



Features and Benefits

- Patent Pending In-tank filter design
- Lightweight and as part of a tank optimization package can reduce reservoir size
- Lock & Key Quality Protected, OEM Specific Interfaces available
- Superior de-aeration performance
- 360 degree swivel connection. Lines stay connected during element changeouts
- Anti-Drain Check valve option to keep lines from emptying during element change outs
- 20 ft-lb max loading torque on inlet port

Si Part of Schroeder Industries' Energy Sustainability Initiative

40 gpm
151 L/min
 100 psi
 7 bar

Model No. of filter in photograph is AFT8LKZ10L16N

| | |
|---------------------------|--|
| Flow Rating: | 40 gpm (151 L/min) |
| Max. Operating Pressure: | 100 psi (7 bar) |
| Min. Yield Pressure: | 350 psi (24 bar) |
| Rated Fatigue Pressure: | 100 psi (7 bar) |
| Temp. Range: | -20°F to 225°F (-29°C to 107°C) |
| Bypass Setting: | Cracking: 25 psi (1.7 bar) |
| Element Change Clearance: | 4LK = 5.28" [134mm] 8LK = 8.62" [219mm] 12LK = 11.96" [304mm] 16LK = 15.30" [389mm] |
| Element Case: | 12 elements |

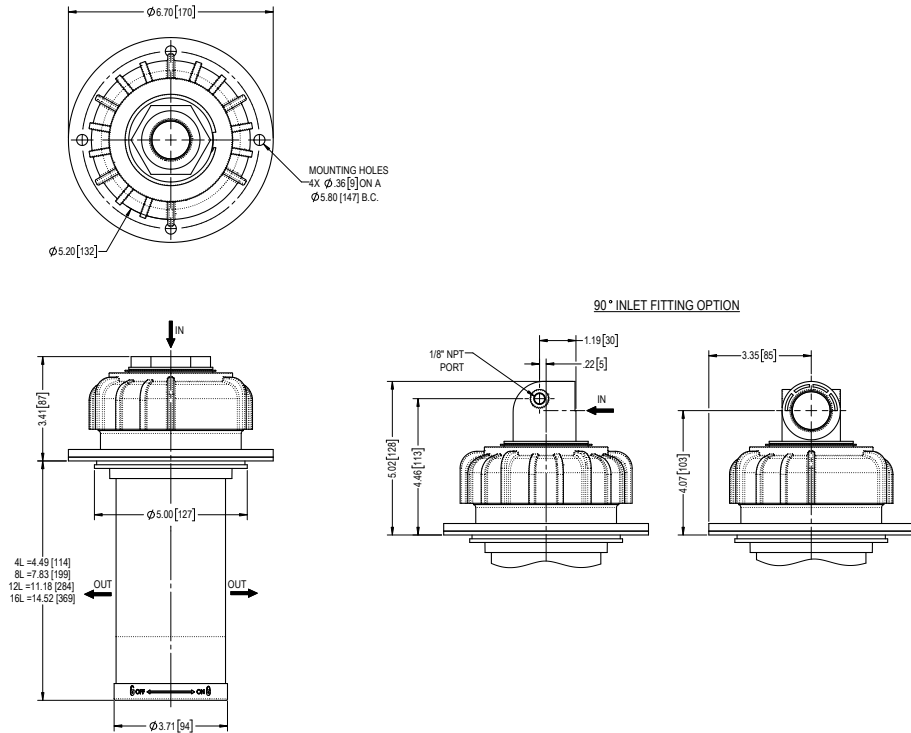
Filter Housing Specifications

| | |
|------------------------|---|
| Type Fluid | Appropriate Schroeder Media |
| Petroleum Based Fluids | 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

Accessories For Tank-Mounted Filters

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



Metric dimensions in (mm).

