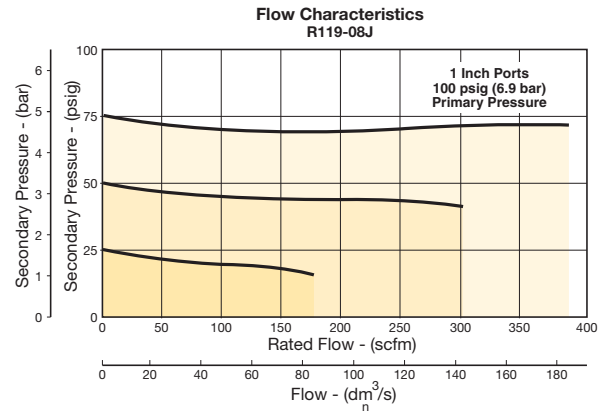
Air Preparation Products General Industrial

Flow Charts

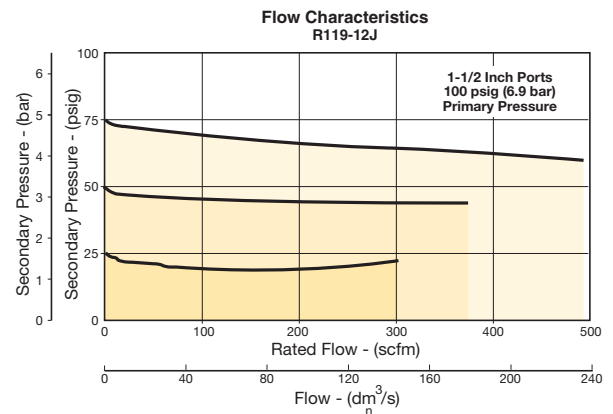
R119 3/4" Regulator



R119 1" Regulator



R119 1-1/2" Regulator



⚠ WARNING

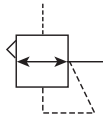
**Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed Maximum primary pressure rating.**



For inventory, lead time, and kit lookup, visit www.pdnplu.com

R119 Pilot Operated Regulators - Hi-Flow

- Adapted for control by a remote or distant small pilot regulator. Ideal for maximum capacity requirements in applications where units are not readily accessible
- High flow performance featuring rugged design for the most demanding applications
- Ideal for those installations calling for constant pressure with wide variation in flow
- Piston operated design with balanced poppet and dual constant bleed for quick and accurate regulation
- 2", 2-1/2" ports (NPT, BSPP)



Port size	Description (0-125 psig reduced pressure)	Part number
2"	Without gauge, relieving, NPT	R119-16J
2-1/2"	Without gauge, relieving, NPT	R119-20J

Operating information

Supply pressure (max):	300 psig (0 to 20.7 bar)		
Air consumption:	Air pilot chamber: approx. 0.17 scfm (10 scfh)		
Constant bleed from:	Reduced pressure: approx. 0.17 scfm (10 scfh)		
Operating temperature:	40°F to 120°F (4.4°C to 48.9°C)		
Reduced pressure range:	Adjustable to within 5 to 7 psig (0.34 to 0.48 bar) of supply pressure		
Flow capacity†:			
High flow	2"	1800 scfm (850 dm ³ /s, ANR)	
	2-1/2"	1800 scfm (850 dm ³ /s, ANR)	
Gauge ports (2):			
Can be used for full flow	1/4 inch		
High pressure outlet for pilot	1/4 inch		
Weight:	15 lb (6.8 kg)		

† scfm = Standard cubic feet per minute at 100 psig inlet, 75 psig no flow secondary setting and 20 psig pressure drop.

Ordering information:

R119	-	16	J
Port Threads			Reduced Pressure Range
NPT	-		J Air pilot operated
BSPP	G		
		Port Size	
		2 inch	16
		2-1/2 inch	20

NOTE: Non-relieving not available.

Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

General Industrial Products
H
 Filters
 Coalescers
 Regulators
 Lubricators
 Combinations

Hi-Flow Regulators

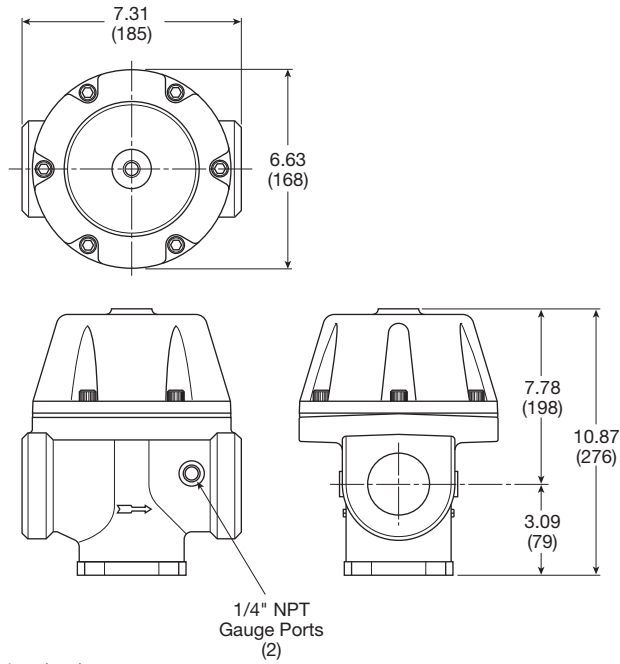
Material Specifications

Body, piston	Aluminum
Seals	Buna N
Innervalve	Brass & stainless

Repair and Service Kits

2" dial face 60 psig (0 to 4.1 bar), gauge	K4520N14060
2" dial face 160 psig (0 to 11.0 bar), gauge	K4520N14160
2" dial face 300 psig (0 to 20.7 bar), gauge	K4520N14300
1-3/4" digital round face 160 psig (0 to 11.0 bar), gauge	K4517N14160D
Piston type regulation (2", 2-1/2")	RK119G

R119-16J, R119-20J

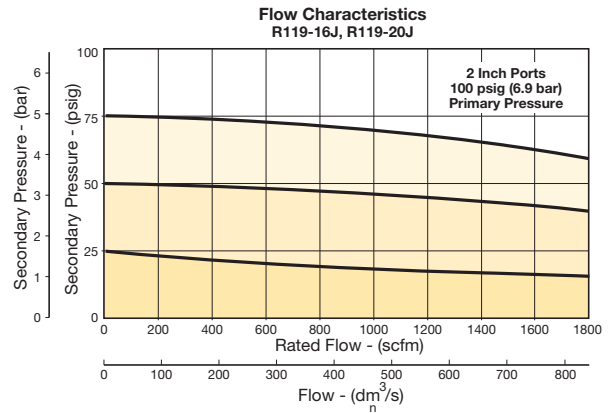


Inches (mm)

Air Preparation Products General Industrial

Flow Charts

R119 2" Regulator



⚠ WARNING

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



For inventory, lead time, and kit lookup, visit www.pdnplu.com

H25

Parker Hannifin Corporation
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics

General Industrial Products

H

Filters

Coalescers

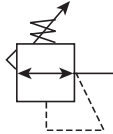
Regulators

Lubricators

Combinations

09R Regulators – Hi-Flow

- Piston design for reduced downtime
- High flow
- Balanced poppet for quick and accurate regulation.
- Two full flow 1/4" gauge ports which can be used as additional outlets
- Self relieving piston standard
- 2" ports (NPT)



