Moduflow™ *Plus* Series

ILP and RFP Low Pressure Filters



Applications for Moduflow Filters

- Power Unit Fabrication
- Off-line Filter Loops
- Mobile Equipment

The Moduflow filter is widely considered the most versatile filter available on the market. The unique diverter valve assembly, and inside to outside flow through the element, allows the Moduflow to be configured for in-line, in-tank or suction filtration.

The flow diverter minimizes turbulence and pressure loss through the filter, improving system performance.

The newly designed closed bottom elements for the RFP and ILP models insures all contamination remains trapped within the element as the filter is serviced.

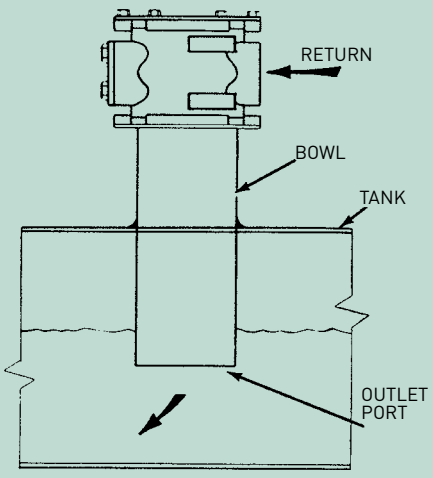
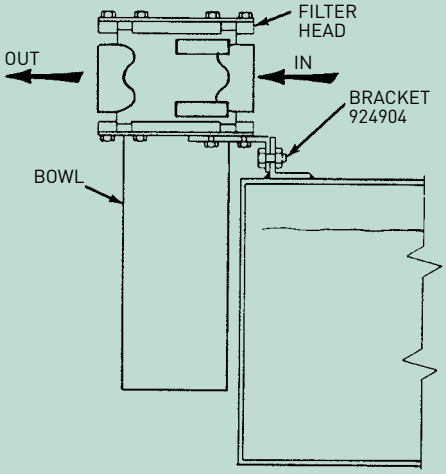
A wide variety of visual and electrical indicators allows you to know exactly when the element needs to be serviced. There is even a "no element" indicator that can sense when there is not an element installed in the filter.

From top to bottom, the Moduflow filter series provides the high level of filtration and long term dependability so vital to today's hydraulic systems.



Parker's new patented Moduflow element was designed with built-in diverter cone and bypass valve, to meet your application needs.

Mounting / Porting Styles

RFP Return Filter	ILP In-Line Filter
	

Parker Hannifin Corporation
Hydraulic Filter Division
Metamora, OH

Features



Flanges
- NPT or SAE ¾" to 2"
- Lightweight aluminum

Cover
- Slotted for quick release
- Lightweight aluminum

Indicators
- Visual or electrical
- Mounted on either side
- Standard "no element" indication

Bowl
- Single or double length
- Durable steel construction

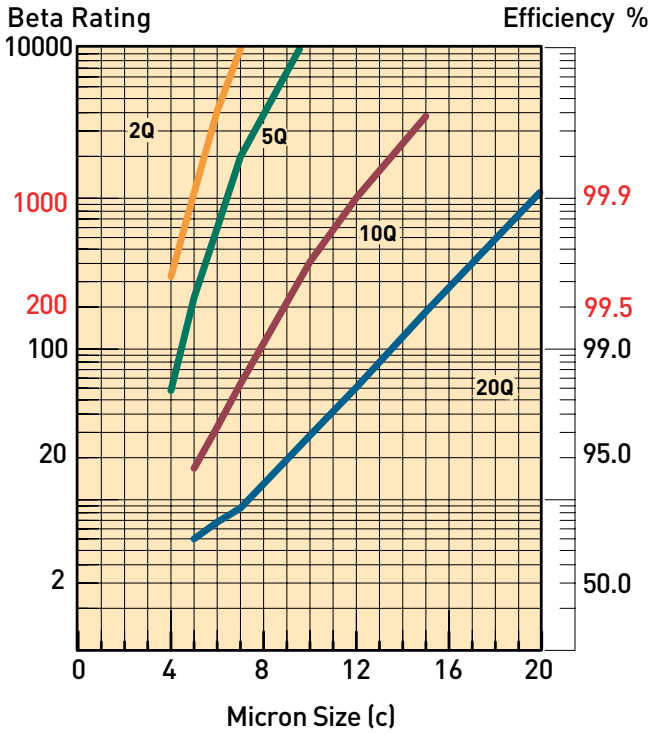
Bypass
(not visible)
- Integral 35 psi bypass replaced with every element change

Element
(not visible)
- Available in cellulose, wire mesh or high performance Microglass III media
- Single or double length

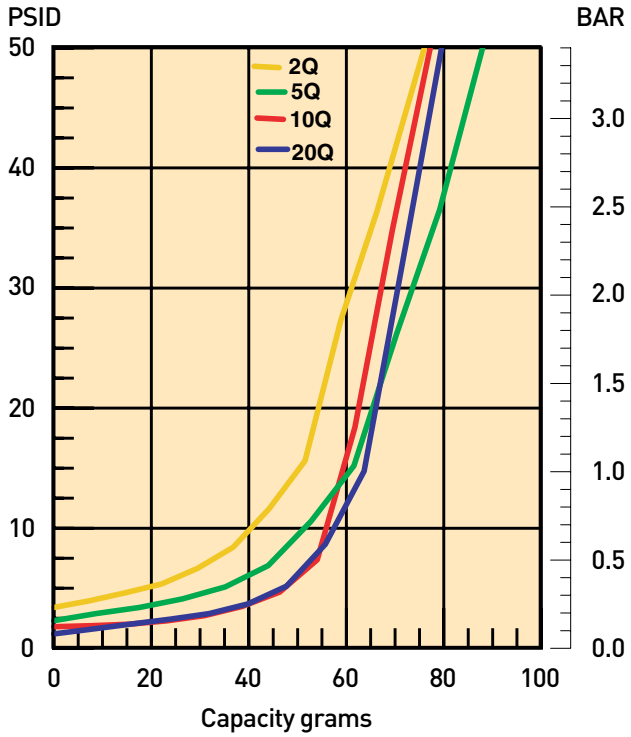
Feature	Advantage	Benefit
• Top access element service	• Oil remains in housing • Quicker elements change	• No Spills • Reduced maintenance costs
• Slotted cover	• Quick release cover • Cap screws remain in housing	• Reduced maintenance costs • No loose parts to lose
• Closed bottom elements	• Removes all contaminant during element service	• No downtime contamination from servicing
• Visual or electrical indicators	• Know exactly when to service elements	• Helps prevent bypass condition • No premature disposal
• Flange face ports	• Flexible mounting (3/4" to 2")	• Easy plumbing to your system

