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# LOW PRESSURE TANK TOP RETURN LINE

Models GLF2, GLF3 and GLF4



# GLF SERIES

## Applications

- Deck and Mobile cranes
- Fire fighting equipment
- Forwarders
- Hydraulic presses
- Marine steering units
- Power packs
- Excavators
- Harvesters
- Waste balers
- Reachstackers
- Wheel loaders
- Drilling equipment
- Industrial Power units
- Telehandlers
- Aerial Equipment
- Waste management, dump and fork lift trucks

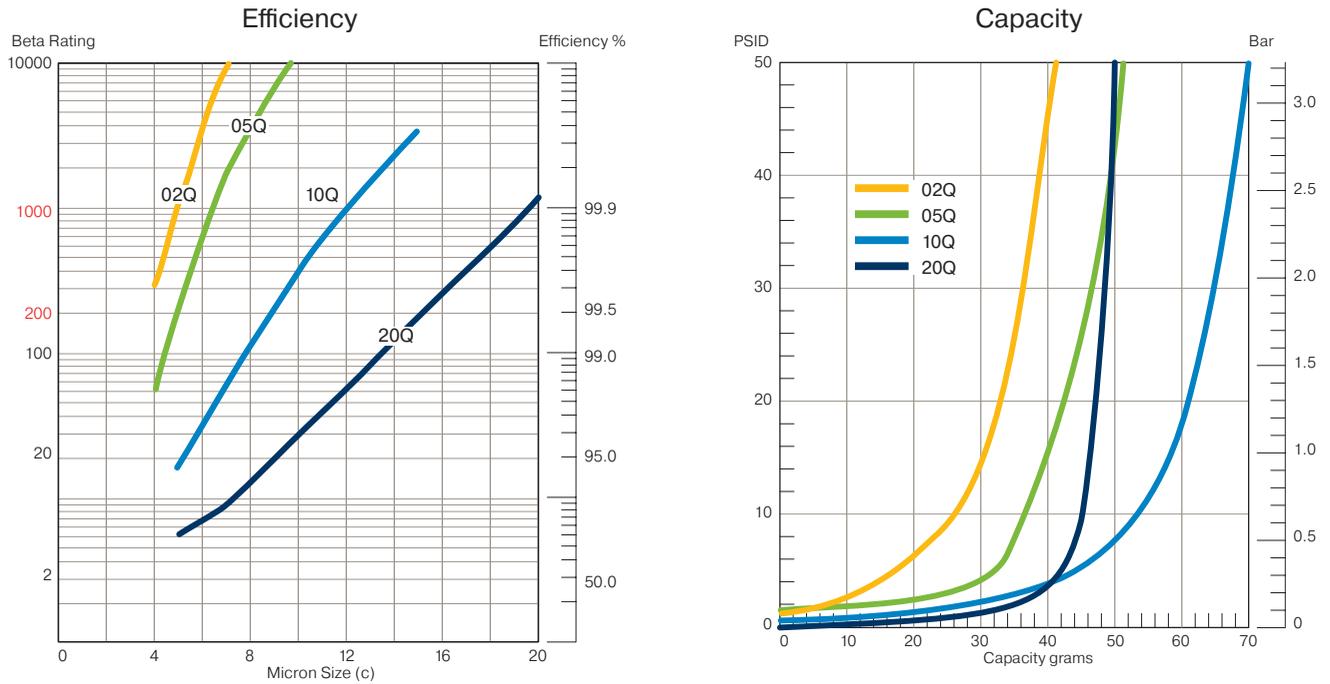
The Parker GLF low pressure return line filter is engineered to deliver efficient contamination control and performance in today's demanding hydraulic circuits. The Parker GLF is designed to maximize capacity and element life while maintaining low pressure drop, even in cold start conditions. The optional two port design provides the user installation flexibility and reduces installed cost. The inside-to-outside flow path confines contaminant during element service and minimizes contaminant exposure to the reservoir. The GLF offers pressure gauge and pressure switch ports for visual or electrical switch monitoring of the installed element.



Feature	Advantage	Benefit
Filter design and element construction with perforated metal outer wrap	<ul style="list-style-type: none"> <li>• Provides excellent flow diffusing, controlling aeration</li> <li>• No bowl required</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced cost and assembly weight</li> <li>• Optimized performance</li> </ul>
High efficiency Microglass media maximizing filtration area	<ul style="list-style-type: none"> <li>• Combines high particle capture efficiency with high dirt holding capacity and lower DP</li> </ul>	<ul style="list-style-type: none"> <li>• Cleaner fluids, longer lasting with fewer service intervals</li> <li>• Continuous filtration in cold start conditions</li> <li>• Lower operating costs</li> </ul>
Element design includes integral bypass valve with closed bottom end cap	<ul style="list-style-type: none"> <li>• New bypass with each element change</li> <li>• Ensures captured contaminants are removed with each element change</li> </ul>	<ul style="list-style-type: none"> <li>• Ensures reliable bypass performance</li> <li>• Reduced risk for contamination during service</li> </ul>
Optional Magnetic prefiltration	<ul style="list-style-type: none"> <li>• Removes large ferrous contaminants</li> </ul>	<ul style="list-style-type: none"> <li>• Extends element life</li> <li>• Visual indication of component wear</li> </ul>
Patented filter element	<ul style="list-style-type: none"> <li>• Promotes genuine service parts</li> </ul>	<ul style="list-style-type: none"> <li>• Guaranteed quality of filtration</li> </ul>
Inside-to-Outside filtration	<ul style="list-style-type: none"> <li>• All captured contamination retained inside the element</li> </ul>	<ul style="list-style-type: none"> <li>• No recontamination of system during the change of the element</li> </ul>
Service friendly product design	<ul style="list-style-type: none"> <li>• Easy servicing by simple element change</li> <li>• End cap Bridge grip for easy element removal</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces service time for filter</li> </ul>
Visual or Electrical indicators	<ul style="list-style-type: none"> <li>• Know exactly when to service the element</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces downtime with scheduled service</li> </ul>
Top access element service	<ul style="list-style-type: none"> <li>• Oil remains in housing</li> <li>• Quicker element change</li> </ul>	<ul style="list-style-type: none"> <li>• No spills</li> <li>• Reduced maintenance costs</li> </ul>
Head with 2 Inlet Ports	<ul style="list-style-type: none"> <li>• Can be used as a fill port</li> <li>• Offers installation flexibility</li> </ul>	<ul style="list-style-type: none"> <li>• All added oil is filtered</li> <li>• Reduced connections</li> </ul>

