



## Features and Benefits

- Low pressure tank-mounted filter
- Designed for high return line flows
- Tank-mounted unit saves space, reduces plumbing
- Cap handles provide for easy element changeout
- Offered with standard Q, QW, and QPML deep-pleated elements in 16" and 39" lengths with Viton® seals as the standard seal option

450 gpm  
1700 L/min

100 psi  
7 bar

IRF  
TF1  
KF3  
KL3  
LF1  
MLF1  
RLD  
GRTB  
MTA  
MTB  
ZT  
AFT  
KFT  
RT  
RTI  
LRT  
ART  
BRT  
TRT  
BFT  
QT  
KTK  
LTK  
MRT  
Accessories For Tank-Mounted Filters  
PAF1  
MAF1  
MF2

Model No. of filter in photograph is QT39QZ10P48.

Flow Rating: Up to 450 gpm (1700 L/min) for 150 SUS (32 cSt) fluids

Max. Operating Pressure: 100 psi (7 bar)

Min. Yield Pressure: 300 psi (21 bar), per NFPA T2.6.1

Rated Fatigue Pressure: 100 psi (7 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 (2.1 bar)  
Full Flow: 55 psi (3.8 bar)

Porting Head & Cap:  
Element Case: Ductile Iron  
Steel

Min. Weight of QT-16Q: 160.0 lbs. (72 kg)

Min. Weight of QT-39Q: 215.0 lbs. (97 kg)

Element Change Clearance: 16Q 12.0" (305 mm)  
39Q 33.8" (859 mm)

## Filter Housing Specifications

Type Fluid Appropriate Schroeder Media

Petroleum Based Fluids All E media (cellulose), Z-Media® and ASP® media (synthetic)

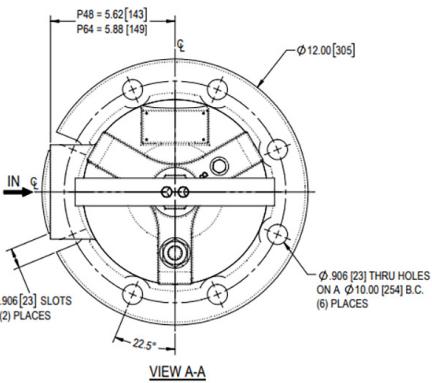
High Water Content All Z-Media® and ASP® media (synthetic)

Invert Emulsions 10 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)

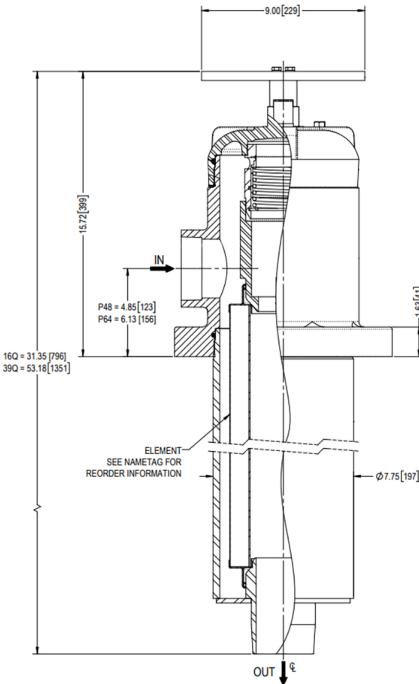
Phosphate Esters All Z-Media® (synthetic) with H (EPR) seal designation and all ASP® media (synthetic)

## Fluid Compatibility



\*Outlet port is always 3".

Metric dimensions in [ ].



### Element Performance Information & Dirt Holding Capacity

Element	Filtration Ratio Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402			Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171	
	$\beta_s \geq 75$	$\beta_s \geq 100$	$\beta_s \geq 200$	$\beta_s^{(c)} \geq 200$	$\beta_s^{(c)} \geq 1000$
16Q	Z1/PMLZ1	<1.0	<1.0	<1.0	<4.0
	Z3/PMLZ3	<1.0	<1.0	<2.0	<4.0
	Z5/PMLZ5	2.5	3.0	4.0	4.8
	Z10/PMLZ10	7.4	8.2	10.0	8.0
	Z25/PMLZ25	18.0	20.0	22.5	19.0
39Q	Z1/PMLZ1	<1.0	<1.0	<1.0	<4.0
	Z3/PMLZ3	<1.0	<1.0	<2.0	<4.0
	Z5/PMLZ5	2.5	3.0	4.0	4.8
	Z10/PMLZ10	7.4	8.2	10.0	8.0
	Z25/PMLZ25	18.0	20.0	22.5	19.0