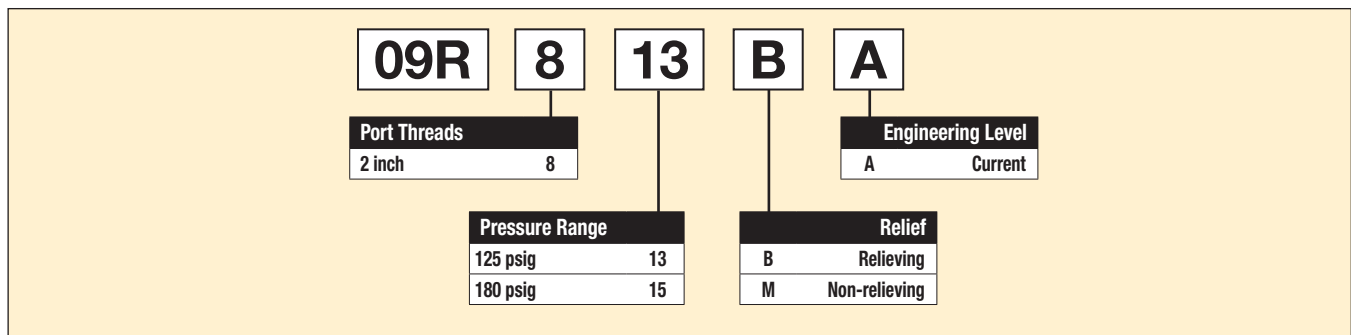
Port size	Description	Part number
2"	Without gauge, relieving	09R813BA

Operating information

Supply pressure (max):	300 psig (0 to 20.7 bar)
Secondary pressure range:	10 to 125 psig (0.7 to 8.6 bar) 10 to 180 psig (0.7 to 12.4 bar)
Operating temperature:	32°F to 150°F (0°C to 65.6°C)
Flow capacity†:	
High flow	1000 scfm (472 dm ³ /s, ANR)
Gauge ports (2):	1/4 inch (can be used as additional full flow 1/4 inch outlet ports)
Weight:	10.82 lb (53 kg)

† scfm = Standard cubic feet per minute at 100 psig inlet, 90 psig no flow secondary setting and 10 psig pressure drop.

Ordering information:



Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

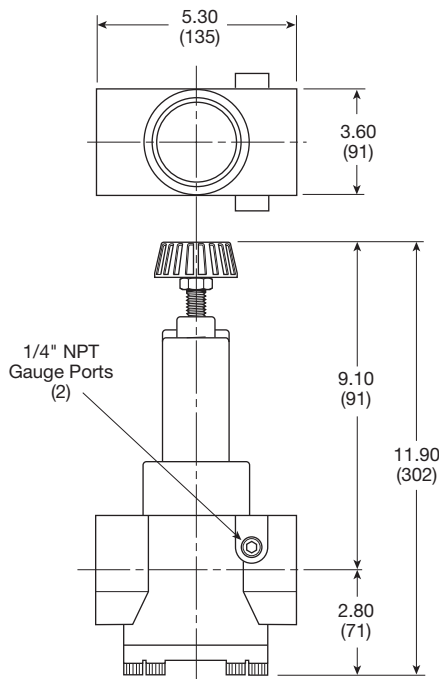
Hi-Flow Regulators

Material Specifications

Adjusting stem & springs	Steel
Body	Zinc Alloy
Bonnet, piston stem, valve poppet & cap	Aluminum
Piston, cap	Plastic
Seals	Nitrile

Repair and Service Kits

Body service kit	PS603P
2" dial face 160 psig (0 to 11.0 bar), gauge	K4520N14160
2" dial face 300 psig (0 to 20.7 bar), gauge	K4520N14300
1-3/4" digital round face 160 psig (0 to 11.0 bar), gauge	K4517N14160D
Mounting bracket kit	PS605P
Non-relieving	PS604P
Relieving	PS626P
0 to 125 psig spring	PS602P
0 to 180 psig spring	PS627

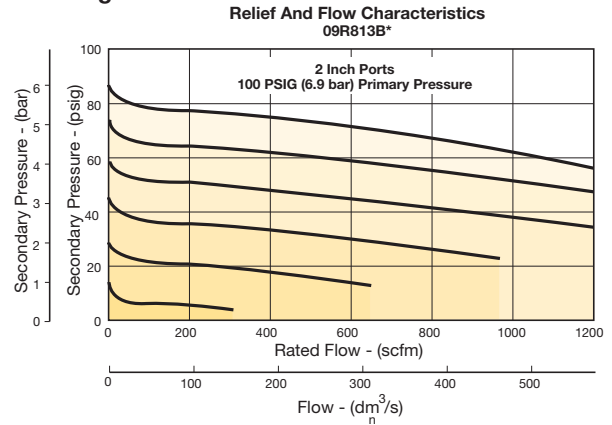


Inches (mm)

Air Preparation Products General Industrial

Flow Charts

09R 2" Regulator



⚠ WARNING

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

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.



For inventory, lead time, and kit lookup, visit www.pdnplu.com

L606 Lubricators – Standard

- Metal bowl with sight gauge - standard
- Polycarbonate sight dome
- Bowl can be filled while air line is under pressure
- Proportional oil delivery over a wide range of air flows
- Large capacity bowl
- Optional high capacity bowl(s) available
- Precision needle valve assures repeatable oil delivery and provides simple adjustment of delivery rate
- 3/4", 1" ports, (NPT, BSPP)



Port size	Description	Part number
3/4"	16 oz. bowl with sight gauge, drain	L606-06W
1"	16 oz. bowl with sight gauge, drain	L606-08W
3/4"	32 oz. bowl without sight gauge, with drain	L606-06E
1"	32 oz. bowl without sight gauge, with drain	L606-08E
3/4"	64 oz. bowl with sight gauge, no drain	L606-06G
1"	64 oz. bowl with sight gauge, no drain	L606-08G

Operating information

Supply pressure (max):		
Aluminum (E)		300 psig (20.7 bar)
Aluminum with gauge (G)		150 psig (10.2 bar)
Zinc with gauge (W)		250 psig (17.2 bar)
Operating temperature:		
Aluminum (E)		40°F to 150°F (4.4°C to 65.6°C)
Aluminum with gauge (G)		40°F to 125°F (4.4°C to 52°C)
Zinc with gauge (W)		40°F to 150°F (4.4°C to 65.6°C)
Flow capacity†:		
High flow	3/4"	325 scfm (153.4 dm³/s, ANR)
	1"	350 scfm (165.2 dm³/s, ANR)
Bowl capacity:		
Aluminum (E)		32 oz.
Aluminum with gauge (G)		64 oz.
Zinc with gauge (W)		16 oz.
Weight:		
	16 oz (W)	4.2 lb (1.91 kg)
	32 oz (E)	5.5 lb (2.49 kg)
	64 oz (G)	7.2 lb (3.27 kg)

† scfm = Standard cubic feet per minute at 100 psig inlet and 5 psig pressure drop.
 () Bowl type.

Ordering information:

L606	-	06	W		/**
Port Threads NPT - BSPP G		Port Size 3/4 inch 06 1 inch 08		Engineering Level /** Will be entered at Factory	
Bowl 32 oz. Large capacity without sight gauge with drain E 64 oz. Large capacity with sight gauge G 16 oz. Metal with sight gauge with drain W			Options Blank None H Button head fill fitting X9* Manual twist drain (increases product length by 9/16 inch)		
* Standard with "E" & "W" bowl, optional with "G" bowl.					

Suggested Lubricant **F442 Oil**

Petroleum based oil of 100 to 200 SUS viscosity at 100°F (38°C) and an aniline point greater than 200°F (93°C)

(DO NOT USE OILS WITH ADDITIVES, COMPOUNDED OILS CONTAINING SOLVENTS, GRAPHITE, DETERGENTS, OR SYNTHETIC OILS.)

Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

H28

Parker Hannifin Corporation
 Pneumatic Division
 Richland, Michigan
www.parker.com/pneumatics

Standard Lubricators

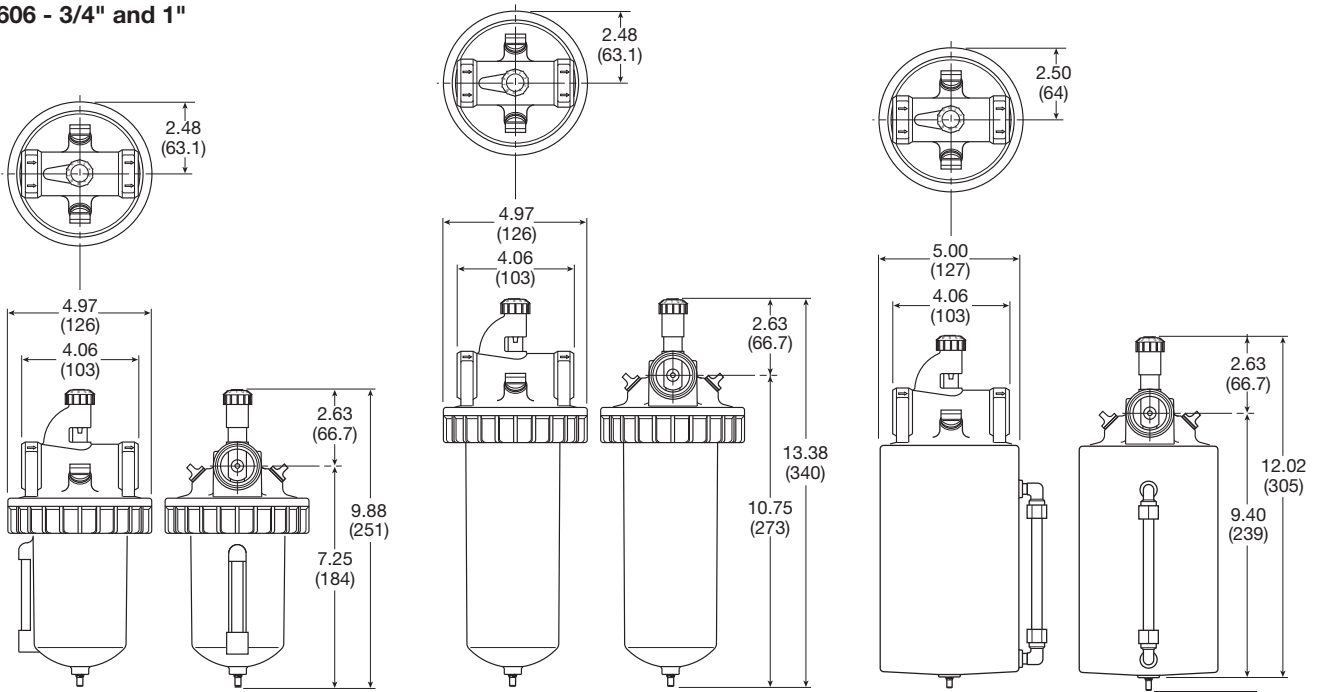
Material Specifications

Body	Zinc
Bowl, 32 oz. (E)	Aluminum
Bowl, 64 oz. (G)	Aluminum with polycarbonate sight gauge
Bowl, 16 oz. (W)	Zinc with nylon sight gauge
Seals	Buna N

Repair and Service Kits

Adjusting knob	606Y72
Aluminum 32 oz bowl (E)	BK603B
Aluminum 64 oz bowl with sight gauge (G)	BK606X30B
Zinc 16 oz bowl with sight gauge (W)	BK609WB
Button head fill fitting (M14 male thread)	L606C14
Dip tube kit	DTK606
Drip spout kit	RK606SY
Mounting bracket, 3/4 Inch (2 required per unit)	SA200AW57
Mounting bracket, 1 Inch units (2 required per unit)	SA200CW57
Needle valve assembly (All)	RK606Y
Sight gauge bowl repair kit (W)	RKB605WB
Sight gauge bowl repair kit (G)	RKB606X30B
Oil (1 quart)	F442001
Oil (1 gallon)	F442002
Oil (12 quart case)	F442003
Oil (4 gallon case)	F442005

L606 - 3/4" and 1"



"W" 16 oz size bowl

"E" 32 oz size bowl

"G" 64 oz size bowl

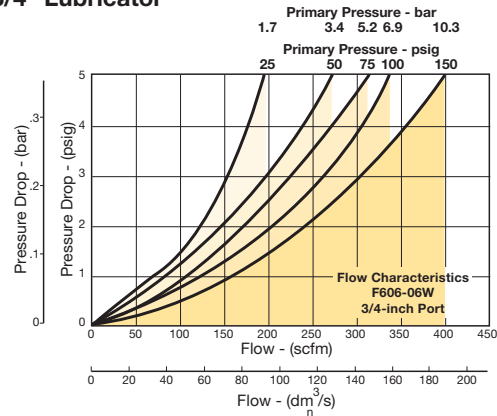
Add 9/16" for X9 Option

Inches (mm)

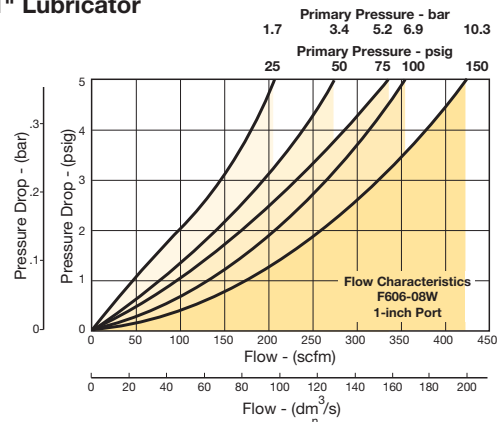
Air Preparation Products General Industrial

Flow Charts

L606 3/4" Lubricator



L606 1" Lubricator



General Industrial
Products

H

Filters

Coalescers

Regulators

Lubricators

Combinations



For inventory, lead time, and kit lookup, visit www.pdnplu.com

L606 Lubricators – Standard

- Metal bowl with sight gauge - standard
- Polycarbonate sight dome
- Bowl can be filled while air line is under pressure
- Proportional oil delivery over a wide range of air flows
- Large capacity bowl
- Optional high capacity bowl(s) available
- Precision needle valve assures repeatable oil delivery and provides simple adjustment of delivery rate
- 1-1/2" ports (NPT, BSPP)



Port size	Description	Part number
1-1/2"	16 oz. bowl with sight gauge, drain	L606-12W
1-1/2"	32 oz. bowl without sight gauge, with drain	L606-12E
1-1/2"	64 oz. bowl with sight gauge, no drain	L606-12G

Operating information

Supply pressure (max):		
Aluminum (E)		300 psig (20.7 bar)
Aluminum with gauge (G)		150 psig (10.2 bar)
Zinc with gauge (W)		250 psig (17.2 bar)
Operating temperature:		
Aluminum (E)		40°F to 150°F (4.4°C to 65.6°C)
Aluminum with gauge (G)		40°F to 125°F (4.4°C to 52°C)
Zinc with gauge (W)		40°F to 150°F (4.4°C to 65.6°C)
Flow capacity†:		
High flow	1-1/2"	400 scfm (188.8 dm³/s, ANR)
Bowl capacity:		
Aluminum (E)		32 oz.
Aluminum with gauge (G)		64 oz.
Zinc with gauge (W)		16 oz.
Weight:		
16 oz		7.5 lb (3.40 kg)
32 oz		8.3 lb (3.76 kg)
64 oz		10.0 lb (4.54 kg)

† scfm = Standard cubic feet per minute at 100 psig inlet and 5 psig pressure drop.
 () Bowl type.

Ordering information:

L606	-	12	W	/**
Port Threads		Port Size		Engineering Level
NPT	-	1-1/2 inch		/** Will be entered at Factory
BSPP	G	12		
Bowl				Options
32 oz. Large capacity without sight gauge with drain				Blank None
64 oz. Large capacity with sight gauge				H Button head fill fitting
16 oz. Metal with sight gauge with drain				X9* Manual twist drain (increases product length by 9/16 inch)

* Standard with "E" & "W" bowl, optional with "G" bowl.

