

# Base-Ported Filter

# QLF15



## Features and Benefits

- In-line version also available
- Element changeout from the top minimizes oil spillage
- Available with optional core assembly to accommodate coreless elements
- Offered with standard Q, QPML deep-pleated and QCLQF coreless elements in 16" and 39" lengths with Viton® seals as the standard
- Offered in pipe, SAE straight thread, and flange porting
- Integral inlet and outlet test points are standard on all models
- WQLF15 model for water service also available – refer to Section 7 of this catalog
- Various Dirt Alarm® options

**500 gpm**  
**1900 L/min**  
**1500 psi**  
**100 bar**

GH

RLT

KF5

SRLT

K9

2K9

3K9

QF5

3QF5

Viton® is a registered trademark of DuPont Dow Elastomers.

Model No. of filter in photograph is QLF1539QZ5F4850D5.



INDUSTRIAL



AUTOMOTIVE  
MANUFACTURING



MACHINE  
TOOL



STEEL  
MAKING



MINING  
TECHNOLOGY



POWER  
GENERATION



PULP & PAPER



MOBILE  
VEHICLES

## Applications

QFD2

QFD5

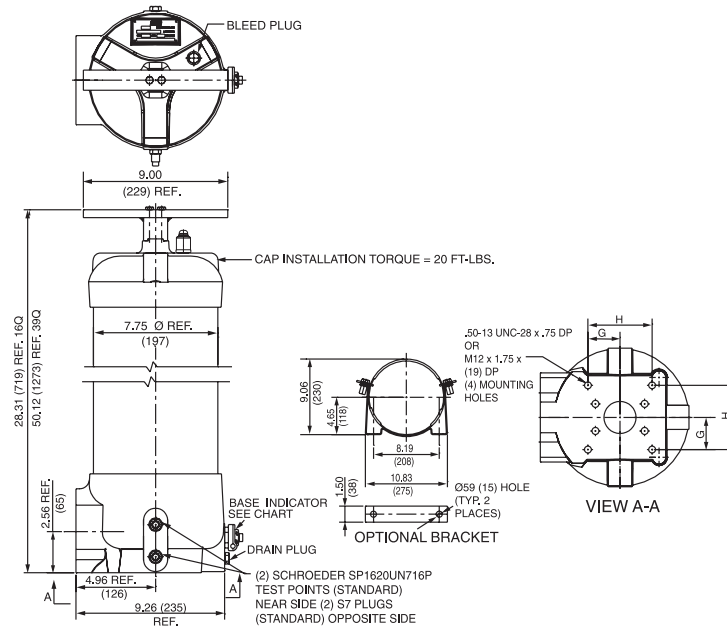
QF15

**QLF15**

SSQLF15

Flow Rating:	Up to 500 gpm (1900 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	1500 psi (100 bar)
Min. Yield Pressure:	4900 psi (340 bar), per NFPA T2.6.1
Rated Fatigue Pressure:	800 psi (55 bar), per NFPA T2.6.1-R1-2005
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 30 psi (2 bar) Full Flow: 55 psi (4 bar)
Porting Base & Cap:	Ductile Iron
Element Case:	Steel
Weight of QLF15-16Q:	121.0 lbs. (55.0 kg)
Weight of QLF15-39Q:	180.0 lbs. (82.0 kg)
Element Change Clearance:	16Q 12.00" (305 mm) 39Q 33.80" (859 mm)

## Filter Housing Specifications



Metric dimensions in ( ).

DIMENSIONAL DATA		
PORT SIZE	DIM G	DIM H
1½" (38)	2.00 (51)	4.00 (102)
2" (51)	2.00 (51)	4.00 (102)
2½" (64)	2.00 (51)	4.00 (102)
3" (76)	2.00 (51)	4.00 (102)