Element	DHC (gm)	Element	DHC (gm)
16Q	Z1	PMLZ1	307
	Z3	PMLZ3	315
	Z5	PMLZ5	364
	Z10	PMLZ10	330
	Z25	PMLZ25	299
39Q	Z1	PMLZ1	1485
	Z3	PMLZ3	1525
	Z5	PMLZ5	1235
	Z10	PMLZ10	1432
	Z25	PMLZ25	1299

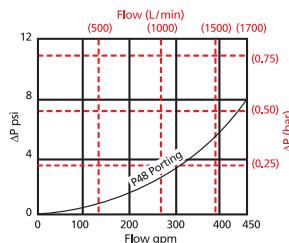
Element Collapse Rating: Q and QPML: 150 psid (10 bar)

Flow Direction: Outside In

Element Nominal Dimensions: 16Q: 6.0" (150 mm) O.D. x 16.85" (430 mm) long  
 16QPMI: 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  
 39QPMI: 6.0" (150 mm) O.D. x 37.80" (960 mm) long

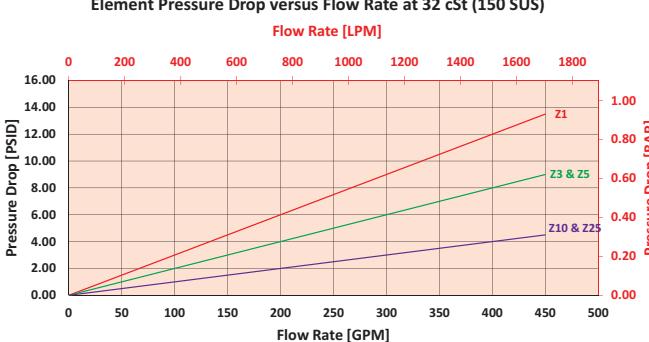
$\Delta P_{\text{housing}}$

QT  $\Delta P_{\text{housing}}$  for fluids with sp gr (specific gravity) = 0.86:

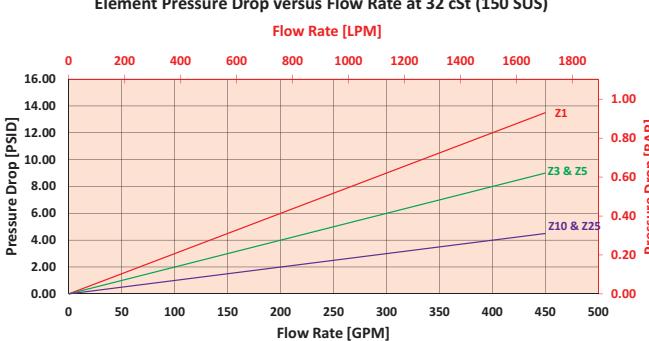


$\Delta P_{\text{element}}$

39QZ



39QPM LZ



$$\Delta P_{\text{filter}} = \Delta P_{\text{housing}} + (\Delta P_{\text{element}} * V_f)$$

### Exercise:

Determine  $\Delta P_{\text{filter}}$  at 200 gpm (758 L/min) for QT16QZ3P48D5C using 160 SUS (34 cSt) fluid.

Use the housing pressure curve to determine  $\Delta P_{\text{housing}}$  at 200 gpm. In this case,  $\Delta P_{\text{housing}}$  is 2 psi (.14 bar) on the graph for the QT housing.

Use the element pressure curve to determine  $\Delta P_{\text{element}}$  at 200 gpm. In this case,  $\Delta P_{\text{element}}$  is 8 psi (.55 bar) according to the graph for the 16QZ3 element.

Because the viscosity in this sample is 160 SUS (34 cSt), we determine the Viscosity Factor ( $V_f$ ) by dividing the Operating Fluid Viscosity with the Standard Viscosity of 150 SUS (32 cSt). To best determine your Operating Fluid Viscosity, please reference the chart in Appendix D.

Finally, the overall filter pressure differential,  $\Delta P_{\text{filter}}$ , is calculated by adding  $\Delta P_{\text{housing}}$  with the true element pressure differential, ( $\Delta P_{\text{element}} * V_f$ ). The  $\Delta P_{\text{element}}$  from the graph has to be multiplied by the viscosity factor to get the true pressure differential across the element.