Suggested LubricantF442 Oil

Petroleum based oil of 100 to 200 SUS viscosity at 100°F (38°C) and an aniline point greater than 200°F (93°C)

(DO NOT USE OILS WITH ADDITIVES, COMPOUNDED OILS CONTAINING SOLVENTS, GRAPHITE, DETERGENTS, OR SYNTHETIC OILS.)

Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

H30

Parker Hannifin Corporation
 Pneumatic Division
 Richland, Michigan
www.parker.com/pneumatics

Material Specifications

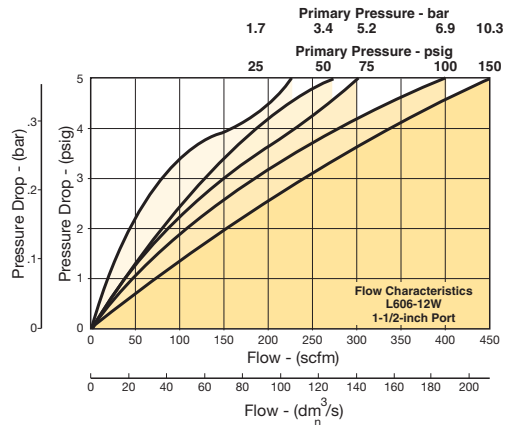
Body	Zinc
32 oz. bowl (E)	Aluminum
64 oz. bowl (G)	Aluminum with polycarbonate sight gauge
16 oz. bowl (W)	Zinc with nylon sight gauge
Seals	Buna N

Repair and Service Kits

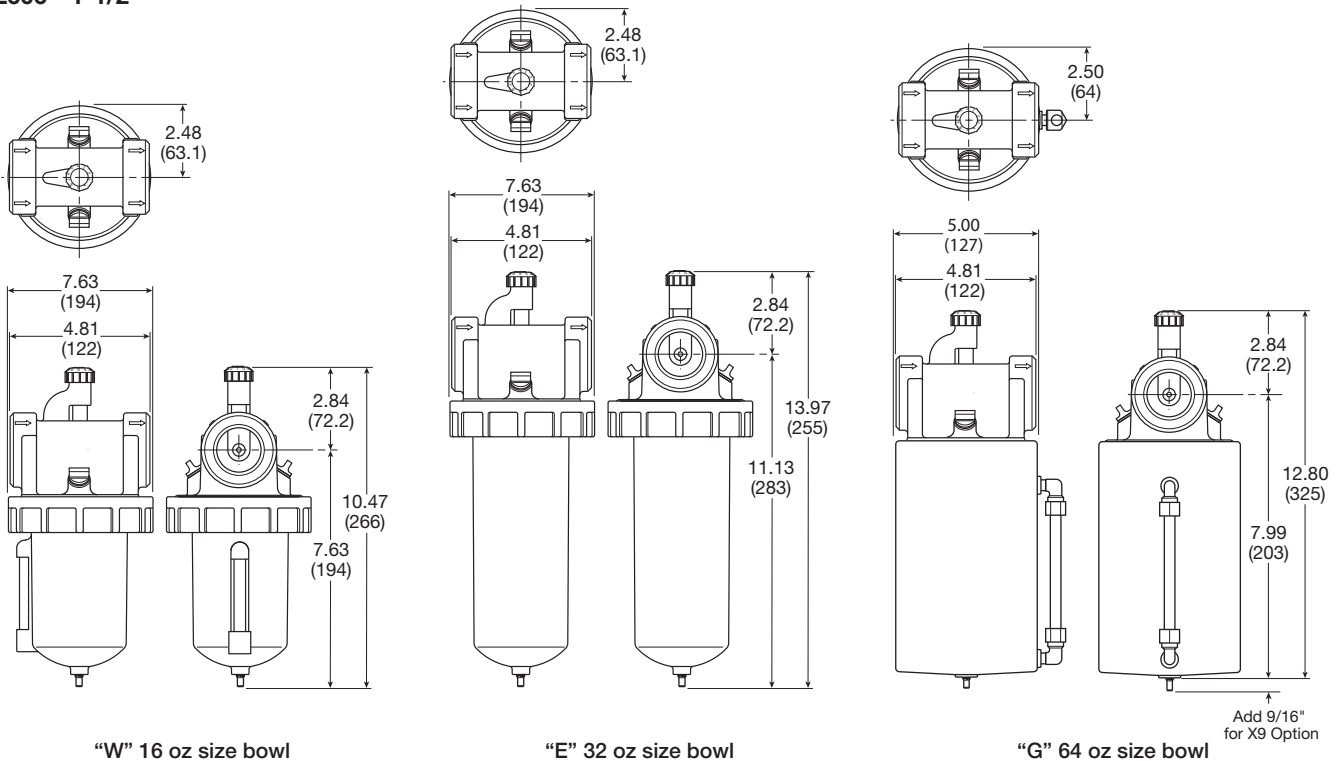
Adjusting knob	606Y72
Aluminum 32 oz. bowl (E)	BK603B
Aluminum 64 oz. bowl with sight gauge (G)	BK606X30B
Zinc 16 oz. bowl with sight gauge (W)	BK609WB
Button head fill fitting (M14 male thread)	L606C14
Dip tube kit	DTK606
Drip spout kit	RK606SY
Needle valve assembly (All)	RK606Y
Sight gauge 16 oz. bowl repair kit (W)	RKB605WB
Sight gauge 64 oz. bowl repair kit (G)	RKB606X30B
Oil (1 quart)	F442001
Oil (1 gallon)	F442002
Oil (12 quart case)	F442003
Oil (4 gallon case)	F442005

Flow Charts

L606 1-1/2" Lubricator



L606 - 1-1/2"



Inches (mm)



For inventory, lead time, and kit lookup, visit www.pdnplu.com

H31

Parker Hannifin Corporation
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics

General Industrial
Products

H

Filters

Coalescers

Regulators

Lubricators

Combinations

09L Mist Lubricators – Hi-Flow

- Metal bowl with sight gauge and manual drain – standard
- Transparent sight dome for 360° visibility
- Bowl can be filled while air line is under pressure
- Proportional oil delivery over a wide range of air flows
- 2" ports (NPT)



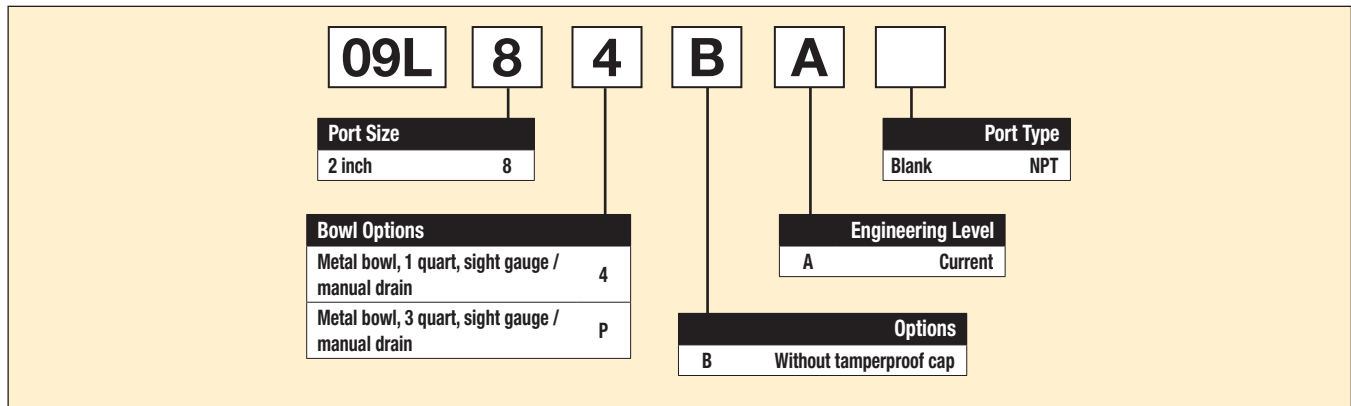
Port size	Description	Part number
2"	Metal bowl, sight gauge, 1 quart	09L84BA
2"	Metal bowl, sight gauge, 3 quart	09L8PBA

Operating information

Supply pressure (max):	150 psig (10.3 bar)	
Operating temperature:	32°F to 150°F (0°C to 66°C)	
Flow capacity†:		
High flow	2"	1000 scfm (472 dm ³ /s, ANR)
Minimum flow		6.6 scfm at 100 psig
Bowl capacity:	1 qt. (standard)	
Weight:	1 qt	10.2 lb (4.6 kg)
	3 qt	13.7 lb (6.2 kg)

† scfm = Standard cubic feet per minute at 90 psig inlet and 5 psig pressure drop.