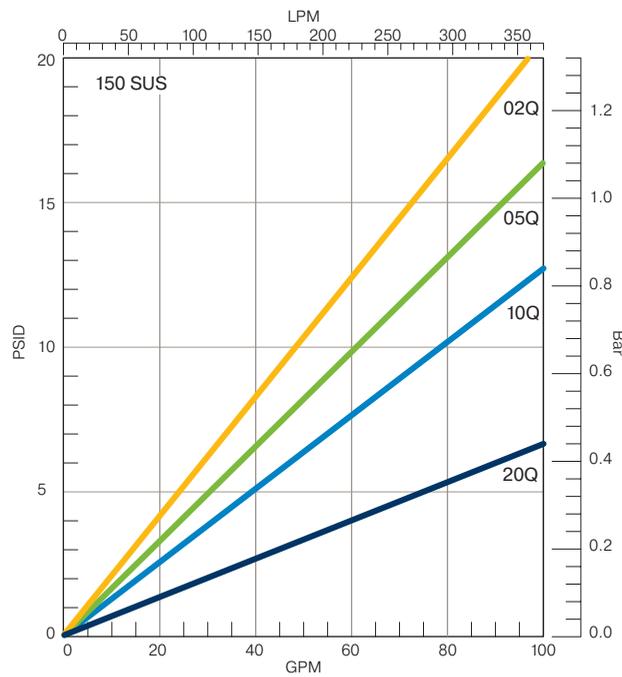
# GLF2 SERIES

## GLF2-1 Element Performance



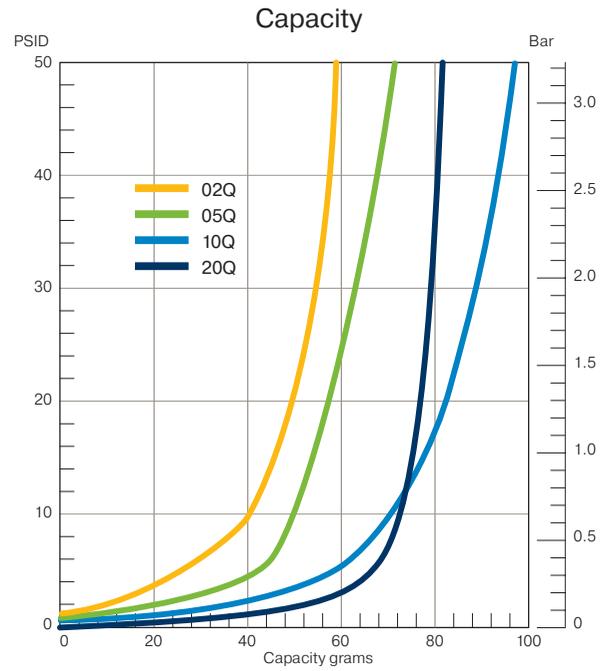
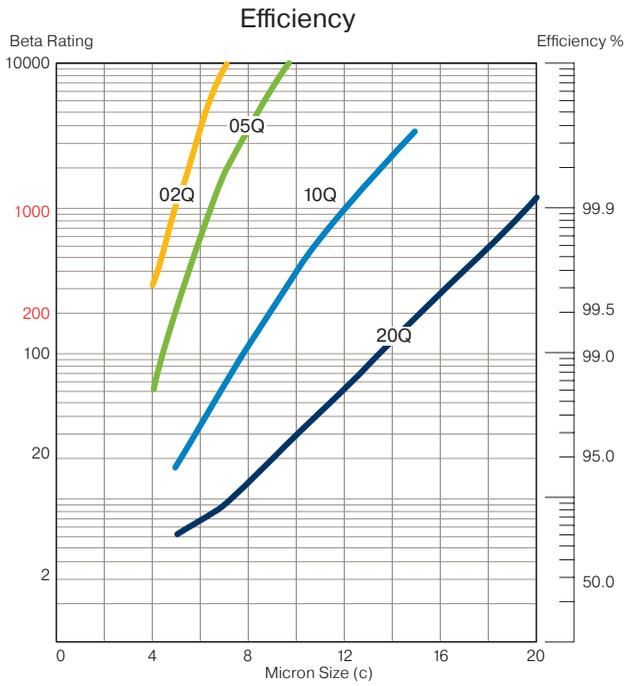
Results typical from Multi-pass tests run per test standard ISO 16889 @ 30 gpm to 50 psid terminal - 10 mg/L BUGL

### Flow vs. Pressure Loss\*



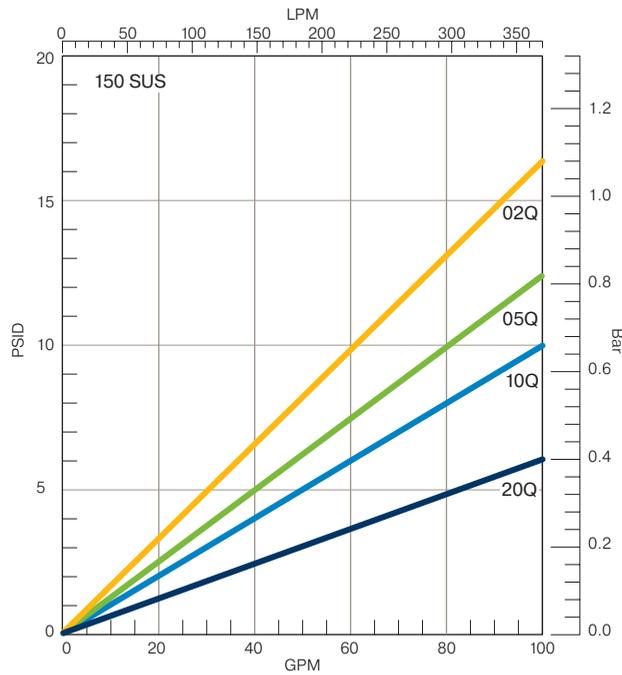
# GLF2 SERIES

## GLF2-2 Element Performance



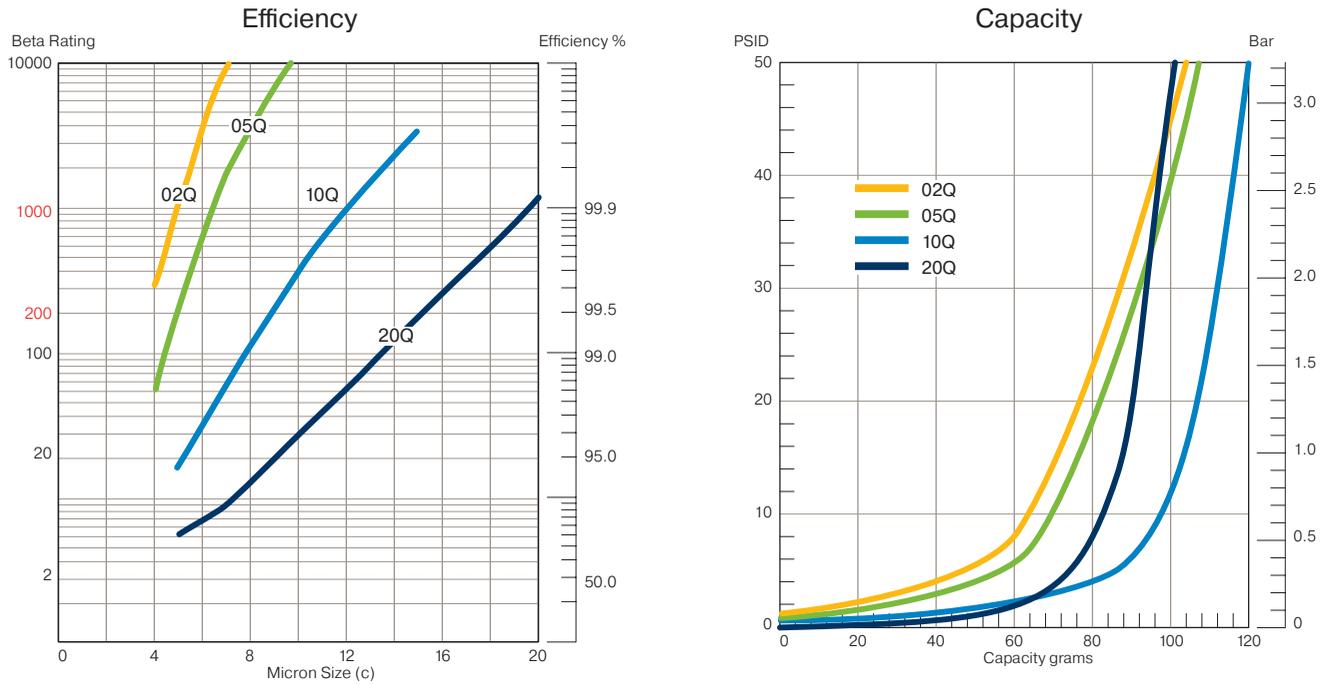
Results typical from Multi-pass tests run per test standard ISO 16889 @ 45 gpm to 50 psid terminal - 10 mg/L BUGL