RFP-1 & ILP-1 Element Performance

Efficiency

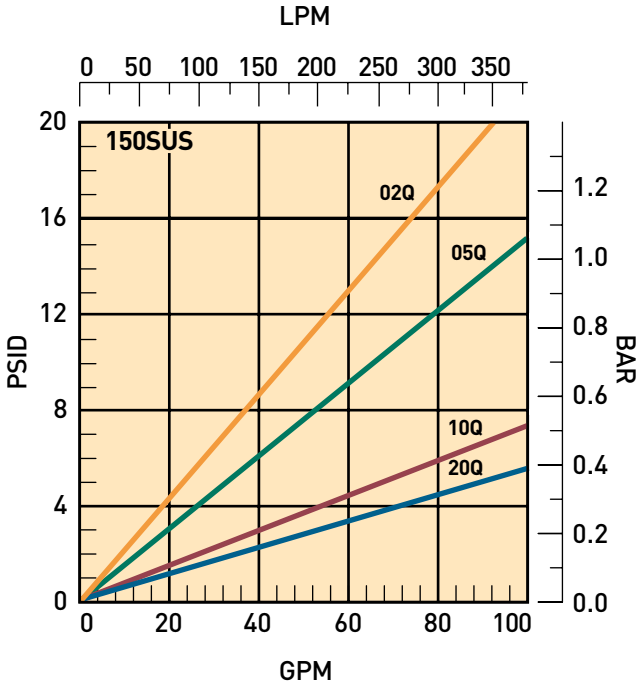


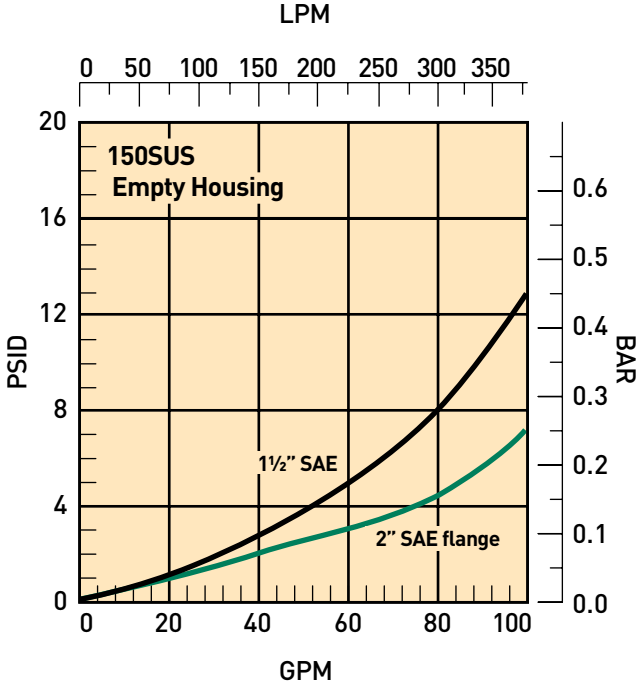
Capacity



Multipass tests run @ 40 gpm to 50 psid terminal - 5mg/L BUGL

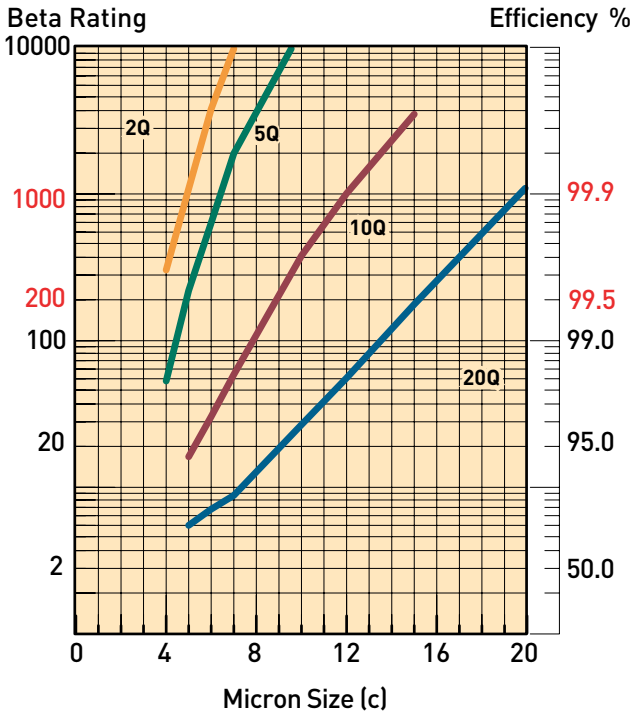
Flow vs. Pressure Loss



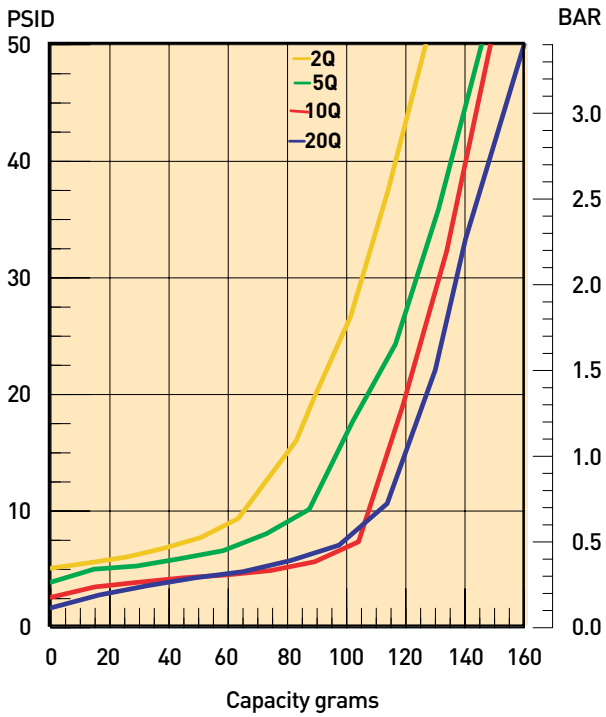


RFP-2 & ILP-2 Element Performance

Efficiency

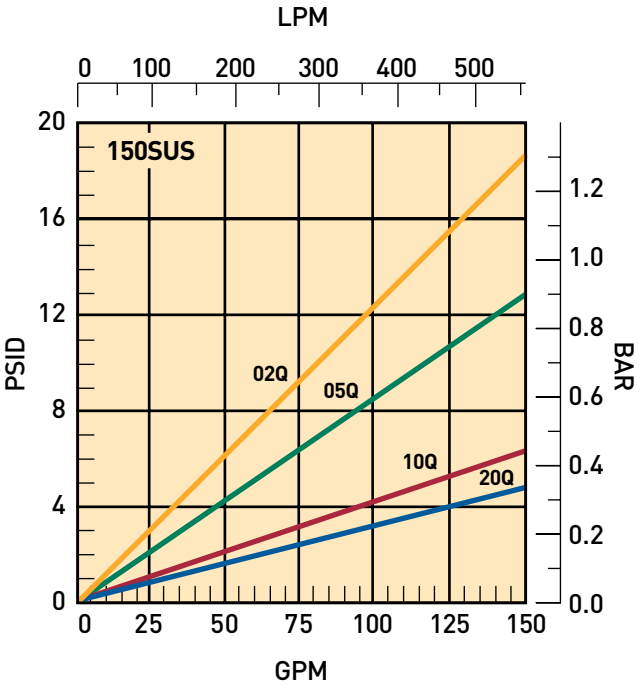


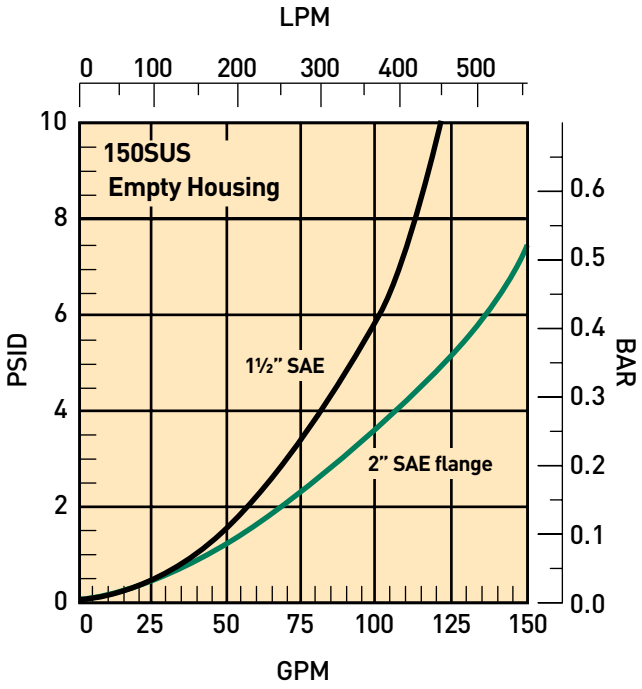
Capacity



Multipass tests run @ 80 gpm to 50 psid terminal - 5mg/L BUGL

