

In-Line Filter

LI50



Features and Benefits

- In-line pressure filter
- Designed for high pressure last chance protection
- Available with indicator, which is unique for in-line filters of this kind.
- Cap handles provide for easy element changeout

35 gpm
130 L/min
5000 psi
345 bar

- NF30
- NFS30
- YF30
- CFX30
- PLD
- CF40
- DF40
- PF40
- RFS50
- RF60
- CF60
- CTF60
- VF60
- LW60
- KF30
- KF50
- TF50
- KC50
- MKF50
- MKC50
- KC65
- MKC65
- HS60
- MHS60
- KFH50
- LC60
- LC35
- LI50**
- LC50
- NOF30-05
- NOF-50-760
- FOF60-03
- NMF30
- RMF60
- 14-CRZX10

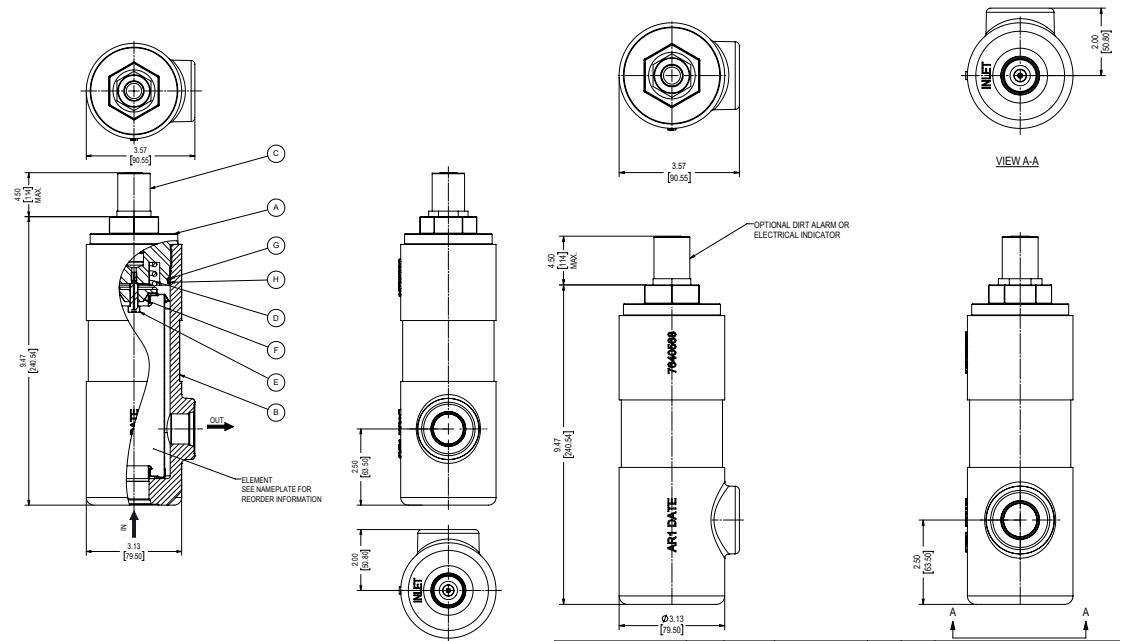
Model No. of filter in photograph is LI50IZ10SMS13DC.

Flow Rating:	35 gpm (130 L/min)
Max. Operating Pressure:	5000 psi (345 bar)
Min. Yield Pressure:	300 psi (21 bar), per NFPA T2.6.1
Rated Fatigue Pressure:	Contact Factory
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 50 psi (3.4 bar) Full Flow: 55 psi (3.8 bar)
Housing:	Ductile Iron
Cap:	Steel
Weight:	10.0 lbs. (4.5 kg)
Element Change Clearance:	7.1 (178 mm)

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



Metric dimensions in ().