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 wrt ISO 16889 Using APC calibrated per ISO 11171 | |
|------------------------------------|--|--------------------|--------------------|--|------------------------|
| | $\beta_1 \geq 75$ | $\beta_1 \geq 100$ | $\beta_1 \geq 200$ | $\beta_1(c) \geq 200$ | $\beta_1(c) \geq 1000$ |
| 4LKZ3, 8LKZ3 12LKZ3, 16LKZ3 | <1.0 | <1.0 | <2.0 | <4.0 | 4.8 |
| 4LKZ5, 8LKZ5 12LKZ5, 16LKZ5 | 2.5 | 3.0 | 4.0 | 4.8 | 6.3 |
| 4LKZ10, 8LKZ10 12LKZ10, 16LKZ10 | 7.4 | 8.2 | 4.0 | 8.0 | 10.0 |
| 4LKZ25, 8LKZ25 12LKZ25, 16LKZ25 | 18.0 | 20.0 | 22.5 | 19.0 | 24.0 |

| Element | DHC (gm) | Element | DHC (gm) | Element | DHC (gm) | Element | DHC (gm) |
|---------|----------|---------|----------|---------|----------|---------|----------|
| 4LKZ3 | 8 | 8LKZ3 | 16 | 12LKZ3 | 23 | 16LKZ3 | 30 |
| 4LKZ5 | 9 | 8LKZ5 | 18 | 12LKZ5 | 26 | 16LKZ5 | 33 |
| 4LKZ10 | 11 | 8LKZ10 | 22 | 12LKZ10 | 32 | 16LKZ10 | 41 |
| 4LKZ25 | 18 | 8LKZ25 | 36 | 12LKZ25 | 52 | 16LKZ25 | 69 |

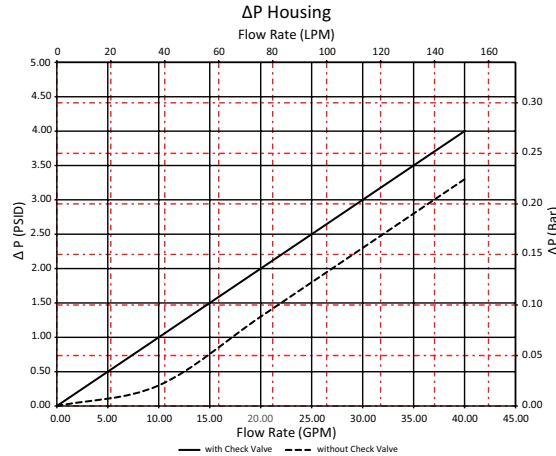
Element Burst Pressure: 86 psi (6 bar)

Flow Direction: Inside Out

Element Nominal Dimensions: 4LKZ: 3.71" (94.23 mm) O.D. x 4.49" (114.05 mm) long
 8LKZ: 3.71" (94.23 mm) O.D. x 7.84" (199.14 mm) long
 12LKZ: 3.71" (94.23 mm) O.D. x 11.18" (283.97 mm) long
 16LKZ: 3.71" (94.23 mm) O.D. x 14.52" (368.81 mm) long

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

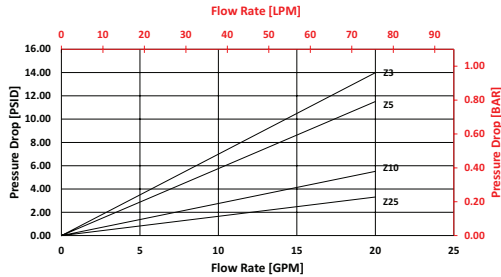
AFT $\Delta P_{\text{housing}}$ for fluids with sp gr (specific gravity) = 0.86:



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

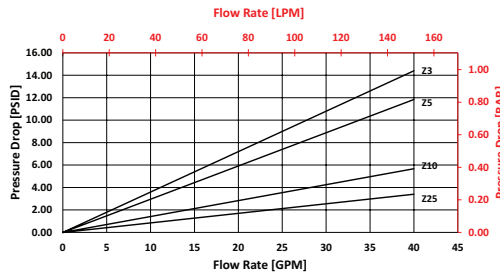
4LKZ

Element Pressure Drop versus Flow Rate at 32 cSt (150 SUS)



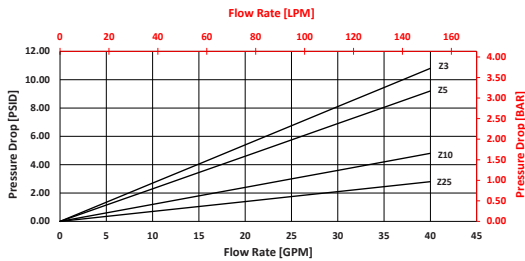
8LKZ

Element Pressure Drop versus Flow Rate at 32 cSt (150 SUS)