Ordering information:



Suggested LubricantF442 Oil

Petroleum based oil of 100 to 200 SUS viscosity at 100°F (38°C) and an aniline point greater than 200°F (93°C)
(DO NOT USE OILS WITH ADDITIVES, COMPOUNDED OILS CONTAINING SOLVENTS, GRAPHITE, DETERGENTS, OR SYNTHETIC OILS.)

Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

High-Flow Mist Lubricators

Material Specifications

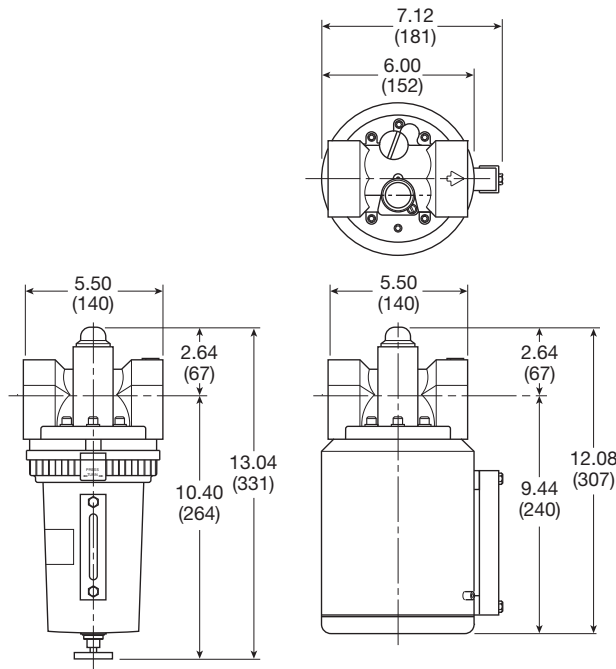
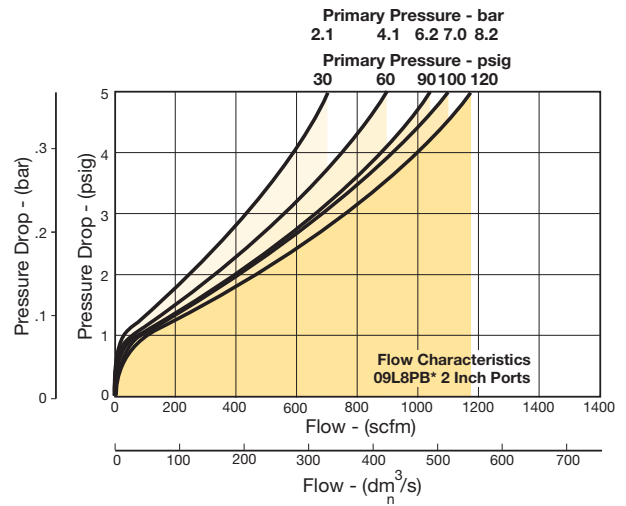
Body Zinc alloy, die cast

Repair and Service Kits

Fill cap kit	PS610P
Lubricator service kit	PS607P
Metal bowl, 1 quart, sight gauge / twist drain	PS612P
Sight dome kit	PS613P
Oil (1 quart)	F442001
Oil (1 gallon)	F442002
Oil (12 quart case)	F442003
Oil (4 gallon case)	F442005

Flow Charts

09L 2" Lubricator



Inches (mm)

1 Quart

3 Quart

General Industrial
Products

H

Filters

Coalescers

Regulators

Lubricators

Combinations



For inventory, lead time, and kit lookup, visit www.pdnplu.com

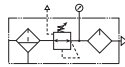
H33

Parker Hannifin Corporation
Pneumatic Division
Richland, Michigan
www.parker.com/pneumatics

C628 General Industrial Combinations – Standard

- 40 micron filter element
- Gauges included on combinations
- Manual twist drain
- Relieving regulator

C628 Standard Combinations



Port size	Bowl type	Bowl capacity	Element type	Part number
3/4"	Metal / sight gauge	16 oz	40 micron	C628-06FRLWJCW
3/4"	Metal / without sight gauge	32 oz	40 micron	C628-06FRLEJCE
1"	Metal / sight gauge	16 oz	40 micron	C628-08FRLWJCW
1"	Metal / without sight gauge	32 oz	40 micron	C628-08FRLEJCE
1-1/2"	Metal / sight gauge	16 oz	40 micron	C628-12FRLWJCW
1-1/2"	Metal / without sight gauge	32 oz	40 micron	C628-12FRLEJCE

Ordering information:

C628 - 06 FRL W J C W

Port Size	Code
3/4 inch	06
1 inch	08
1-1/2 inch	12

Filter Bowl Options	Code
32 oz. large capacity w/o sight gauge	E
16 oz. metal w/ sight gauge	W

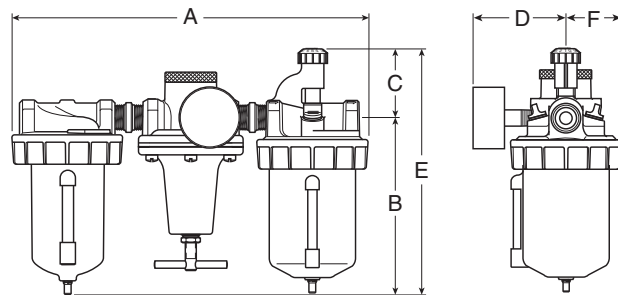
Filter Element	Code
5 Micron	G
40 Micron	J

Regulator Reduced Pressure Range	Code
0 to 125 psig	C
0 to 250 psig	D

Lubricator Body Options	Code
32 oz. large capacity w/o sight gauge	E
16 oz. metal w/ sight gauge	W

Drains and Options*	Code
Button head fill fitting (lubricator)	H
Non-relieving regulator	K
External heavy duty auto drain (filter)	Q
Internal auto drain (filter)	R
Manual twist drain on lubricator (increases product length by 9/16 inch)	X9

* Filter comes standard with manual drain, lubricator comes standard with no drain.



A	B	C	D	E	F
C628-06FRL, C628-08FRL					
15.75 (400)	7.75 (197)	2.63 (67)	3.52 (89)	13.00 (330)	2.48 (63)
C628-12FRL					
16.50 (419)	8.13 (206)	2.84 (72)	3.86 (98)	14.13 (359)	2.64 (67)

Inches (mm), All dimensions nominal.

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

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.

Most popular.



For inventory, lead times, and kit lookup, visit www.pdnplu.com

General Industrial Products
H
 Filters
 Coalescers
 Regulators
 Lubricators
 Combinations

Safety Guide For Selecting And Using Pneumatic Division Products And Related Accessories

WARNING:

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF PNEUMATIC DIVISION PRODUCTS, ASSEMBLIES OR RELATED ITEMS ("PRODUCTS") CAN CAUSE DEATH, PERSONAL INJURY, AND PROPERTY DAMAGE. POSSIBLE CONSEQUENCES OF FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THESE PRODUCTS INCLUDE BUT ARE NOT LIMITED TO:

- Unintended or mistimed cycling or motion of machine members or failure to cycle
- Work pieces or component parts being thrown off at high speeds.
- Failure of a device to function properly for example, failure to clamp or unclamp an associated item or device.
- Explosion
- Suddenly moving or falling objects.
- Release of toxic or otherwise injurious liquids or gasses.