### Flow vs. Pressure Loss\*



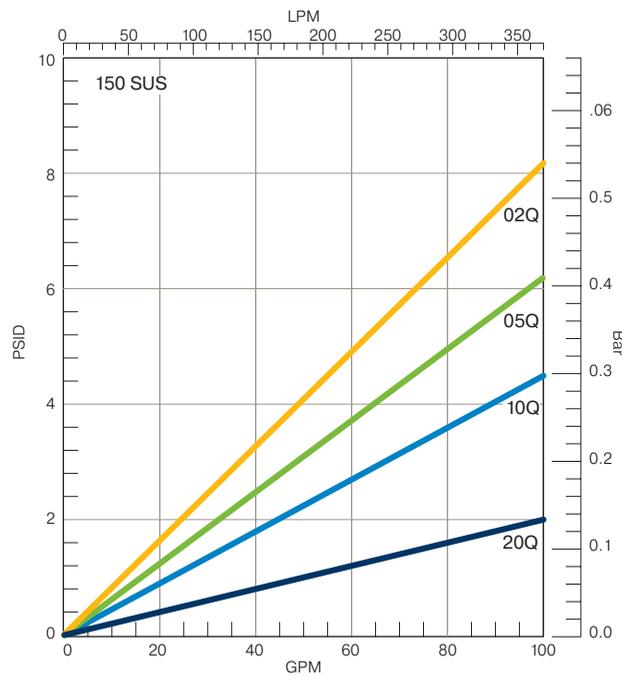
# GLF3 SERIES

## GLF3-1 Element Performance



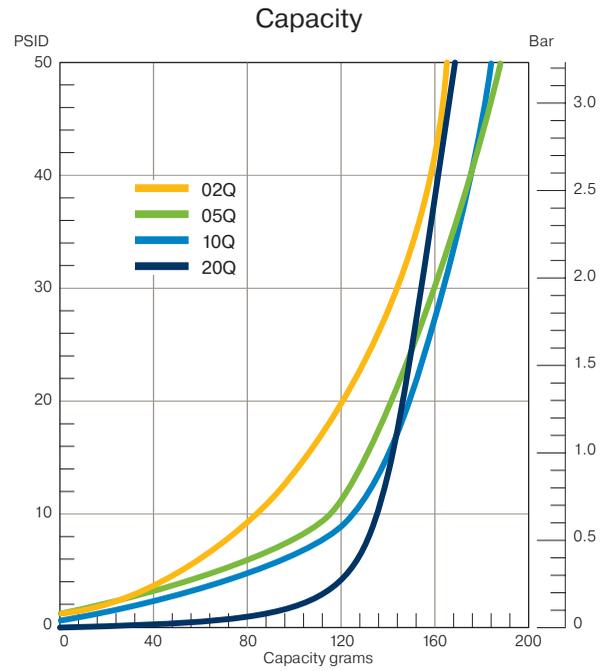
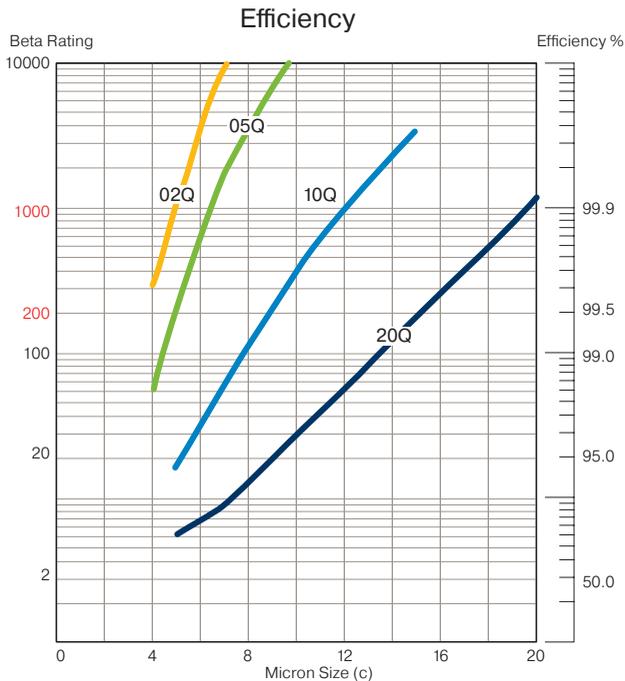
Results typical from Multi-pass tests run per test standard ISO 16889 @ 50 gpm to 50 psid terminal - 10 mg/L BUGL

### Flow vs. Pressure Loss\*



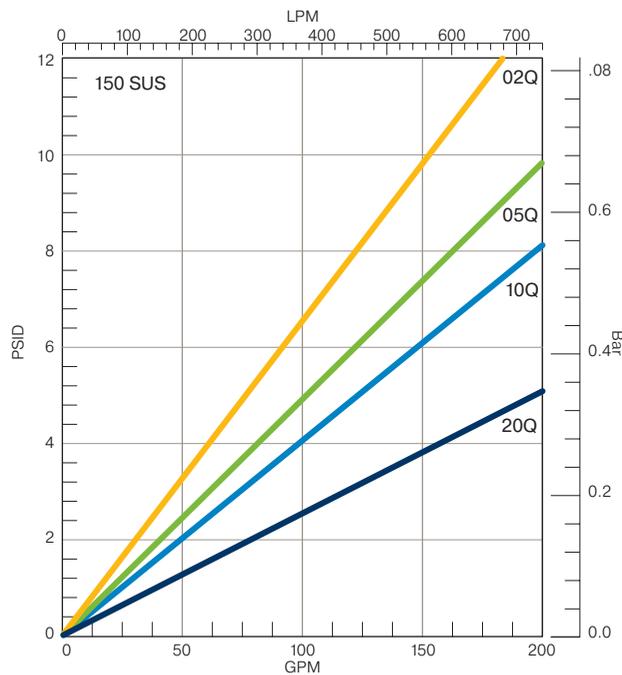
# GLF3 SERIES

## GLF3-2 Element Performance



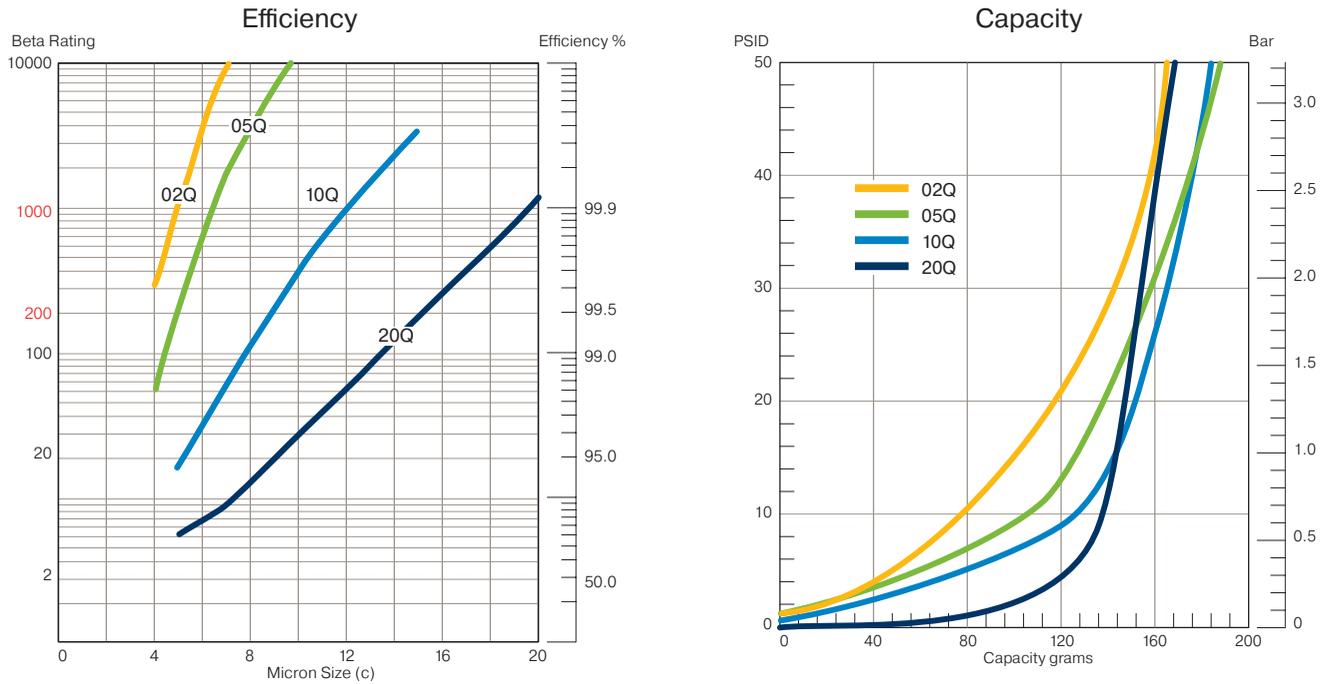
Results typical from Multi-pass tests run per test standard ISO 16889 @ 70 gpm to 50 psid terminal - 10 mg/L BUGL