Flow vs. Pressure Loss





Specifications: RFP, ILP

Pressure Ratings:
Maximum Allowable Operating Pressure (MAOP): 200 psi (13.8 bar)
Design Safety Factor: 2:1
Rated Fatigue Pressure: 150 psi (10.3 bar)

Element Burst Rating: 70 psid (4.8 bar)

Filter Materials:
Head, Cover, Flanges: die cast aluminum
Bowl: steel

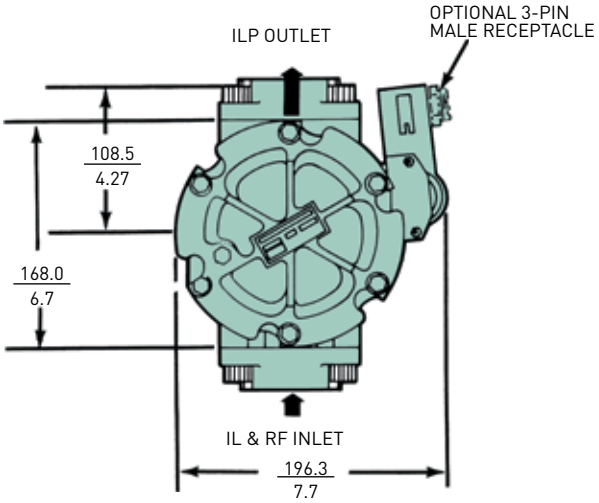
Operating Temperatures:
Nitrile: -40°F to 225°F (-40°C to 107°C)
Fluorocarbon: -15°F to 275°F (-26°C to 135°C)