### Solution:

$$\Delta P_{\text{housing}} = 2 \text{ psi (.14 bar)} \quad | \quad \Delta P_{\text{element}} = 8 \text{ psi (.55 bar)}$$

$$V_f = 160 \text{ SUS (34 cSt)} / 150 \text{ SUS (32 cSt)} = 1.1$$

$$\Delta P_{\text{filter}} = 2 \text{ psi} + (8 \text{ psi} * 1.1) = 10.8 \text{ psi}$$

OR

$$\Delta P_{\text{filter}} = .14 \text{ bar} + (.55 \text{ bar} * 1.1) = .75 \text{ bar}$$

Pressure Drop Information  
Based on Flow Rate and Viscosity

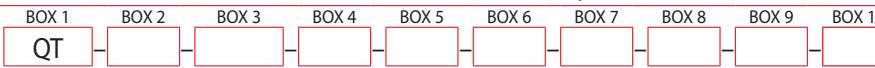
### Note:

If your element is not graphed, use the following equation:  
 $\Delta P_{\text{element}} = \text{Flow Rate} \times \Delta P_{\text{f}}$ . Plug this variable into the overall pressure drop equation.

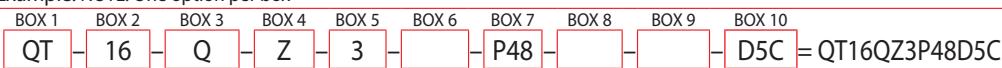
Ele.	$\Delta P$	Ele.	$\Delta P$
16QAS3V	0.04	16QPM LZ1	0.08
16QAS5V	0.04	16QPM LZ3	0.05
16QAS10V	0.03	16QPM LZ5	0.05
16QPM LAS3V	0.05	16QPM LZ10	0.04
16QPM LAS5V	0.05	16QPM LZ25	0.02
16QPM LAS10V	0.04	39QAS3V	0.01
16QZ1	0.09	39QAS5V	0.01
16QZ3	0.04	39QAS10V	0.01
16QZ5	0.04	39QPM LAS3V	0.02
16QZ10	0.03	39QPM LAS5V	0.02
16QZ25	0.01	39QPM LAS10V	0.01

Filter  
Model  
Number  
Selection

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



Example: NOTE: One option per box



BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6
Filter Series	Element Length (in)	Element Style	Media Type	Micron Rating	Housing Seal Material
QT	16 39	Q QCLQF QPML	Z = Excellement® Z-Media® (synthetic) W = W media (water removal) AS = Anti-Static Pleat Media (synthetic)	1 = 1 µZ-Media® 3 = 3 µAS and Z-Media® 5 = 5 µAS and Z-Media® 10 = 10 µAS and Z-Media® 25 = 25 µZ-Media®	Omit = Buna N H = EPR V = Viton®

BOX 7	BOX 10
Inlet Porting	Dirt Alarm® Options
P48 = 3" NPTF P64 = 4" NPTF	Omit = None Visual D5C = Visual pop-up in cap Visual with Thermal Lockout D8C = Visual w/ thermal lockout in cap
BOX 8	Electrical MS5C = Electrical w/ 12 in. 18 gauge 4-conductor cable in cap MS5LCC = Low current MS5 in cap MS10C = Electrical w/ DIN connector (male end only) in cap MS10LCC = Low current MS10 in cap MS11C = Electrical w/ 12 ft. 4-conductor wire in cap MS12C = Electrical w/ 5 pin Brad Harrison connector (male end only) in cap MS12LCC = Low current MS12 in cap MS16C = Electrical w/ weather-packed sealed connector in cap MS16LCC = Low current MS16 in cap MS17LCC = Electrical w/ 4 pin Brad Harrison male connector in cap
Bypass Setting	Electrical MS5T = MS5 (see above) w/ thermal lockout in cap MS5LCT = Low current MS5T in cap MS10TC = MS10 (see above) w/ thermal lockout in cap MS10LCTC = Low current MS10T in cap MS12TC = MS12 (see above) w/ thermal lockout in cap MS12LCTC = Low current MS12T in cap MS16TC = MS16 (see above) w/ thermal lockout in cap MS16LCTC = Low current MS16T in cap MS17LCTC = Low current MS17T in cap
BOX 9	Electrical with Thermal Lockout MS13C = Supplied w/ threaded connector & light in cap MS14C = Supplied w/ 5 pin Brad Harrison connector & light (male end) in cap
Outlet Porting	Electrical Visual MS13DCTC = MS13 (see above), direct current, w/ thermal lockout in cap MS13DCLCTC = Low current MS13DCT in cap MS14DCTC = MS14 (see above), direct current, w/ thermal lockout in cap MS14DCLCTC = Low current MS14DCT in cap

## 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 element are not available in ASP® media.

Box 4. E media elements are also available for the QT filter housing. Contact factory for more information.

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

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