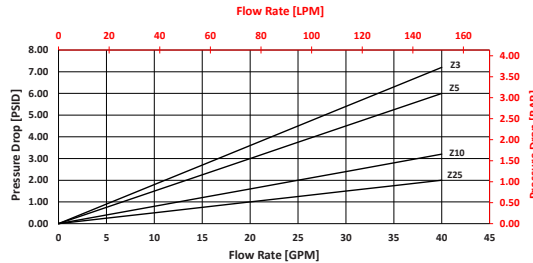
12LKZ

Element Pressure Drop versus Flow Rate at 32 cSt (150 SUS)



16LKZ

Element Pressure Drop versus Flow Rate at 32 cSt (150 SUS)



Note: Additional Pressured Drop information available upon request

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

Exercise:

Determine ΔP_{filter} at 10 gpm (37.9 L/min) for AFT8LKZ10L16Y2 using 160 SUS (34 cSt) fluid. Use the housing pressure curve to determine $\Delta P_{\text{housing}}$ at 10 gpm. In this case, $\Delta P_{\text{housing}}$ is 1.5 psi (.10 bar) on the graph for the AFT housing.

Use the element pressure curve to determine $\Delta P_{\text{element}}$ at 10 gpm. In this case, $\Delta P_{\text{element}}$ is 1.4 psi (.10 bar) according to the graph for the 8LKZ10 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, ΔP_{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:

$$\Delta P_{\text{housing}} = 1.5 \text{ psi } [.10 \text{ bar}] \mid \Delta P_{\text{element}} = 1.4 \text{ psi } [.10 \text{ bar}]$$

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

$$\Delta P_{\text{filter}} = 1.5 \text{ psi } + (1.4 \text{ psi } * 1.1) = 3.0 \text{ psi}$$

OR

$$\Delta P_{\text{filter}} = .10 \text{ bar } + (.10 \text{ bar } * 1.1) = .21 \text{ bar}$$

Pressure Drop Information Based on Flow Rate and Viscosity

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

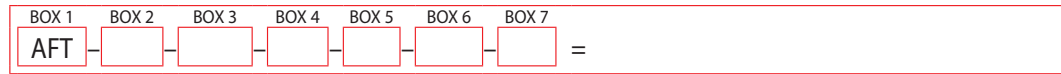
PAF1

MAF1

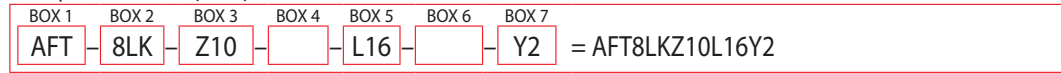
MF2

Filter Model Number Selection

How to Build a Valid Model Number for a Schroeder AFT:



Example: NOTE: One option per box



| BOX 1 | BOX 2 | BOX 3 | BOX 4 |
|---|--|--|-------------------------------------|
| Filter Series | Element | Media | Seal |
| Air Fusion Technology Filter AFT | 4LK = 4" Element 8LK = 8" Element 12LK = 12" Element 16LK = 16" Element | Z3 = 3 micron Z media Z5 = 5 micron Z media Z10 = 10 micron Z media Z25 = 25 micron Z media | Omit = Buna V = Viton H = EPR |
| BOX 5 | BOX 6 | BOX 7 | |
| Porting | Bypass | Check Valve | |
| S12 = SAE 12 S16 = SAE 16 L12 = 90 Deg SAE 12 L16 = 90 Deg SAE 16 HB16 = 1" Hose Barb | Omit = 25 psi | Omit = Check Valve N = No Check Valve | |
| | BOX 8 | | |
| | Gauge Port Option (Elbow Only) | | |
| | N = Plugged Y2 = Tricolor visual indicator (Back Mounted) Y2C = Tricolor visual indicator (Bottom Mounted) ES = Electric Switch ES1 = Heavy Duty Electric Switch ES2 = Electrical Switch with Deutsch Connector | | |

NOTES:

Box 2. Replacement element part numbers are a combination of Boxes 2, 3 and 4. Example: 8LKZ25V

Box 4. Viton® is a registered trademark of DuPont Dow Elastomers.

Box 7. Check valve prevents hydraulic oil to spill when changing out the element and it is recommended. Not including could reduce differential pressure slightly but risks a greater hydraulic oil spill on element change out.