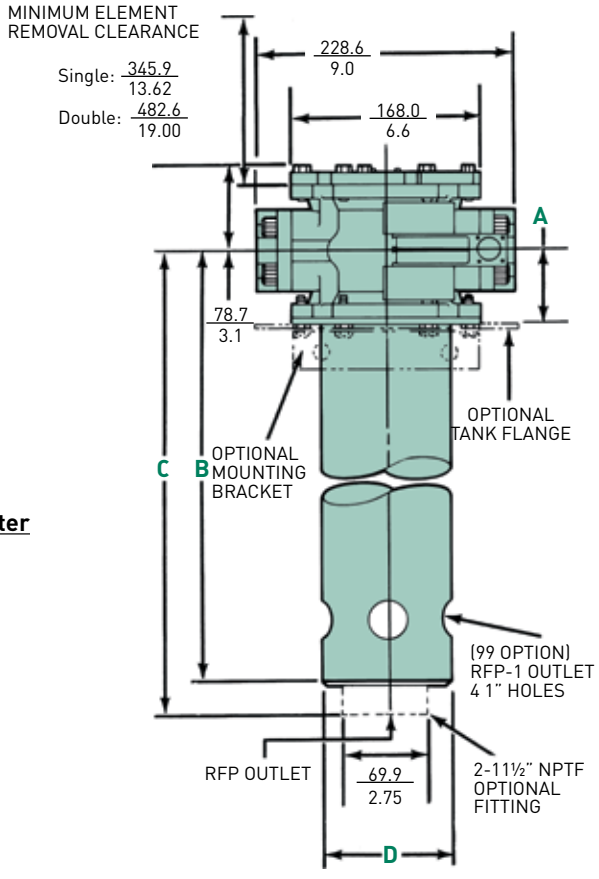
Weight (approximate):
Single: 20 lbs. (9.1 kg)
Double: 25 lbs. (11.3 kg)

Indicators:
Visual (optional)
Electrical (optional) 15A @ 250VAC / .5A @ 125 VDC
Electrical ("D" option) 5A @ 250VAC / 3A @ 28 VDC

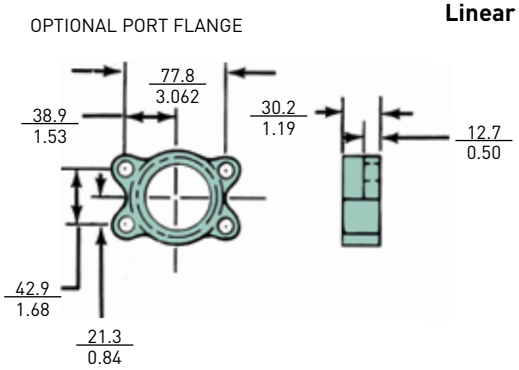
Color Coding:
White (normally closed)
Red (normally open)
Black (common)

	Dimensions: mm / inch			
Model	**A**	**B**	**C**	**D**
RFP-1 without optional 2" fitting	65.0 / 2.56	330.2 / 13.0	–	110.0 / 4.3
ILP-1	65.0 / 2.56	330.2 / 13.0	N/A	110.0 / 4.3
RFP-1 with optional 2" fitting	68.3 / 2.69	–	383.4 / 15.07	114.0 / 4.5
RFP-2	68.3 / 2.69	617.5 / 24.31	623.8 / 24.56	114.0 / 4.5
ILP-2	68.3 / 2.69	617.5 / 24.31	N/A	114.0 / 4.5





Linear Measure: millimeter / inch



Parker Hannifin Corporation
Hydraulic Filter Division
Metamora, OH

Specifications: DILP

Pressure Ratings:
Maximum Allowable Operating Pressure (MAOP): 200 psi (13.8 bar)
Design Safety Factor: 2:1
Rated Fatigue Pressure: 150 psi (10.3 bar)

Element Burst Rating: 70 psid (4.8 bar)

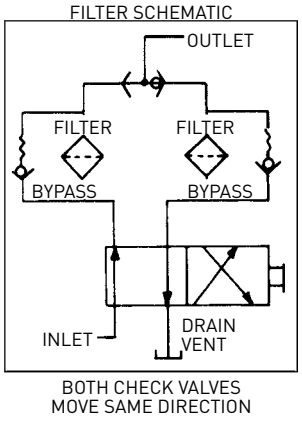
Filter Materials:
Diverter Valve Assembly: die cast aluminum
Check Valve Assembly: die cast aluminum
Filter Assembly: see IL2 specifications

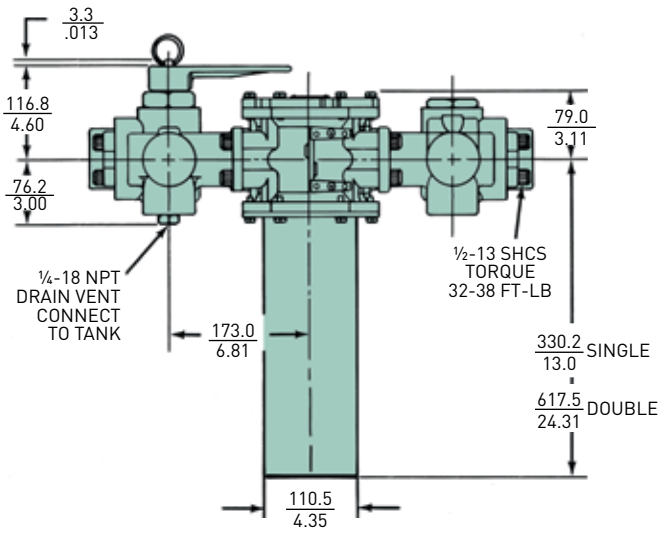
Operating Temperatures:
Nitrile: -40°F to 225°F (-40°C to 107°C)
Fluorocarbon: -15°F to 275°F (-26°C to 135°C)

Weight (approximate):
Single: 55 lbs. (24.9 kg) / Double: 65 lbs. (29.5 kg)

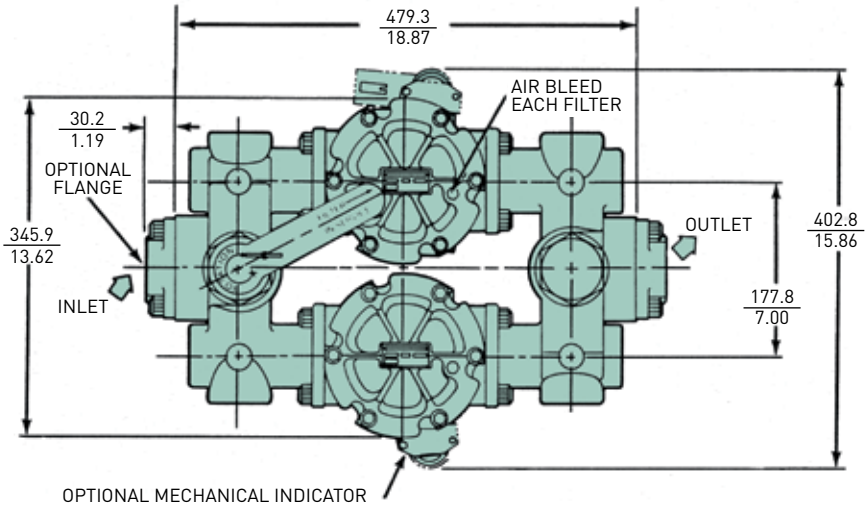
Indicators:
Visual (optional)
Electrical (optional) 15A @ 250VAC / .5A @ 125 VDC
Electrical ("D" option) 5A @ 250VAC / 3A @ 28 VDC