### Flow vs. Pressure Loss\*



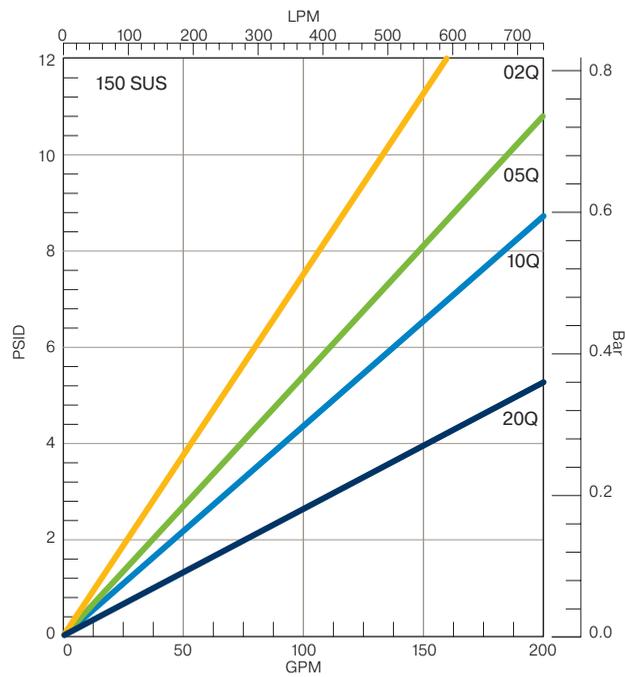
# GLF4 SERIES

## GLF4-1 Element Performance



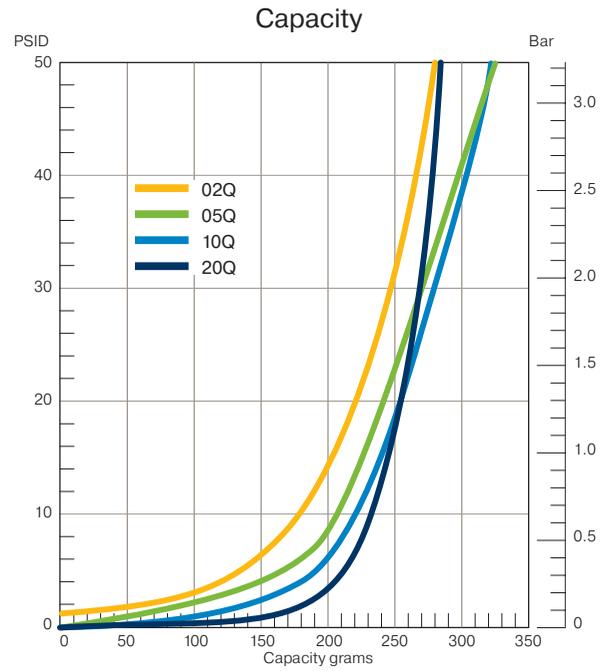
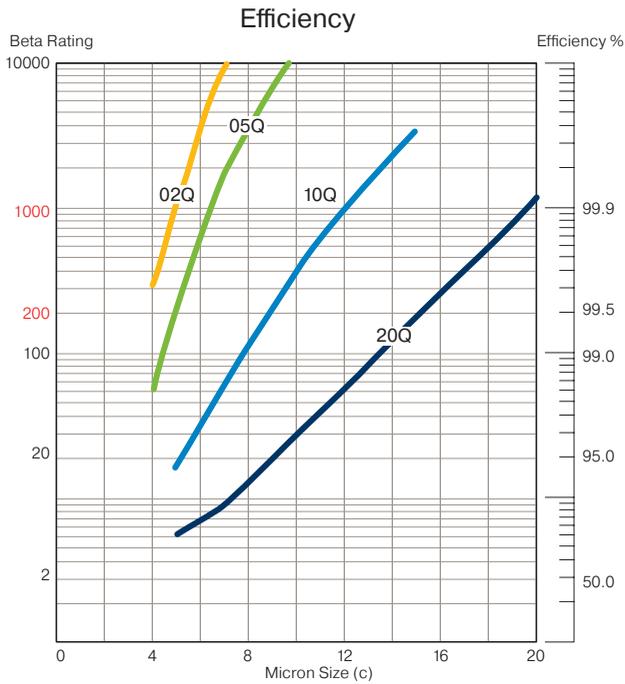
Results typical from Multi-pass tests run per test standard ISO 16889 @ 70 gpm to 50 psid terminal - 10 mg/L BUGL

### Flow vs. Pressure Loss\*



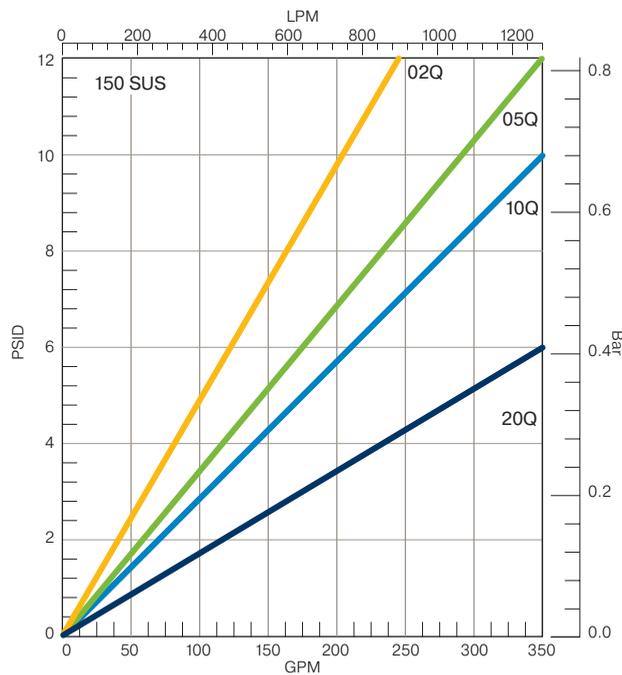
# GLF4 SERIES

## GLF4-2 Element Performance



Results typical from Multi-pass tests run per test standard ISO 16889 @ 45 gpm to 100 psid terminal - 10 mg/L BUGL

### Flow vs. Pressure Loss\*



# GLF2 SERIES

## Specifications

### Pressure Ratings:

Maximum Allowable Operating Pressure (MAOP): 150 psi (10.3 bar)

### Element Burst Rating:

150 psid (10.3 bar)

### Operating Temperatures:

Nitrile: -40°F (-40°C) to 225°F (107°C)

Fluorocarbon: -15°F (-26°C) to 275°F (135°C)