## Element Performance Information

Element	Filtration Ratio Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402			Filtration Ratio wrt ISO 16889 Using APC calibrated per ISO 11171		
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_x(c) \geq 200$	$\beta_x(c) \geq 1000$	
16Q	Z1/CLQFZ1/PMLZ1	<1.0	<1.0	<1.0	<4.0	4.2
	Z3/CLQFZ3/PMLZ3/PMLAS3V/AS3V	<1.0	<1.0	<2.0	<4.0	4.8
	Z5/CLQFZ5/PMLZ5/PMLAS5V/AS5V	2.5	3.0	4.0	4.8	6.3
	Z10/CLQFZ10/PMLZ10/PMLAS10V/AS10V	7.4	8.2	10.0	8.0	10.0
	Z25/CLQFZ25/PMLZ25	18.0	20.0	22.5	19.0	24.0
39Q	Z1/CLQFZ1/PMLZ1	<1.0	<1.0	<1.0	<4.0	4.2
	Z3/CLQFZ3/PMLZ3/PMLAS3V/AS3V	<1.0	<1.0	<2.0	<4.0	4.8
	Z5/CLQFZ5/PMLZ5/PMLAS5V/AS5V	2.5	3.0	4.0	4.8	6.3
	Z10/CLQFZ10/PMLZ10/PMLAS10V/AS10V	7.4	8.2	10.0	8.0	10.0
	Z25/CLQFZ25/PMLZ25	18.0	20.0	22.5	19.0	24.0

## Dirt Holding Capacity

Element	DHC (gm)	Element	DHC (gm)	Element	DHC (gm)	
16Q	Z1	276	CLQFZ1	307	PMLZ1	307
	Z3/AS3V	283	CLQFZ3	315	PMLZ3/PMLAS3V	315
	Z5/AS5V	351	CLQFZ5	364	PMLZ5/PMLAS5V	364
	Z10/AS10V	280	CLQFZ10	306	PMLZ10/PMLAS10V	330
	Z25	254	CLQFZ25	278	PMLZ25	299
39Q	Z1	974	CLQFZ1	1259	PMLZ1	1485
	Z3/AS3V	1001	CLQFZ3	1293	PMLZ3/PMLAS3V	1525
	Z5/AS5V	954	CLQFZ5	1302	PMLZ5/PMLAS5V	1235
	Z10/AS10V	940	CLQFZ10	1214	PMLZ10/PMLAS10V	1432
	Z25	853	CLQFZ25	1102	PMLZ25	1299

Element Collapse Rating: Q and QPML: 150 psid (10 bar), QCLQF: 100 psid (7 bar)

Flow Direction: Outside In

Element Nominal Dimensions:

- 16Q: 6.0" (150 mm) O.D. x 16.85" (430 mm) long
- 16QCLQF: 6.0" (150 mm) O.D. x 18.21" (463 mm) long
- 16QPML: 6.0" (150 mm) O.D. x 16.00" (405 mm) long
- 39Q: 6.0" (150 mm) O.D. x 38.70" (985 mm) long
- 39QCLQF: 6.0" (150 mm) O.D. x 40.01" (1016 mm) long
- 39QPML: 6.0" (150 mm) O.D. x 37.80" (960 mm) long

Type Fluid	Appropriate Schroeder Media
Petroleum Based Fluids	All E media (cellulose), Z-Media® and ASP media (synthetic)
High Water Content	All Z-Media® and ASP media (synthetic)
Invert Emulsions	10 µ and 25 µ Z-Media® and 10 µ ASP media (synthetic)
Water Glycols	3, 5, 10, and 25 µ Z-Media® and all ASP media (synthetic)
Phosphate Esters	All Z-Media® with H (EPR) seal designation and all ASP media (synthetic)

**Fluid Compatibility** GH

RLT

KF5

Pressure	Series	Element Part No.	Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and 3" flange porting with a 30 psi (2.1 bar) bypass.					
To 1500 psi (100 bar)	Z-Media®	16 & 39QZ1	16QZ1	39QZ1				
		16 & 39QZ3	16QZ3		39QZ3			
		16 & 39QZ5	16QZ5		39QZ5			
		16 & 39QZ10	16QZ10			39QZ10		
		16 & 39QZ25	16QZ25 & 39QZ25					
		16 & 39QCLQFZ1	16QCLQFZ1		39QCLQFZ1			
		16 & 39QCLQFZ3	16QCLQFZ3		39QCLQFZ3			
		16 & 39QCLQFZ5	16QCLQFZ5		39QCLQFZ5			
		16 & 39QCLQFZ10	16QCLQFZ10			39QCLQFZ10		
		16 & 39QCLQFZ25	16QCLQFZ25			39QCLQFZ25		
		16 & 39QPMLZ1	16QPMLZ1		39QPMLZ1			
		16 & 39QPMLZ3	16QPMLZ3		39QPMLZ3			
		16 & 39QPMLZ5	16QPMLZ5		39QPMLZ5			
		16 & 39QPMLZ10	16QPMLZ10			39QPMLZ10		
		16 & 39QPMLZ25	16QPMLZ25			39QPMLZ25		
Flow	gpm	0	100	200	300	400	500	
	(L/min)	0	500	1000	1500	1900		