Color Coding:
White (normally closed)
Red (normally open)
Black (common)

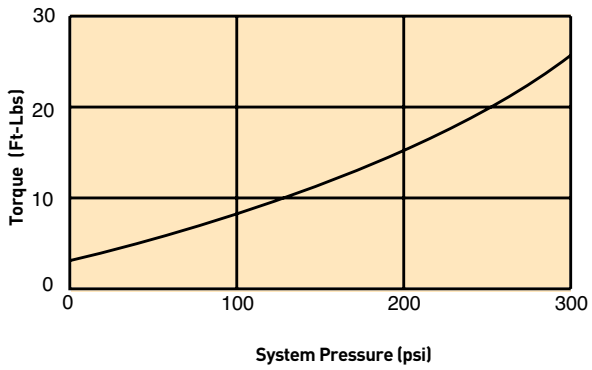




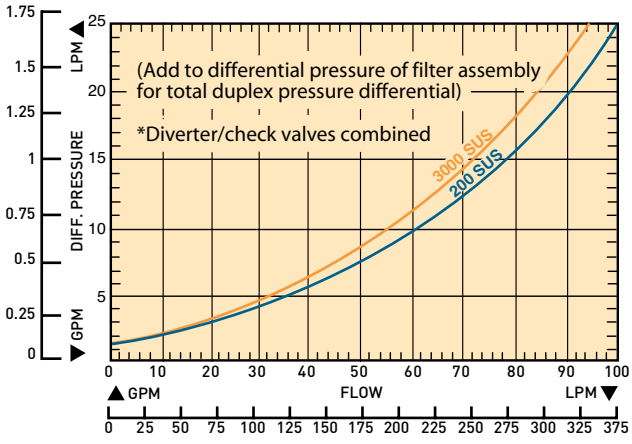
Linear Measure: millimeter / inch



Approximate handle torque required for changeover.



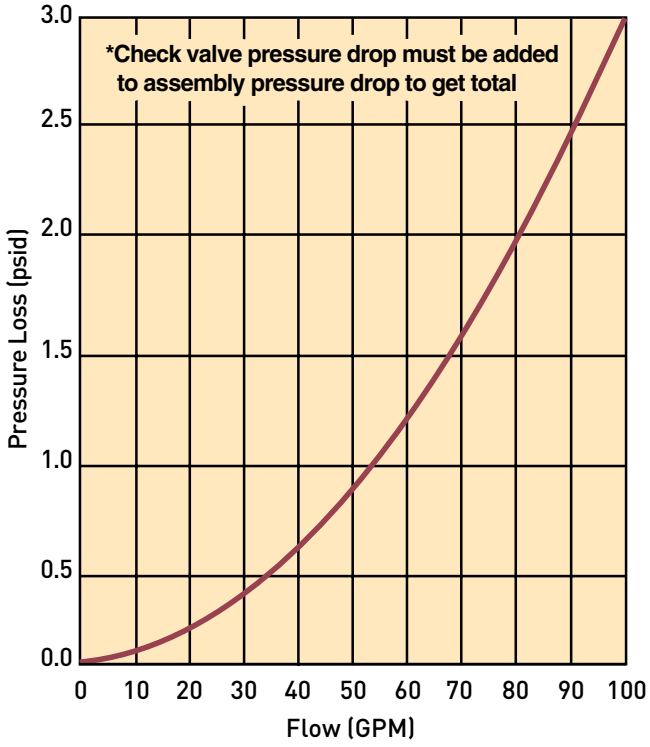
Typical Flow/Pressure Curves For Duplex Valves



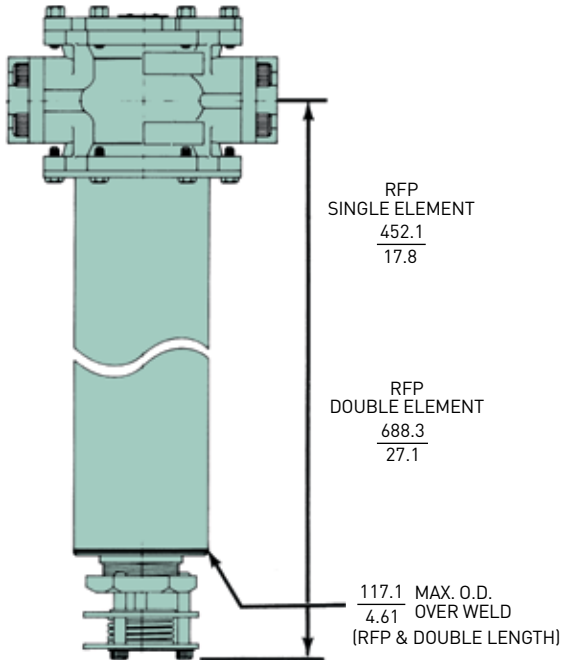
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Metamora, OH

For return line applications (RFP), the fluid returning to the reservoir holds the check valve open. When the system is shut down, the check valve closes automatically.