Before selecting or using any of these Products, it is important that you read and follow the instructions below.

1. GENERAL INSTRUCTIONS

- 1.1. Scope:** This safety guide is designed to cover general guidelines on the installation, use, and maintenance of Pneumatic Division Valves, FRLs (Filters, Pressure Regulators, and Lubricators), Vacuum products and related accessory components.
- 1.2. Fail-Safe:** Valves, FRLs, Vacuum products and their related components can and do fail without warning for many reasons. Design all systems and equipment in a fail-safe mode, so that failure of associated valves, FRLs or Vacuum products will not endanger persons or property.
- 1.3 Relevant International Standards:** For a good guide to the application of a broad spectrum of pneumatic fluid power devices see: ISO 4414:1998, Pneumatic Fluid Power – General Rules Relating to Systems. See www.iso.org for ordering information.
- 1.4. Distribution:** Provide a copy of this safety guide to each person that is responsible for selection, installation, or use of Valves, FRLs or Vacuum products. Do not select, or use Parker valves, FRLs or vacuum products without thoroughly reading and understanding this safety guide as well as the specific Parker publications for the products considered or selected.
- 1.5. User Responsibility:** Due to the wide variety of operating conditions and applications for valves, FRLs, and vacuum products Parker and its distributors do not represent or warrant that any particular valve, FRL or vacuum product is suitable for any specific end use system. This safety guide does not analyze all technical parameters that must be considered in selecting a product. The user, through its own analysis and testing, is solely responsible for:
 - Making the final selection of the appropriate valve, FRL, Vacuum component, or accessory.
 - Assuring that all user's performance, endurance, maintenance, safety, and warning requirements are met and that the application presents no health or safety hazards.
 - Complying with all existing warning labels and / or providing all appropriate health and safety warnings on the equipment on which the valves, FRLs or Vacuum products are used; and,
 - Assuring compliance with all applicable government and industry standards.
- 1.6. Safety Devices:** Safety devices should not be removed, or defeated.
- 1.7. Warning Labels:** Warning labels should not be removed, painted over or otherwise obscured.
- 1.8. Additional Questions:** Call the appropriate Parker technical service department if you have any questions or require any additional information. See the Parker publication for the product being considered or used, or call 1-800-CPARKER, or go to www.parker.com, for telephone numbers of the appropriate technical service department.

2. PRODUCT SELECTION INSTRUCTIONS

- 2.1. Flow Rate:** The flow rate requirements of a system are frequently the primary consideration when designing any pneumatic system. System components need to be able to provide adequate flow and pressure for the desired application.
- 2.2. Pressure Rating:** Never exceed the rated pressure of a product. Consult product labeling, Pneumatic Division catalogs or the instruction sheets supplied for maximum pressure ratings.
- 2.3. Temperature Rating:** Never exceed the temperature rating of a product. Excessive heat can shorten the life expectancy of a product and result in complete product failure.
- 2.4. Environment:** Many environmental conditions can affect the integrity and suitability of a product for a given application. Pneumatic Division products are designed for use in general purpose industrial applications. If these products are to be used in unusual circumstances such as direct sunlight and/or corrosive or caustic environments, such use can shorten the useful life and lead to premature failure of a product.
- 2.5. Lubrication and Compressor Carryover:** Some modern synthetic oils can and will attack nitrile seals. If there is any possibility of synthetic oils or greases migrating into the pneumatic components check for compatibility with the seal materials used. Consult the factory or product literature for materials of construction.
- 2.6. Polycarbonate Bowls and Sight Glasses:** To avoid potential polycarbonate bowl failures:
 - Do not locate polycarbonate bowls or sight glasses in areas where they could be subject to direct sunlight, impact blow, or temperatures outside of the rated range.
 - Do not expose or clean polycarbonate bowls with detergents, chlorinated hydro-carbons, ketones, esters or certain alcohols.
 - Do not use polycarbonate bowls or sight glasses in air systems where compressors are lubricated with fire resistant fluids such as phosphate ester and di-ester lubricants.



2.7. Chemical Compatibility: For more information on plastic component chemical compatibility see Pneumatic Division technical bulletins Tec-3, Tec-4, and Tec-5

- 2.8. Product Rupture:** Product rupture can cause death, serious personal injury, and property damage.
- Do not connect pressure regulators or other Pneumatic Division products to bottled gas cylinders.
 - Do not exceed the maximum primary pressure rating of any pressure regulator or any system component.
 - Consult product labeling or product literature for pressure rating limitations.

3. PRODUCT ASSEMBLY AND INSTALLATION INSTRUCTIONS

- 3.1. Component Inspection:** Prior to assembly or installation a careful examination of the valves, FRLs or vacuum products must be performed. All components must be checked for correct style, size, and catalog number. DO NOT use any component that displays any signs of nonconformance.
- 3.2. Installation Instructions:** Parker published Installation Instructions must be followed for installation of Parker valves, FRLs and vacuum components. These instructions are provided with every Parker valve or FRL sold, or by calling 1-800-CPARKER, or at www.parker.com.
- 3.3. Air Supply:** The air supply or control medium supplied to Valves, FRLs and Vacuum components must be moisture-free if ambient temperature can drop below freezing

4. VALVE AND FRL MAINTENANCE AND REPLACEMENT INSTRUCTIONS

- 4.1. Maintenance:** Even with proper selection and installation, valve, FRL and vacuum products service life may be significantly reduced without a continuing maintenance program. The severity of the application, risk potential from a component failure, and experience with any known failures in the application or in similar applications should determine the frequency of inspections and the servicing or replacement of Pneumatic Division products so that products are replaced before any failure occurs. A maintenance program must be established and followed by the user and, at minimum, must include instructions 4.2 through 4.9.
- 4.2. Installation and Service Instructions:** Before attempting to service or replace any worn or damaged parts consult the appropriate Service Bulletin for the valve or FRL in question for the appropriate practices to service the unit in question. These Service and Installation Instructions are provided with every Parker valve and FRL sold, or are available by calling 1-800-CPARKER, or by accessing the Parker web site at www.parker.com.
- 4.3. Lockout / Tagout Procedures:** Be sure to follow all required lockout and tagout procedures when servicing equipment. For more information see: OSHA Standard – 29 CFR, Part 1910.147, Appendix A, The Control of Hazardous Energy – (Lockout / Tagout)
- 4.4. Visual Inspection:** Any of the following conditions requires immediate system shut down and replacement of worn or damaged components:
- Air leakage: Look and listen to see if there are any signs of visual damage to any of the components in the system. Leakage is an indication of worn or damaged components.
 - Damaged or degraded components: Look to see if there are any visible signs of wear or component degradation.
 - Kinked, crushed, or damaged hoses. Kinked hoses can result in restricted air flow and lead to unpredictable system behavior.
 - Any observed improper system or component function: Immediately shut down the system and correct malfunction.
 - Excessive dirt build-up: Dirt and clutter can mask potentially hazardous situations.

Caution: Leak detection solutions should be rinsed off after use.