**Element Selection** Based on Flow Rate

SRLT

K9

2K9

3K9

QF5

3QF5

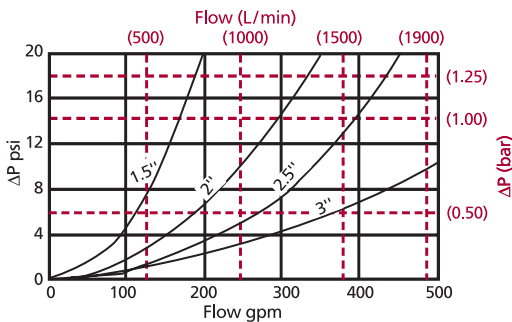
QFD2

Shown above are the elements most commonly used in this housing.

Note: Contact factory regarding use of E media in High Water Content, Invert Emulsion and Water Glycol Applications. For more information, refer to Fluid compatibility: Fire Resistant Fluids, pages 19 and 20.

### ΔP<sub>housing</sub>

QLF15 ΔP<sub>housing</sub> for fluids with sp gr = 0.86:



sp gr = specific gravity

Sizing of elements should be based on element flow information provided in the Element Selection chart above.

$$\Delta P_{\text{filter}} = \Delta P_{\text{housing}} + \Delta P_{\text{element}}$$

### Exercise:

Determine ΔP at 150 gpm (570 L/min) for QLF1516QZ3VF40D5 using 200 SUS (44 cSt) fluid.

### Solution:

$$\Delta P_{\text{housing}} = 2 \text{ psi [}.14 \text{ bar]}$$

$$\begin{aligned} \Delta P_{\text{element}} &= 150 \times .04 \times (200 \div 150) = 8.0 \text{ psi} \\ &\text{or} \\ &= [570 \times (.04 \div 54.9) \times (44 \div 32)] = .57 \text{ bar} \end{aligned}$$

$$\begin{aligned} \Delta P_{\text{total}} &= 2.0 + 8.0 = 10.0 \text{ psi} \\ &\text{or} \\ &= [.14 + .57] = .71 \text{ bar} \end{aligned}$$

### ΔP<sub>element</sub>

$$\Delta P_{\text{element}} = \text{flow} \times \text{element } \Delta P \text{ factor} \times \text{viscosity factor}$$

El. ΔP factors @ 150 SUS (32 cSt):

16QZ1	.09	39QZ1	.03
16QZ3/16QAS3	.04	39QZ3/39QAS3V	.01
16QZ5/16QAS5	.04	39QZ5/39QAS5V	.01
16QZ10/16QAS10	.03	39QZ10/39QAS10V	.01
16QZ25	.01	39QZ25	.01
16QCLQFZ1	.07	39QCLQFZ1	.03
16QCLQFZ3	.05	39QCLQFZ3	.02
16QCLQFZ5	.05	39QCLQFZ5	.02
16QCLQFZ10	.04	39QCLQFZ10	.01
16QCLQFZ25	.03	39QCLQFZ25	.01
16QPMLZ1	.08	39QPMLZ1	.03
16QPMLZ3		39QPMLZ3/	
16QPMLAS3V	.05	39QPMLAS3	.02
16QPMLZ5/		39QPMLZ5/	
16QPMLAS5	.05	39QPMLAS5	.02
16QPMLZ10/		39QPMLZ10	
16QPMLAS10	.04	39QPMLAS10	.01
16QPMLZ25	.02	39QPMLZ25	.01

If working in units of bars & L/min, divide above factor by 54.9.

Viscosity factor: Divide viscosity by 150 SUS (32 cSt).