### Filter Materials:

Head: Cast Aluminum Alloy

Cover: GF Nylon

Bypass Valve: GF Nylon, Music wire

Filter Media: Microglass composite

Element End Caps: GF Nylon

### Element Condition Indicators:

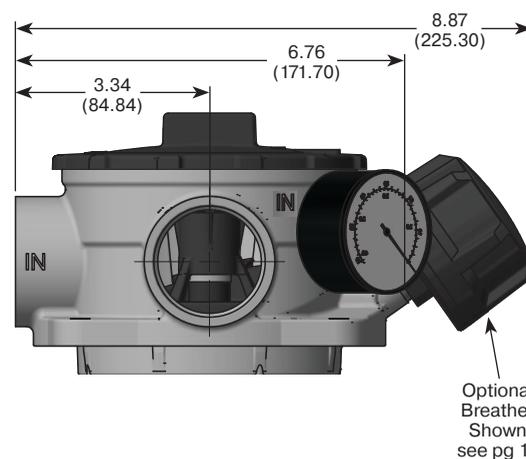
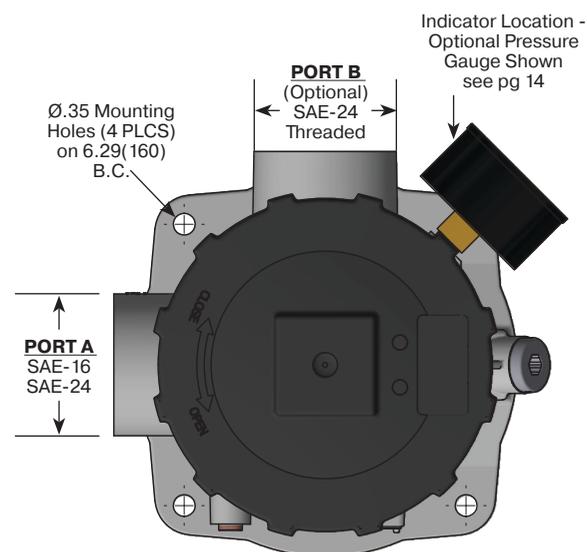
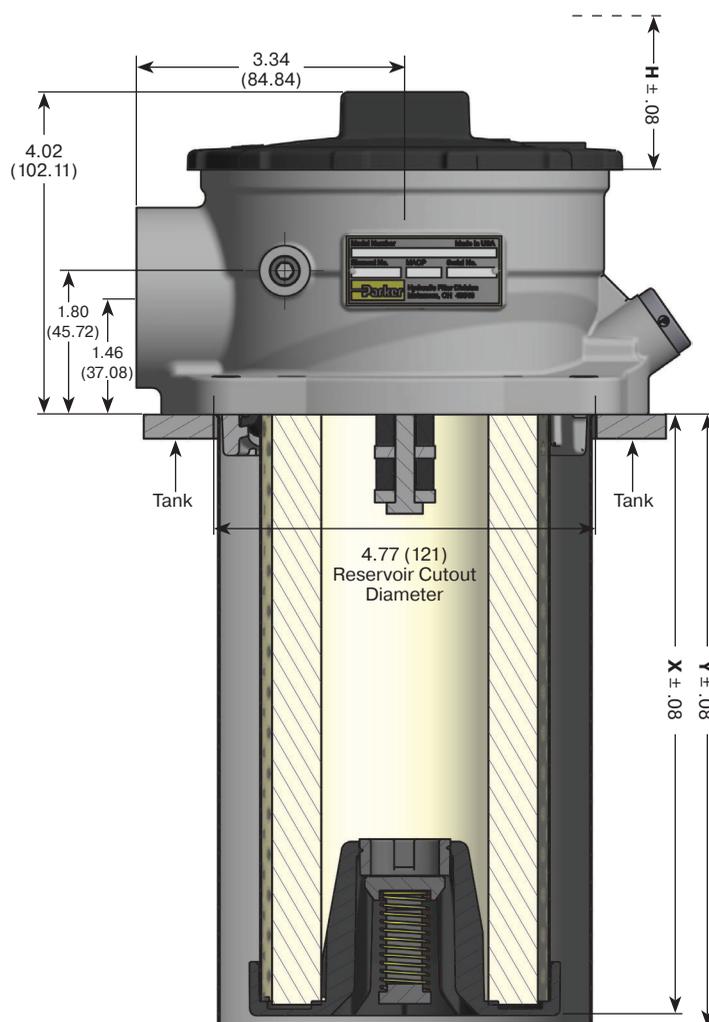
Gauge: 0-60 psi color coded

Switch: 30 psi SPDT 5A, 12/24 VDC and 125/250 VAC, 3-pin Deutsch DT04-3P

### Weights (approximate):

GLF2-1: 4 lbs. (1.81 kg)

GLF2-2: 5 lbs. (2.27 kg)



Model	X Element Depth	Y Drop Tube	H Element Removal Clearance
GLF2-1	7.49 (190.2)	7.65 (194.31)	9.04 (229.6)
GLF2-2	11.26 (286.0)	11.45 (290.8)	12.81 (325.4)

Drawings are for reference only.  
Contact factory for current version.

Linear Measure:  $\frac{\text{inch}}{\text{millimeter}}$

# GLF3 SERIES

## Specifications

### Pressure Ratings:

Maximum Allowable Operating Pressure (MAOP): 150 psi (10.3 bar)

### Element Burst Rating:

150 psid (10.3 bar)

### Operating Temperatures:

Nitrile: -40°F (-40°C) to 225°F (107°C)

Fluorocarbon: -15°F (-26°C) to 275°F (135°C)

### Filter Materials:

Head & Cover: Cast Aluminum Alloy

Bypass Valve: GF Nylon, Music wire

Filter Media: Microglass composite

Element End Caps: GF Nylon

### Element Condition Indicators:

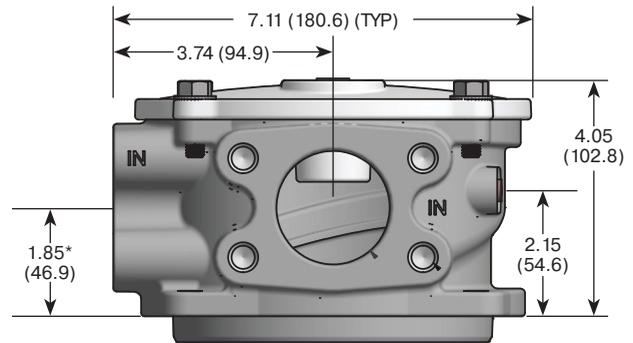
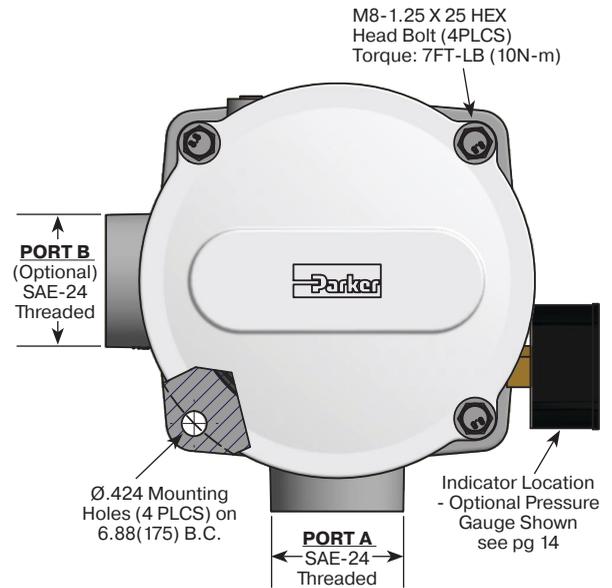
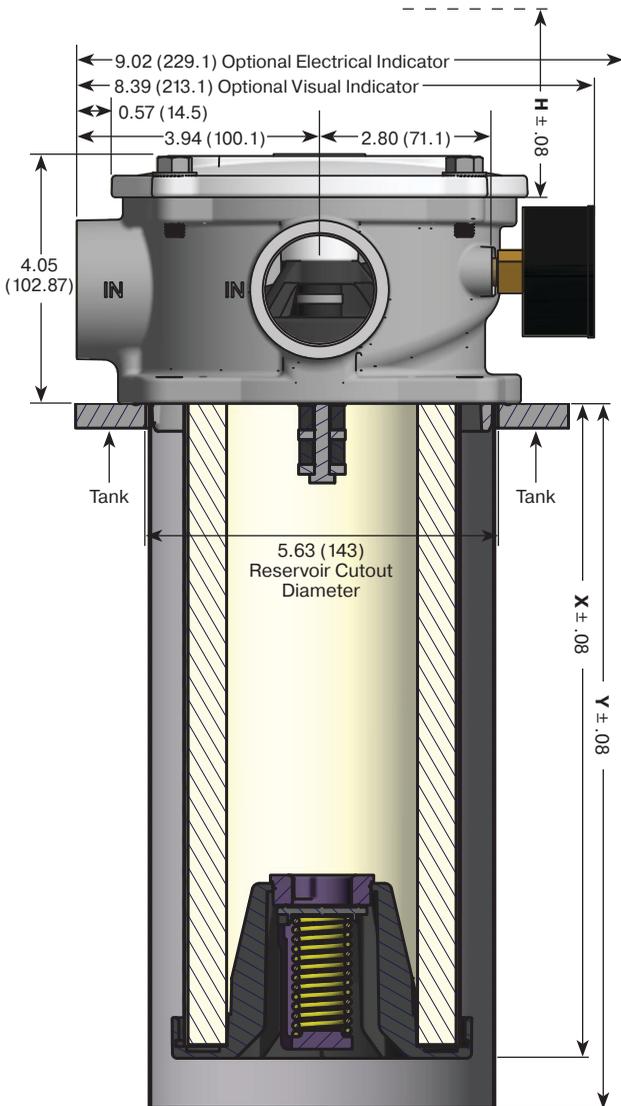
Gauge: 0-60 psi color coded