Check Valve Flow/Pressure Drop



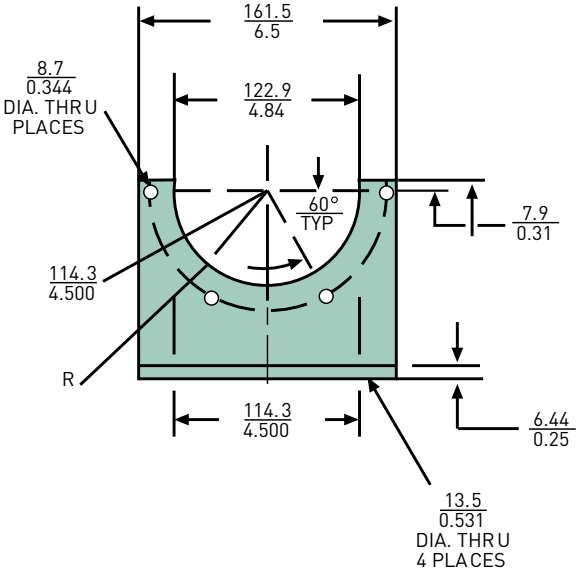
Linear Measure: millimeter / inch

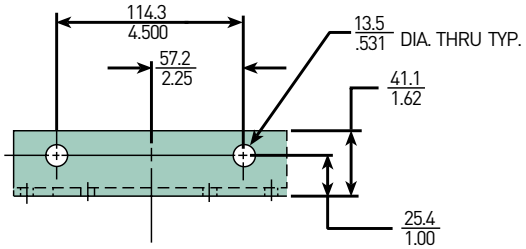


Accessories

Linear Measure: millimeter / inch

OPTIONAL MOUNTING BRACKET (924904)

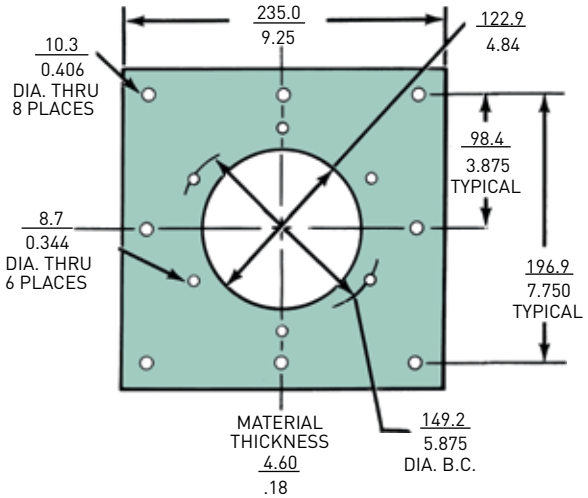




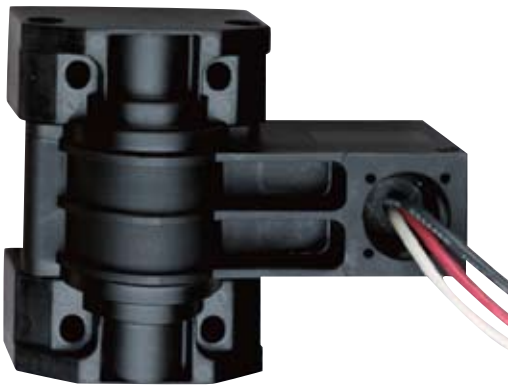
"M" OPTION-VISUAL INDICATOR, NO ELEMENT WARNING



OPTIONAL TANK FLANGE (925167)



"E" OPTION-ELECTRICAL INDICATOR



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Lower Cost than many single unit filters.

Moduflow™ Manifold Extended Filter Range

Use Model MM Manifold to handle return line flows up to 130 gpm.

- Rated static pressure: 300 psi
- Typical burst pressure: 900 psi
- Easily mounted on ModuFlow™

High Flows At Low Cost

The model MM manifold is designed to extend the flow range of ModuFlow™ Filters when operating with 10 Micron and finer filter media. When mounted to a pair of RFP-2 or ILP-2 filters, this manifold will allow flows up to 130 gpm in return lines (15 fps velocity).
Note: The Model MM manifold is not applicable to suction lines due to its pressure drop characteristics.

When used with two ModuFlow™ filters, the total cost is often less than a single unit filter rated for 130 gpm flow. Tank-top mounted (Model RFP) filters will require only one manifold on the filter inlet pports. In-line mounted (Model ILPav) filters will require two manifolds, one on the inlet and one on the outlet ports.

Multiple Uses

Although designed for manifold ModuFlow™ filters, the Model MM can be used in a variety of applications which require:

- Splitting flow between components

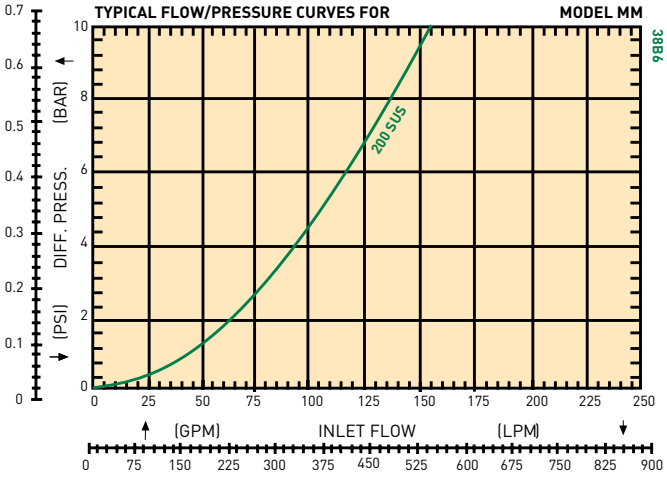
Such applications are frequently encountered on mobile equipment, machine tools, and large lubricating systems. In such applications, use of a manifold can often reduce total piping and installation costs.

Proven Reliability

The rugged design of the Model MM manifold has been proven in demanding mobil equipment applications, At the factory, we have cycle tested the Model MM through the full range of rated flow and pressure to insure reliable service.

Parker Filter Division maintains the same high standards in delivery, quality, and service. Considering this, plus features, flexibility, price, and performance, the Model MM manifold is a valuable addition to your fluid power component list.