- 4.5. Routine Maintenance Issues:**
- Remove excessive dirt, grime and clutter from work areas.
 - Make sure all required guards and shields are in place.
- 4.6. Functional Test:** Before initiating automatic operation, operate the system manually to make sure all required functions operate properly and safely.
- 4.7. Service or Replacement Intervals:** It is the user's responsibility to establish appropriate service intervals. Valves, FRLs and vacuum products contain components that age, harden, wear, and otherwise deteriorate over time. Environmental conditions can significantly accelerate this process. Valves, FRLs and vacuum components need to be serviced or replaced on routine intervals. Service intervals need to be established based on:
- Previous performance experiences.
 - Government and / or industrial standards.
 - When failures could result in unacceptable down time, equipment damage or personal injury risk.
- 4.8. Servicing or Replacing of any Worn or Damaged Parts:** To avoid unpredictable system behavior that can cause death, personal injury and property damage:
- Follow all government, state and local safety and servicing practices prior to service including but not limited to all OSHA Lockout Tagout procedures (OSHA Standard – 29 CFR, Part 1910.147, Appendix A, The Control of Hazardous Energy – Lockout / Tagout).
 - Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
 - Disconnect air supply and depressurize all air lines connected to system and Pneumatic Division products before installation, service, or conversion.
 - Installation, servicing, and / or conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
 - After installation, servicing, or conversions air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or if the product does not operate properly, do not put product or system into use.
 - Warnings and specifications on the product should not be covered or painted over. If masking is not possible, contact your local representative for replacement labels.

4.9. Putting Serviced System Back into Operation: Follow the guidelines above and all relevant Installation and Maintenance Instructions supplied with the valve FRL or vacuum component to insure proper function of the system.

Part Number
Index

Safety Guide

Offer of Sale

Part Number Index,
Safety Guide, Offer of Sale



For inventory, lead time, and kit lookup, visit www.pdnplu.com

PARKER-HANNIFIN CORPORATION
OFFER OF SALE

1. **Definitions.** As used herein, the following terms have the meanings indicated.

Buyer:	means any customer receiving a Quote for Products from Seller.
Goods:	means any tangible part, system or component to be supplied by the Seller.
Products:	means the Goods, Services and/or Software as described in a Quote provided by the Seller.
Quote:	means the offer or proposal made by Seller to Buyer for the supply of Products.
Seller:	means Parker-Hannifin Corporation, including all divisions and businesses thereof.
Services:	means any services to be supplied by the Seller.
Software:	means any software related to the Products, whether embedded or separately downloaded.
Terms:	means the terms and conditions of this Offer of Sale or any newer version of the same as published by Seller electronically at www.parker.com/saleterms .

2. **Terms.** All sales of Products by Seller are contingent upon, and will be governed by, these Terms and, these Terms are incorporated into any Quote provided by Seller to any Buyer. Buyer's order for any Products whether communicated to Seller verbally, in writing, by electronic data interface or other electronic commerce, shall constitute acceptance of these Terms. Seller objects to any contrary or additional terms or conditions of Buyer. Reference in Seller's order acknowledgement to Buyer's purchase order or purchase order number shall in no way constitute an acceptance of any of Buyer's terms of purchase. No modification to these Terms will be binding on Seller unless agreed to in writing and signed by an authorized representative of Seller.

3. **Price; Payment.** The Products set forth in Seller's Quote are offered for sale at the prices indicated in Seller's Quote. Unless otherwise specifically stated in Seller's Quote, prices are valid for thirty (30) days and do not include any sales, use, or other taxes or duties. Seller reserves the right to modify prices at any time to adjust for any raw material price fluctuations. Unless otherwise specified by Seller, all prices are F.C.A. Seller's facility (INCOTERMS 2010). All sales are contingent upon credit approval and payment for all purchases is due thirty (30) days from the date of invoice (or such date as may be specified in the Quote). Unpaid invoices beyond the specified payment date incur interest at the rate of 1.5% per month or the maximum allowable rate under applicable law.

4. **Shipment; Delivery; Title and Risk of Loss.** All delivery dates are approximate. Seller is not responsible for damages resulting from any delay. Regardless of the manner of shipment, delivery occurs and title and risk of loss or damage pass to Buyer, upon placement of the Products with the shipment carrier at Seller's facility. Unless otherwise agreed, Seller may exercise its judgment in choosing the carrier and means of delivery. No deferment of shipment at Buyer's request beyond the respective indicated shipping date will be made except on terms that will indemnify, defend and hold Seller harmless against all loss and additional expense. Buyer shall be responsible for any additional shipping charges incurred by Seller due to Buyer's acts or omissions.

5. **Warranty.** The warranty related to the Products is as follows: (i) Goods are warranted against defects in material or workmanship for a period of twelve (12) months from the date of delivery or 2,000 hours of use, whichever occurs first; (ii) Services shall be performed in accordance with generally accepted practices and using the degree of care and skill that is ordinarily exercised and customary in the field to which the Services pertain and are warranted for a period of six (6) months from the completion of the Services by Seller; and (iii) Software is only warranted to perform in accordance with applicable specifications provided by Seller to Buyer for ninety (90) days from the date of delivery or, when downloaded by a Buyer or end-user, from the date of the initial download. All prices are based upon the exclusive limited warranty stated above, and upon the following disclaimer:

DISCLAIMER OF WARRANTY: THIS WARRANTY IS THE SOLE AND ENTIRE WARRANTY PERTAINING TO PRODUCTS. SELLER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, INCLUDING DESIGN, NONINFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE. SELLER DOES NOT WARRANT THAT THE SOFTWARE IS ERROR-FREE OR FAULT-TOLERANT, OR THAT BUYER'S USE THEREOF WILL BE SECURE OR UNINTERRUPTED. BUYER AGREES AND ACKNOWLEDGES THAT UNLESS OTHERWISE AUTHORIZED IN WRITING BY SELLER THE SOFTWARE SHALL NOT BE USED IN CONNECTION WITH HAZARDOUS OR HIGH RISK ACTIVITIES OR ENVIRONMENTS. EXCEPT AS EXPRESSLY STATED HEREIN, ALL PRODUCTS ARE PROVIDED "AS IS".

6. **Claims; Commencement of Actions.** Buyer shall promptly inspect all Products upon receipt. No claims for shortages will be allowed unless reported to the Seller within ten (10) days of delivery. Buyer shall notify Seller of any alleged breach of warranty within thirty (30) days after the date the non-conformance is or should have been discovered by Buyer. Any claim or action against Seller based upon breach of contract or any other theory, including tort, negligence, or otherwise must be commenced within twelve (12) months from the date of the alleged breach or other alleged event, without regard to the date of discovery.

7. **LIMITATION OF LIABILITY.** IN THE EVENT OF A BREACH OF WARRANTY, SELLER WILL, AT ITS OPTION, REPAIR OR REPLACE THE NON-CONFORMING PRODUCT, RE-PERFORM THE SERVICES, OR REFUND THE PURCHASE PRICE PAID WITHIN A REASONABLE PERIOD OF TIME. IN NO EVENT IS SELLER LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR AS THE RESULT OF, THE SALE, DELIVERY, NON-DELIVERY, SERVICING, NON-COMPLETION OF SERVICES, USE, LOSS OF USE OF, OR INABILITY TO USE THE PRODUCTS OR ANY PART THEREOF, LOSS OF DATA, IDENTITY, PRIVACY, OR CONFIDENTIALITY, OR FOR ANY CHARGES OR EXPENSES OF ANY NATURE INCURRED WITHOUT SELLER'S WRITTEN CONSENT, WHETHER BASED IN CONTRACT, TORT OR OTHER LEGAL THEORY. IN NO EVENT SHALL SELLER'S LIABILITY UNDER ANY CLAIM MADE BY BUYER EXCEED THE PURCHASE PRICE PAID FOR THE PRODUCTS.

8. **Loss to Buyer's Property.** Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which are or become Buyer's property, will be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer ordering the Products manufactured using such property. Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.

9. **Special Tooling.** Special Tooling includes but is not limited to tooling, jigs, fixtures and associated manufacturing equipment acquired or necessary to manufacture Products. A tooling charge may be imposed for any Special Tooling. Such Special Tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in Special Tooling belonging to Seller that is utilized in the manufacture of the Products, even if such Special Tooling has been specially converted or adapted for such manufacture and notwithstanding any charges paid by Buyer. Unless otherwise agreed, Seller has the right to alter, discard or otherwise dispose of any Special Tooling or other property in its sole discretion at any time.