Switch: 30 psi SPDT 5A, 12/24 VDC and 125/250 VAC, 3-pin Deutsch DT04-3P

### Weights (approximate):

GLF3-1: 7 lbs. (3.18 kg)

GLF3-2: 8 lbs. (3.63 kg)



\*Check to ensure flange clearance. Weld plate or low profile flange kit may be required.

Dual 2" SAE Code 61 Flange Face Option  
See Typical Flange Dimensions pg 12

Model	X Element Depth	Y Drop Tube	H Element Removal Clearance
GLF3-1	10.48 (266.2)	11.65 (295.9)	12.8 (325.1)
GLF3-2	16.68 (423.7)	17.48 (443.9)	19.00 (482.6)

# GLF4 SERIES

## Specifications

### Pressure Ratings:

Maximum Allowable Operating Pressure (MAOP): 150 psi (10.3 bar)

### Element Burst Rating:

150 psid (10.3 bar)

### Operating Temperatures:

Nitrile: -40°F (-40°C) to 225°F (107°C)

Fluorocarbon: -15°F (-26°C) to 275°F (135°C)

### Filter Materials:

Head & Cover: Cast Aluminum Alloy

Bypass Valve: GF Nylon, Music wire

Filter Media: Microglass composite

Element End Caps: GF Nylon

### Element Condition Indicators:

Gauge: 0-60 psi color coded

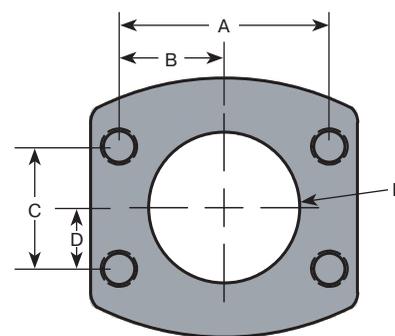
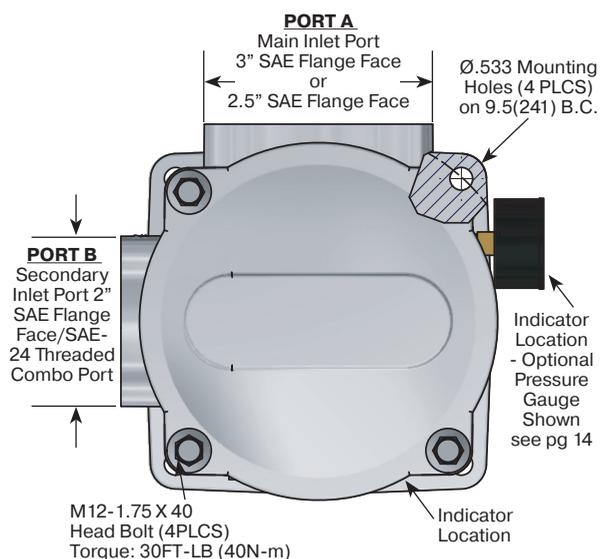
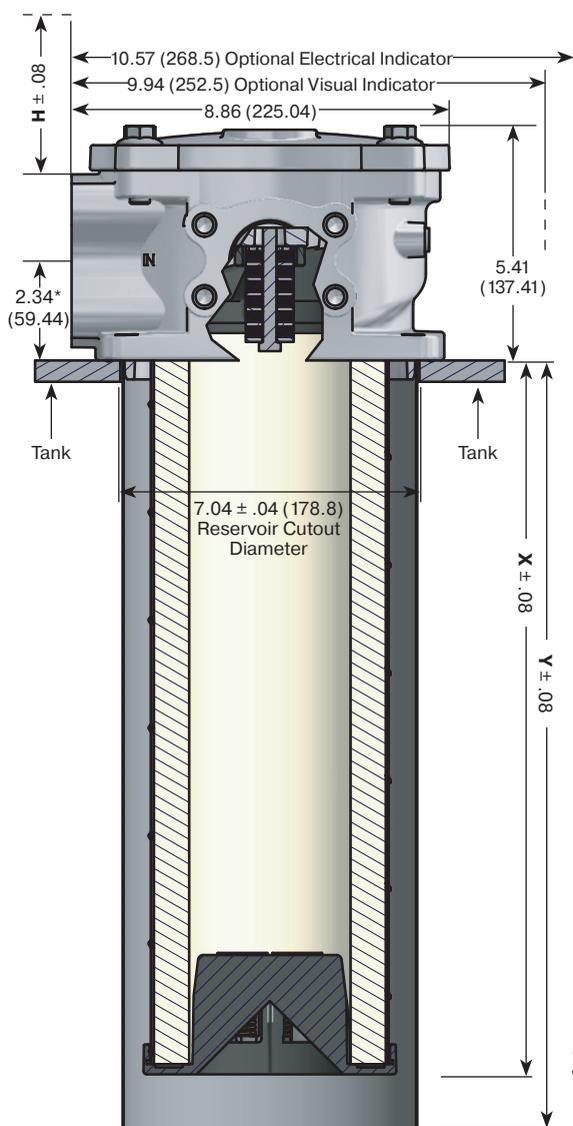
Switch: 30 psi SPDT 5A, 12/24 VDC and

125/250 VAC, 3-pin Deutsch DT04-3P

### Weights (approximate):

GLF4-1: 9 lbs. (4.08 kg)

GLF4-2: 10 lbs. (4.54 kg)



Typical Flange Dimensions Reference SAE J518

Port	A	B	C	D	E (Ø)	Thread
2"	3.06 (77.7)	1.53 (38.86)	1.69 (42.93)	.84 (21.33)	2 (50.8)	1/2-13 UNC
2.5"	3.50 (88.9)	1.75 (44.45)	2.00 (50.8)	1.0 (25.4)	2.5 (63.5)	1/2-13 UNC
3"	4.19 (106.7)	2.09 (53.09)	2.44 (61.97)	1.22 (30.99)	3 (76.2)	5/8-11

Model	X Element Depth	Y Drop Tube	H Element Removal Clearance
GLF4-1	10.56 (268)	11.83 (300.5)	12.8 (325.1)
GLF4-2	16.78 (426)	18.04 (458.2)	19.00 (482.6)

\*Check to ensure flange clearance. Weld plate or low profile flange kit may be required.