FLOW/PRESSURE CURVE



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Hydraulic Filter Division
Metamora, OH

MANIFOLD SPECIFICATIONS

Rated Static Pressure, maximum:
20.7 bar (300 psi)
Typical Burst Pressure:
62.1 bar (900 psi)
Operating Temperature (Buna seals):
+121ºC to —40ºC (+250ºF to 40ºF)

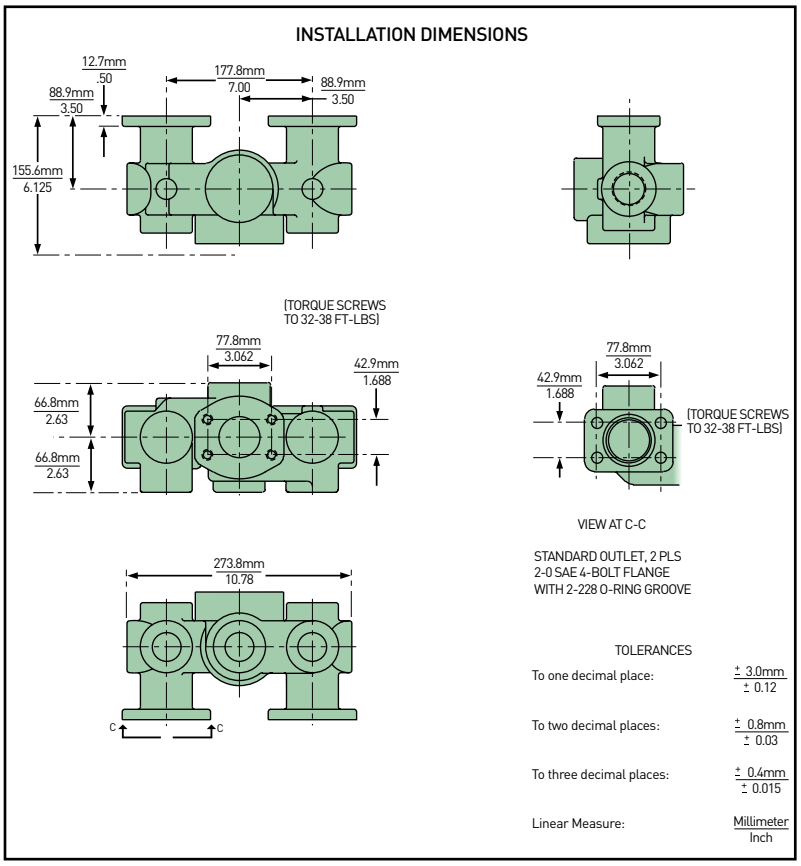
Housing Material:
ANSI 356-T6 cast aluminum
Approximate Shipping Weight:
3.6 kg (8 lbs)
Porting: See Options Below

Order Screws and O-Rings Seperately:
Inlet & outlet screws (12 required):
Order P/N 900228
Outlet port o-rings (2 required):
Nitrite: Order P/N N72228
Fluorocarbon: Order P/N V92228

HOW TO ORDER MANIFOLDS:

Part Number	Description
926466	**Moduflow Manifold**

* Tank-top mounted RFP filters will require one manifold on filter inlets: in-line mounted ILP filters will require two manifolds on both inlets and outlets.



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Metamora, OH

Flange Kits (flange, 4 bolts, o-ring)

Size	Code	Part Number	
		Buna	Fluorocarbon
¾ inch NPTF	YB	924788	926013
1 inch NPTF	YC	924787	926012
1¼ inch NPTF	YD	924912	926004
1½ inch NPTF	YE	924786	926011
2 inch NPTF	YF	924785	926010
SAE - 12	YM	924784	926009
SAE - 16	YN	924783	926008
SAE - 20	YO	924913	926005
SAE - 24	YP	924782	926007
BLANK FLANGE	—	924782	926006

RFP / ILP / DILP Replacement Elements

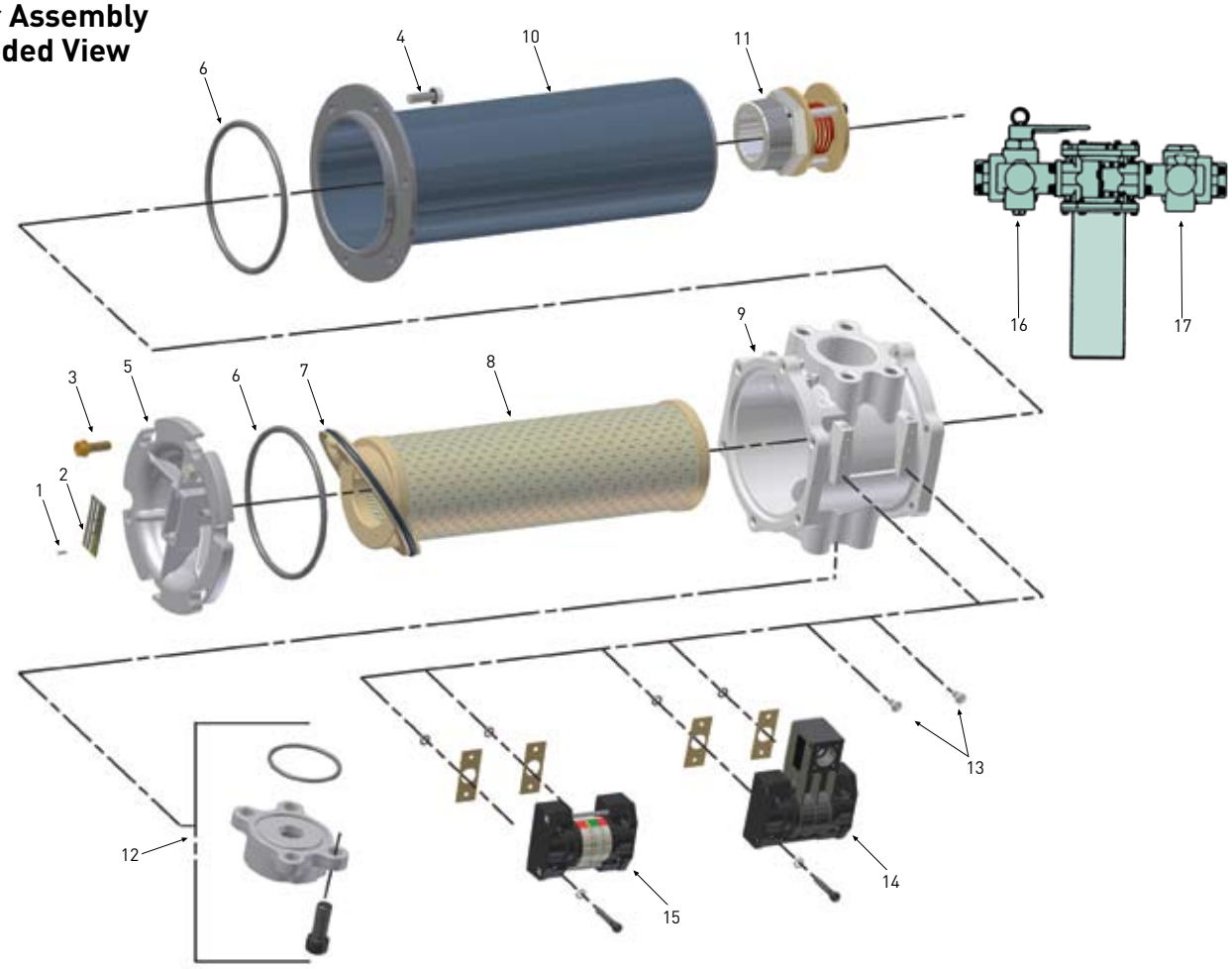
Media	Nitrile Seals				Fluorocarbon Seals			
	New Single	Replaces Old Single	New Double	Replaces Old Double	New Single	Replaces Old Single	New Double	Replaces Old Double
02Q	937393Q	932686Q	937397Q	932692Q	937401Q	932689Q	937405Q	932695Q
05Q	937394Q	932687Q	937398Q	932693Q	937402Q	932690Q	937406Q	932696Q
10Q	937395Q	932688Q	937399Q	932694Q	937403Q	932691Q	937407Q	932697Q
20Q	937396Q	933116Q	937400Q	933117Q	937404Q	933118Q	937408Q	933119Q