Element Performance Information & Dirt Holding Capacity

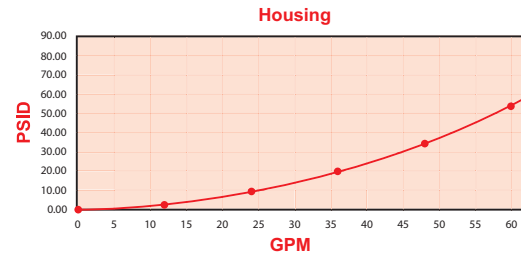
Element	Filtration Ratio Per ISO 4572/NFPA T3.10.8.8 Using automated particle counter (APC) calibrated per ISO 4402			Filtration Ratio per ISO 16889 Using APC calibrated per ISO 11171	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_x(c) \geq 200$	$\beta_x(c) \geq 1000$
IZ1	<1.0	<1.0	<1.0	<4.0	4.2
IZ3	<1.0	<1.0	<2.0	<4.0	4.8
IZ5	2.5	3.0	4.0	4.8	6.3
IZ10	7.4	8.2	10.0	8.0	10.0
IZ25	18.0	20.0	22.5	19.0	24.0

Element	DHC (gm)
IZ1	8.3
IZ3	7.1
IZ5	7.9
IZ10	7.0
IZ25	

Element Collapse Rating: 290 psid
 Flow Direction: Inside Out
 Element Nominal Dimensions: 2.04" OD x (52mm OD x 155 mm long)
 6.12" long

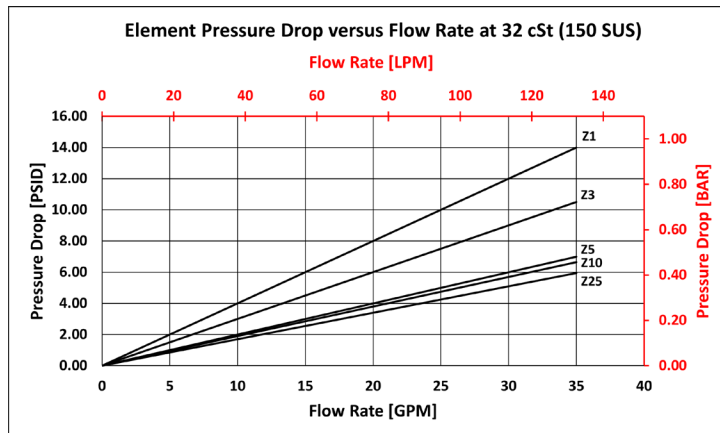
$\Delta P_{\text{housing}}$

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



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

IZ



Pressure Drop Information Based on Flow Rate and Viscosity

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

Exercise:

Determine ΔP_{filter} at 200 gpm (758 L/min) for LI50IZ105MS13DC using 160 SUS (34 cSt) fluid.

Use the housing pressure curve to determine $\Delta P_{\text{housing}}$ at 35 gpm. In this case, $\Delta P_{\text{housing}}$ is 19 psi (1.31 bar) on the graph for the LI50 housing.

Use the element pressure curve to determine $\Delta P_{\text{element}}$ at 35 gpm. In this case, $\Delta P_{\text{element}}$ is 7 psi (.48 bar) according to the graph for the IZ10 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:

$$\Delta P_{\text{housing}} = 19 \text{ psi [1.31 bar]} \quad | \quad \Delta P_{\text{element}} = 7 \text{ psi [.48 bar]}$$

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

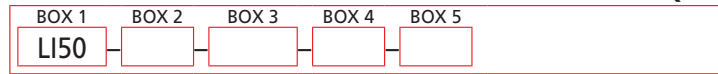
$$\Delta P_{\text{filter}} = 2 \text{ psi} + (7 \text{ psi} * 1.1) = 9.7 \text{ psi}$$

OR

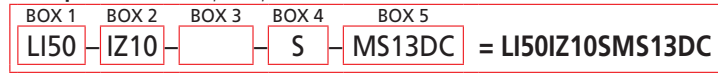
$$\Delta P_{\text{filter}} = 1.31 \text{ bar} + (.48 \text{ bar} * 1.1) = 1.84 \text{ bar}$$

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
Filter Series	Element Part Number	Seal Material	Porting	Indicator
LI50	IZ1 IZ3 IZ5 IZ10 IZ25	Omit = Buna	S = SAE12	MS13DC = MS13DC indicator