Drawings are for reference only.  
Contact factory for current version.

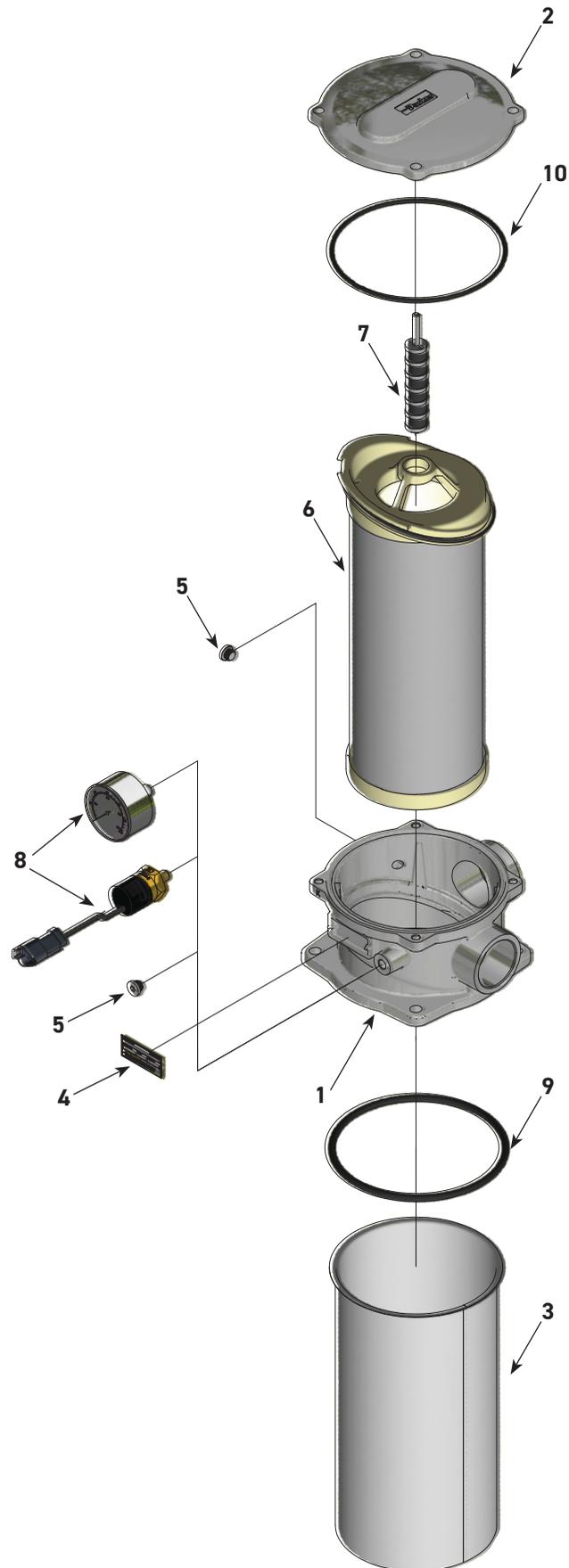
Linear Measure:  $\frac{\text{inch}}{\text{millimeter}}$

# GLF SERIES

## Parts List

Index	Description	Part Number
1	Head GLF2, SAE-16 inlet port	946902
	Head GLF2, SAE-24 inlet port	946903
	Head GLF2, 2 x SAE-24 inlet ports	946319
	Head GLF3, SAE-24 inlet port	945848
	Head GLF3, 2 x SAE-24 inlet ports	945852
	Head GLF3, 2x2" SAE Code 61 Flange Face Inlet Ports	946317
	Head GLF4, 1x2.5", 1x2" SAE Code 61 flange face inlet ports	946270
	Head GLF4, 1x3", 1x2" SAE Code 61 flange face inlet ports	946285
2	GLF2 cover	84.21.471.52
	GLF3 cover	945858
	GLF4 cover	946289
3	Drop tube GLF2-1	85.01.016.121*
	Drop tube GLF2-2	85.01.016.122*
	Drop tube GLF3-1	85.01.016.132*
	Drop tube GLF3-2	945891*
	Drop tube GLF4-1	946564*
	Drop tube GLF4-2	946565*
4	Name plate	920928
not shown	GLF3 M8 - 1.25 x 25 grade 8.8 bolt serrated flange	946559
	GLF4 M12 - 1.75 x 40 grade 8.8 bolt serrated flange	946581
6	Replacement elements	See Replacement Element Table
7	GLF2 Magnet assembly	90.14.086.32*
	GLF3 Magnet assembly	90.14.086.33*
	GLF4 Magnet assembly	946455*
8	Pressure gauge	946326*
	Pressure switch	946367*
9	GLF2 Base Gasket nitrile	81.05.150.32
	GLF2 Base Gasket fluorocarbon	81.05.152.32*
	GLF3 Base Gasket nitrile	81.05.159.33
	GLF3 Base Gasket fluorocarbon	81.05.161.33*
	GLF4 Base Gasket nitrile	81.05.159.34
	GLF4 Base Gasket fluorocarbon	81.05.161.34*
10	GLF2 Cover O-ring nitrile	N72246
	GLF2 Cover O-ring fluorocarbon	V72246*
	GLF3 Cover O-ring nitrile	N72256
	GLF3 Cover O-ring fluorocarbon	V72256*
	GLF4 Cover O-ring nitrile	N72263
	GLF4 Cover O-ring fluorocarbon	V72263*
not shown	GLF2 Breather	AB685101*
not shown	GLF2 Port Plug, Airbreather (G3/8" BSPP)	VSTI3/8EDCF
not shown	GLF2 Tank Support Ring	84.71.471.22

\* options



# GLF SERIES

## Operating and Maintenance Instructions

### A. Start-Up

1. Check for and eliminate leaks upon system start-up.
2. Check differential pressure indicator, if installed, to monitor element condition.

### B. Service

1. An element must be serviced when the indicator indicates service is required.

NOTE: If the filter is not equipped with an indicator, the element should be serviced according to machine manufacturer's instructions.

### C. Servicing Dirty Element

1. Shut system down to assure that there is NO PRESSURE OR FLOW into the filter housing.
2. Remove the filter cover.
3. Remove and discard the contaminated element cartridge.

### D. Before Installing a New Element Cartridge

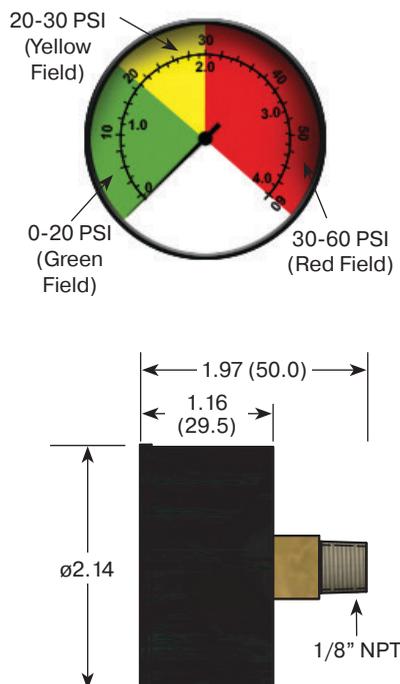
1. Clean the magnetic core, if fitted, with a lint-free cloth.
2. Check all seals and replace if necessary.