10. **Security Interest.** To secure payment of all sums due, Seller retains a security interest in all Products delivered to Buyer and, Buyer's acceptance of these Terms is deemed to be a Security Agreement under the Uniform Commercial Code. Buyer authorizes Seller as its attorney to execute and file on Buyer's behalf all documents Seller deems necessary to perfect its security interest.

11. **User Responsibility.** The Buyer through its own analysis and testing, is solely responsible for making the final selection of the Products and assuring that all performance, endurance, maintenance, safety and warning requirements of the application of the Products are met. The Buyer must analyze all aspects of the application and follow applicable industry standards, specifications, and other technical information provided with the Product. If Seller provides Product options based upon data or specifications provided by the Buyer, the Buyer is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the Products. In the event the Buyer is not the end-user, Buyer will ensure such end-user complies with this paragraph.

12. **Use of Products; Indemnity by Buyer.** Buyer shall comply with all instructions, guides and specifications provided by Seller with the Products. **Unauthorized Uses.** If Buyer uses or resells the Products for any uses prohibited in Seller's instructions, guides or specifications, or Buyer otherwise fails to comply with Seller's instructions, guides and specifications, Buyer acknowledges that any such use, resale, or non-compliance is at Buyer's sole risk. Buyer shall indemnify, defend, and hold Seller harmless from any losses, claims, liabilities, damages, lawsuits, judgments and costs (including attorney fees and defense costs), whether for personal injury, property damage, intellectual property infringement or any other claim, brought by or incurred by Buyer, Buyer's employees, or any other person, arising out of: (a) improper selection, application, design, specification or other misuse of Products provided by Seller; (b) any act or omission, negligent or otherwise, of Buyer; (c) Seller's use of patterns, tooling, equipment, plans, drawings, designs or specifications or other information or things furnished by Buyer; (d) damage to the Products from an external cause, repair or attempted repair by anyone other than Seller, failure to follow instructions, guides and specifications provided by Seller, use with goods not provided by Seller, or opening, modifying, deconstructing or tampering with the Products for any reason; or (e) Buyer's failure to comply with these Terms. Seller shall not indemnify Buyer under any circumstance except as otherwise provided in these Terms.

13. **Cancellations and Changes.** Buyer may not cancel or modify any order for any reason, except with Seller's written consent and upon terms that will indemnify, defend and hold Seller harmless against all direct, incidental and consequential loss or damage. Seller, at any time, may change Product features, specifications, designs and availability.

14. **Limitation on Assignment.** Buyer may not assign its rights or obligations without the prior written consent of Seller.

15. **Force Majeure.** Seller does not assume the risk and is not liable for delay or failure to perform any of Seller's obligations by reason of events or circumstances beyond its reasonable control ("Events of Force Majeure"). Events of Force Majeure shall include without limitation: accidents, strikes or labor disputes, acts of any government or government agency, acts of nature, delays or failures in delivery from carriers or suppliers, shortages of materials, or any other cause beyond Seller's reasonable control.

16. **Waiver and Severability.** Failure to enforce any provision of these Terms will not invalidate that provision; nor will any such failure prejudice Seller's right to enforce that provision in the future. Invalidation of any provision of these Terms by legislation or other rule of law shall not invalidate any other provision herein and, the remaining provisions will remain in full force and effect.

17. **Termination.** Seller may terminate any agreement governed by or arising from these Terms for any reason and at any time by giving Buyer thirty (30) days prior written notice. Seller may immediately terminate, in writing, if Buyer: (a) breaches any provision of these Terms (b) appoints a trustee, receiver or custodian for all or any part of Buyer's property (c) files a petition for relief in bankruptcy on its own behalf, or one filed by a third party (d) makes an assignment for the benefit of creditors; or (e) dissolves its business or liquidates all or a majority of its assets.

18. **Ownership of Software.** Seller retains ownership of all Software supplied to Buyer hereunder. In no event shall Buyer obtain any greater right in and to the Software than a right in the nature of a license limited to the use thereof and subject to compliance with any other terms provided with the Software.

19. **Indemnity for Infringement of Intellectual Property Rights.** Seller is not liable for infringement of any patents, trademarks, copyrights, trade dress, trade secrets or similar rights ("Intellectual Property Rights") except as provided in this Section. Seller will defend at its expense and will pay the cost of any settlement or damages awarded in an action brought against Buyer based on a third party claim that one or more of the Products sold hereunder infringes the Intellectual Property Rights of a third party in the country of delivery of the Products by the Seller to the Buyer. Seller's obligation to defend and indemnify Buyer is contingent on Buyer notifying Seller within ten (10) days after Buyer becomes aware of any such claim, and Seller having sole control over the defense of the claim including all negotiations for settlement or compromise. If one or more Products sold hereunder is subject to such a claim, Seller may, at its sole expense and option, procure for Buyer the right to continue using the Products, replace or modify the Products so as to render them non-infringing, or offer to accept return of the Products and refund the purchase price less a reasonable allowance for depreciation. Seller has no obligation or liability for any claim of infringement: (i) arising from information provided by Buyer; or (ii) directed to any Products provided hereunder for which the designs are specified in whole or part by Buyer; or (iii) resulting from the modification, combination or use in a system of any Products provided hereunder. The foregoing provisions of this Section constitute Seller's sole and exclusive liability and Buyer's sole and exclusive remedy for such claims of infringement of Intellectual Property Rights.

20. **Governing Law.** These Terms and the sale and delivery of all Products are deemed to have taken place in, and shall be governed and construed in accordance with, the laws of the State of Ohio, as applicable to contracts executed and wholly performed therein and without regard to conflicts of laws principles. Buyer irrevocably agrees and consents to the exclusive jurisdiction and venue of the courts of Cuyahoga County, Ohio with respect to any dispute, controversy or claim arising out of or relating to the sale and delivery of the Products.

21. **Entire Agreement.** These Terms, along with the terms set forth in the main body of any Quote, forms the entire agreement between the Buyer and Seller and constitutes the final, complete and exclusive expression of the terms of sale. In the event of a conflict between any term set forth in the main body of a Quote and these Terms, the terms set forth in the main body of the Quote shall prevail. All prior or contemporaneous written or oral agreements or negotiations with respect to the subject matter shall have no effect. These Terms may not be modified unless in writing and signed by an authorized representative of Seller.

22. **Compliance with Laws.** Buyer agrees to comply with all applicable laws, regulations, and industry and professional standards, including those of the United States of America, and the country or countries in which Buyer may operate, including without limitation the U.S. Foreign Corrupt Practices Act ("FCPA"), the U.S. Anti-Kickback Act ("Anti-Kickback Act"), U.S. and E.U. export control and sanctions laws ("Export Laws"), the U.S. Food Drug and Cosmetic Act ("FDCA"), and the rules and regulations promulgated by the U.S. Food and Drug Administration ("FDA"), each as currently amended. Buyer agrees to indemnify, defend, and hold harmless Seller from the consequences of any violation of such laws, regulations and standards by Buyer, its employees or agents. Buyer acknowledges that it is familiar with all applicable provisions of the FCPA, the Anti-Kickback Act, Export Laws, the FDCA and the FDA and certifies that Buyer will adhere to the requirements thereof and not take any action that would make Seller violate such requirements. Buyer represents and agrees that Buyer will not make any payment or give anything of value, directly or indirectly, to any governmental official, foreign political party or official thereof, candidate for foreign political office, or commercial entity or person, for any improper purpose, including the purpose of influencing such person to purchase Products or otherwise benefit the business of Seller. Buyer further represents and agrees that it will not receive, use, service, transfer or ship any Product from Seller in a manner or for a purpose that violates Export Laws or would cause Seller to be in violation of Export Laws.