Parts List

Index	Description	Part No.	Quantity
1	**Screws**, Nameplate	900028	2
2	**Name Plate**, Unstamped	920928	1
3	**Cover Screws**, 5/16-18 UNC x 1"..	926633	6
4	**Bowl Screws**, 5/16-18 UNC x 1"...	926633	6
5	**Cover**, Without nameplate	924634	1
6	**O-Ring**, cover		
	Nitrile	N72350	2
	Fluorocarbon	V72350	2
7	**Element Seal**		
	Nitrile	937410	1
	Fluorocarbon	937411	1
8	**Element**	Refer to Table	1
9	**Head,** Machined only		1
	2" SAE Flange	925972	1
	1½"SAE Flange	926164	1
	1½" NPTF	925949	
10	**Bowl,** Select desired model		1
	ILP-1	925916	
	ILP-2	924816	
	RFP-1	937626	
	RFP-1 with 2 inch NPTF fitting	924676	
	RFP-2	937627	
	RFP-2 with 2 inch NPTF fitting	924818	

Index	Description	Part No.	Quantity
11	**Check Valve Assy.**	925120	1
12	**Flange Kits**	Refer to Table	1
13	**Plug Kit,** Fastener, self-sealing, o-ring seal included with fastener	925974	2
14	**Indicator Electrical**		Optional
	35 psid	926643	
	35 psid, 3-pin male receptacle	926753	
15	**Indicator Visual**		Optional
	35 psid 4-band	926748	
	Flange, In-tank mounting	925167	Optional
	Bracket, Inline mounting	924904	Optional
	Indicator Kit, Remote mount	924894	Optional
16	**Changeover Valve Assy.,** Duplex	926758	Optional
17	**Check Valve Assy.,** Duplex	926757	Optional
Not Shown	**Drain Plug,** SAE-24 for RFP model		
	Nitrile	909992	1
	Fluorocarbon	928363	1

Filter Assembly Exploded View



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Hydraulic Filter Division
Metamora, OH

Low Pressure Filters

Moduflow™ *Plus* Series

HOW TO ORDER: Select the desired symbol (in the correct position) to construct a model code.

Example:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
ILP	1	10Q	B	MP	35	Y9Y9	1

BOX 1: Filter Series Symbol	Description
RFP	Return-line filter, inlet on side outlet on bottom
ILP	In-line filter
DILP	In-line duplex

BOX 2: Element Length Symbol	Description
1	Single
2	Double

BOX 3: Media Code Symbol	Description
02Q	Microglass III, 2 micron
05Q	Microglass III, 5 micron
10Q	Microglass III, 10 micron
20Q	Microglass III, 20 micron
WR	Water Removal

BOX 4: Seals Symbol	Description
B	Nitrile
E	EPR
V	Fluorocarbon

BOX 5: Indicator Symbol	Description
P	Pressure ports drilled & plugged only; no indicator
M	Visual indicator w/"no element" warning
E	Electrical indicator only
D	Electrical indicator only, 3-pin male receptacle

Note: First letter of indicator code = left side of filter head when looking into inlet with bowl down; second letter = right side of filter head when looking into inlet with bowl down.

BOX 6: Bypass Setting Symbol	Description
35	35 psid

BOX 7: Port Options

Filter Model	Inlet Symbol/Description		Outlet Symbol/Description	
RFP	Y9	2" flange face	**99**	**No fitting**
	P9	**SAE-24 integral threads**	F9	2" NPTF
	E9	1½ NPTF integral threads	F8	External check valve
ILP	**Y9**	**2" flange face**	**99**	**No fitting**
	P9	SAE-24 integral threads	P9	SAE-24 integral threads
	E9	1½ NPTF integral threads	E9	1½ NPTF integral threads
DILP	**Y9**	**2" flange face**	**Y9**	**2" flange face**

1) First pair of symbols denotes inlet for all filter styles; second pair of symbols denotes outlet.
2) Four symbols required: two for inlet, two for outlet.
3) Unused ports in filters come plugged with a blank flange.
4) See Flange Kits table for port flange options. Flange Kits are ordered separately.

BOX 8: Options Symbol	Description
1	None

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Hydraulic Filter Division
Metamora, OH