### Pressure Drop Information

Based on Flow Rate and Viscosity

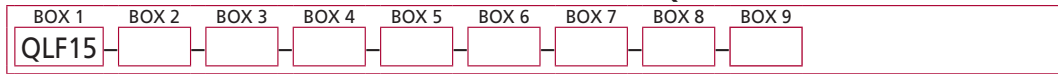
QF15

QLF15

SSQLF15

## Filter Model Number Selection

### How to Build a Valid Model Number for a Schroeder QLF15:



Example: NOTE: One option per box



BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
Filter Series	Element Length (in)	Element Style	Media Type	Micron Rating
QLF15	16 39	Q QCLQF QPML	Z = Excellement® Z-Media® (synthetic) AS = Anti-Stat Pleat media (synthetic) W = W media (water removal)	1 = 1 µ Z-Media® 3 = 3 µ AS and Z-Media® 5 = 5 µ AS and Z-Media® 10 = 10 µ AS and Z-Media® 25 = 25 µ Z-Media®

BOX 6	BOX 7	BOX 8	
Housing Seal Material	Porting	Bypass Setting	
Omit = Buna N V = Viton®	<p>P24 = 1½" NPTF P32 = 2" NPTF P40 = 2½" NPTF P48 = 3" NPTF</p> <p>S32 = SAE-32</p> <p>B24 = ISO 228 G-1½" B32 = ISO 228 G-2" B40 = ISO 228 G-2½" B48 = ISO 228 G-3"</p>	<p>F24 = 1½" SAE 4-bolt flange Code 61</p> <p>F32 = 2" SAE 4-bolt flange Code 61</p> <p>F40 = 2½" SAE 4-bolt flange Code 61</p> <p>F48 = 3" SAE 4-bolt flange Code 61</p> <p>F24M = 1½" SAE 4-bolt flange Code 61</p> <p>F32M = 2" SAE 4-bolt flange Code 61</p> <p>F40M = 2½" SAE 4-bolt flange Code 61</p> <p>F48M = 3" SAE 4-bolt flange Code 61</p>	<p>Omit = 30 psi cracking 50 = 50 psi cracking X = Blocked bypass</p>

BOX 9	
Dirt Alarm® Options	
	Omit = None
Visual	DPG = Standard differential pressure gauge D5 = Visual pop-up D5C = D5 in cap
Visual with Thermal Lockout	D8 = Visual w/ thermal lockout D8C = D8 in cap
Electrical	MS5 = Electrical w/ 12 in. 18 gauge 4-conductor cable MS5LC = Low current MS5 MS10 = Electrical w/ DIN connector (male end only) MS10LC = Low current MS10 MS11 = Electrical w/ 12 ft. 4-conductor wire MS12 = Electrical w/ 5 pin Brad Harrison connector (male end only) MS12LC = Low current MS12 MS16 = Electrical w/ weather-packed sealed connector MS16LC = Low current MS16 MS17LC = Electrical w/ 4 pin Brad Harrison male connector
Electrical with Thermal Lockout	MS5T = MS5 (see above) w/ thermal lockout MS5LCT = Low current MS5T MS10T = MS10 (see above) w/ thermal lockout MS10LCT = Low current MS10T MS12T = MS12 (see above) w/ thermal lockout MS12LCT = Low current MS12T MS16T = MS16 (see above) w/ thermal lockout MS16LCT = Low current MS16T MS17LCT = Low current MS17T
Electrical Visual	MS13 = Supplied w/ threaded connector & light MS14 = Supplied w/ 5 pin Brad Harrison connector & light (male end)
Electrical Visual with Thermal Lockout	MS13DCT = MS13 (see above), direct current, w/ thermal lockout MS13DCLCT = Low current MS13DCT MS14DCT = MS14 (see above), direct current, w/ thermal lockout MS14DCLCT = Low current MS14DCT

#### NOTES:

Box 2. Replacement element part numbers are a combination of Boxes 2, 3, 4, and 5 plus the letter V.  
Example: 16QZ1V

Box 3. QCLQF are CoreCentric® coreless elements – housing includes rigid metal core. QPML are deep-pleated elements with more media and higher dirt holding capacity.

Box 4. For option W, Box 3 must equal Q.

Box 6. All elements for this filter are supplied with Viton® seals. Seal designation in Box 6 applies to housing only. Viton® is a registered trademark of DuPont Dow Elastomers.

Box 7. B24, B32 and B40 are supplied with metric mounting holes. F24M, F32M, F40M and F48M are supplied with metric flange mounting holes.

Integral inlet and outlet test points are standard on all models.