### E. To Install a New Element Cartridge

1. Lubricate all seals.
2. Align filter element end cap with guide posts located in head.
3. Mount new filter cartridge.
4. Re-install the cover.
5. Torque the cover bolts per drawing.

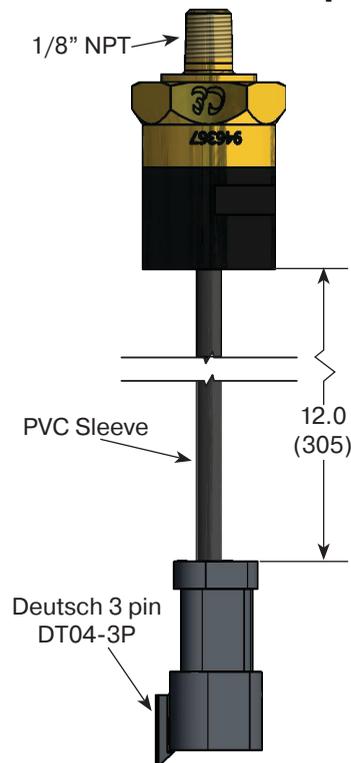
## Options and Accessories

### Pressure Gauge PN 946326



Drawings are for reference only. Contact factory for current version.

### Electrical Switch (30 psi) PN 946367



#### Wiring Code

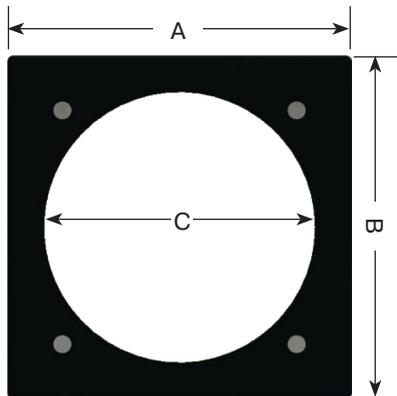
Switch Contact	Receptacle
Common	Socket A
Normally Closed	Socket B
Normally Open	Socket C

Linear Measure:  $\frac{\text{inch}}{\text{millimeter}}$

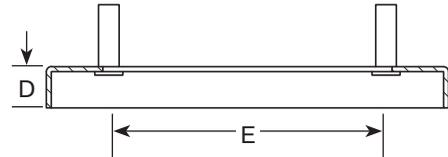
# GLF SERIES

## Options and Accessories

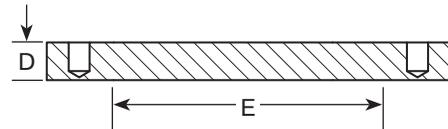
### Weld Plates



GLF3 - PN 946567



GLF4 - PN 946765



Model inch/mm	A	B	C	D	E - Hole in Reservoir	Thread
<b>GLF3</b>	7.15 (182)	7.15 (182)	5.63 (143)	1 (25)	5.75-6.25 (146-159)	3/8-16 UNC-2A
<b>GLF4</b>	8.00 (203)	8.00 (203)	7.01 (178)	.75 (19)	7.1-7.25 (180-184)	1/2-13 UNC-2B

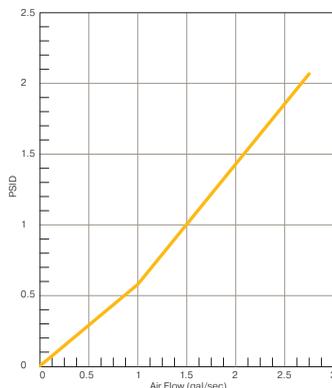
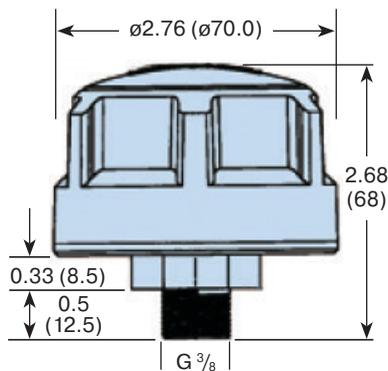
### GLF2 Breather

PN AB.685101

**Construction:** GF nylon and glass coupled polypropylene.

**Element:** Expanded Polyurethane foam, 10 micron absolute.

**Seal:** Nitrile.



### 2 inch Flange Adapter Kits (flange, 4 bolts, o-ring)

Size	Part Number	
	Nitrile	Fluorocarbon
3/4 inch NPTF	924788	926013
1 inch NPTF	924787	926012
1 1/4 inch NPTF	924912	926004
1 1/2 inch NPTF	924786	926011
2 inch NPTF	924785	926010
SAE - 12	924784	926009
SAE - 16	924783	926008
SAE - 20	924913	926005
SAE - 24	924782	926007
Flange blank	924781	926006

#### Low Profile Split Flange Kit (nitrile)

2"	947097
3"	947098

# GLF SERIES<sup>1</sup>

## 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
GLF3	2	10Q	B	P	I	S24	1

BOX 1: Filter Series	
Symbol	Description
GLF2	Tank Top Return Line Filter
GLF3	Tank Top Return Line Filter
GLF4	Tank Top Return Line Filter

BOX 2: Element Length	
Symbol	Description
1	Single
2	Double

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

BOX 4: Seal Material	
Symbol	Description
B	Nitrile
V	Fluorocarbon

BOX 5: Indicator	
Symbol	Description
P	1/8" NPT gauge ports (2) Plugged
G	Pressure gauge
S	Pressure switch

BOX 6: Bypass	
Symbol	Description
I	35 psid (2.4 bar)

BOX 7: Ports	
Symbol	Description
<b>GLF2</b>	
S16	SAE-16 Inlet Port
S24	SAE-24 Inlet Port
2S24	Dual SAE-24 Inlet Ports
<b>GLF3<sup>2,3</sup></b>	
S24	SAE-24 Inlet Port
2S24	Dual SAE-24 Inlet Ports
2Y32	Dual SAE 2" Code 61 Flange Face Ports (1/2" - 13 UNC)
<b>GLF4<sup>2,3</sup></b>	
2Y40	Dual SAE Code 61 Flange Face Ports (1x2 1/2", 1x2")
2Y48	Dual SAE Code 61 Flange Face Ports (1x3", 1x2")

BOX 8: Options	
Symbol	Description
1	None
M	Magnets
D	Drop Tube
MD	Magnets and Drop Tube

### Notes:

- The filter includes the element you select already installed.
- A single SAE flange port connection can be achieved as follows: GLF3: Select "2Y32" at Box 7 and install a separately purchased flange blank kit; GLF4: Select "2Y40" or "2Y48" at Box 7 and install a separately purchased flange blank kit.
- Flange blank kit (2") part numbers are 924781 (nitrile), 926006 (fluorocarbon).

## Replacement Elements\*

Media	GLF2 Single Length		GLF2 Double Length	
	Nitrile	Fluorocarbon	Nitrile	Fluorocarbon
	02Q	946849Q	946841Q	946853Q
05Q	946850Q	946842Q	946854Q	946846Q
10Q	946851Q	946843Q	946855Q	946847Q
20Q	946852Q	946844Q	946856Q	946848Q

Media	GLF3 Single Length		GLF3 Double Length	
	Nitrile	Fluorocarbon	Nitrile	Fluorocarbon
	02Q	945894Q	945906Q	945898Q
05Q	945895Q	945907Q	945899Q	945911Q
10Q	945896Q	945908Q	945900Q	945912Q
20Q	945897Q	945909Q	945901Q	945913Q

Media	GLF4 Single Length		GLF4 Double Length	
	Nitrile	Fluorocarbon	Nitrile	Fluorocarbon
	02Q	946431Q	946456Q	946435Q
05Q	946432Q	946457Q	946436Q	946461Q
10Q	946433Q	946458Q	946437Q	946462Q
20Q	946434Q	946459Q	946438Q	946463Q

\* Includes 35 psid (2.4 bar) integrated bypass.



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