

Top-Ported Pressure Filter YF30/YFLK30



Features and Benefits

- Top-ported pressure filter
- All aluminum assembly
- Meets HF2 automotive standards
- Offered in straight thread porting
- Optional drain plug in bowl for easy servicing
- Available with non-bypass option
- Available with quality protected Lock & Key Elements (YFLK30)

25 gpm
100 L/min
3000 psi
210 bar

Model No. of filter in photograph is YF308YZ10SD5.

Flow Rating:	Up to 25 gpm (100 L/min) for 150 SUS (32 cSt) fluids
Max. Operating Pressure:	3000 psi (210 bar)
Min. Yield Pressure:	10,000 psi (690 bar), per NFPA T2.6.1
Rated Fatigue Pressure:	1800 psi (124 bar), per NFPA T2.6.1-2005
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 50 psi (3.4 bar) Non-bypassing model has a blocked bypass.
Porting Head:	Aluminum
Element Case:	Aluminum
Weight of YF30-4Y:	3.75 lbs. (1.70 kg)
Weight of YF30-8Y:	4.25 lbs. (1.93 kg)
Element Change Clearance:	4.50" (115 mm)

Filter Housing Specifications

Type Fluid	Appropriate Schroeder Media
Petroleum Based Fluids	All E Media (cellulose) and Z-Media* (synthetic)
High Water Content	All Z-Media* (synthetic)
Invert Emulsions	10 and 25 µ Z-Media* (synthetic)
Water Glycols	3, 5, 10 and 25 µ Z-Media* (synthetic)

Fluid Compatibility

NF30

NFS30

YF30/
YFLK30

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

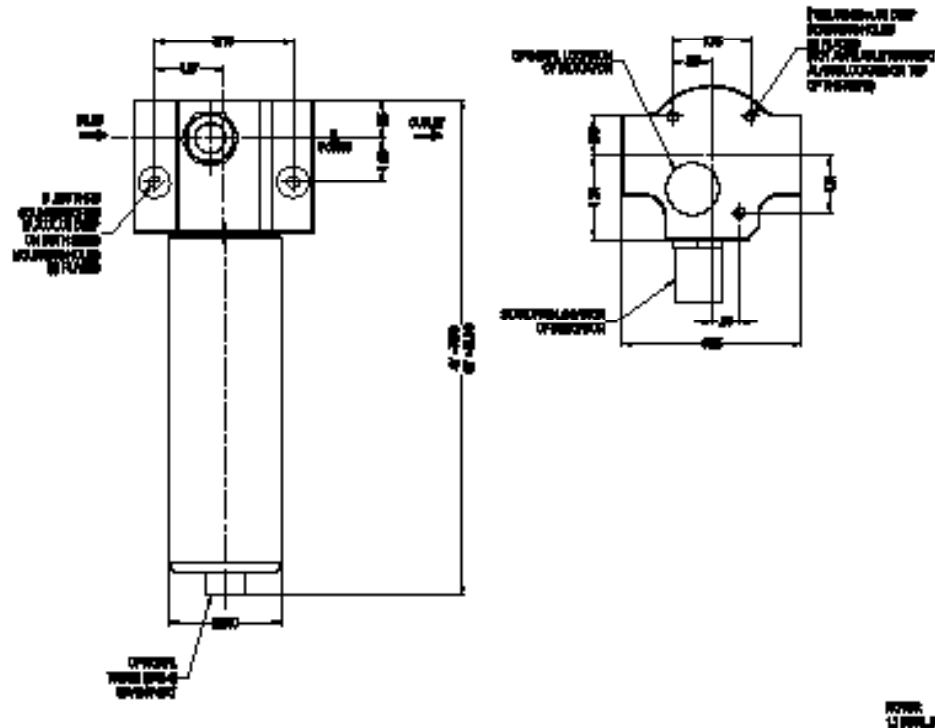
FOF60-03

NMF30

RMF60

14-CRZX10

20-CRZX10



Metric dimensions in ().

Dimensions shown are inches (millimeters) for general information and overall envelope size only. For complete dimensions please contact Schroeder Industries to request a certified print.

/8YLKZ1

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	
	$\beta_1 \geq 75$	$\beta_1 \geq 100$	$\beta_1 \geq 200$	$\beta_1(c) \geq 200$	$\beta_1(c) \geq 1000$
4YLKZ1/8YLKZ1	<1.0	<1.0	<1.0	<4.0	4.2
4YLKZ3/8YLKZ3	<1.0	<1.0	<2.0	<4.0	4.8
4YLKZ5/8YLKZ5	2.5	3.0	4.0	4.8	6.3
4YLKZ10/8YLKZ10	7.4	8.2	10.0	8.0	10.0
4YLKZ25/8YLKZ25	18.0	20.0	22.5	19.0	24.0
4YZX5/8YZX5	2.5	3.0	4.0	5.6	7.2
4YZX10/8YZX10	7.4	8.2	10.0	8.0	9.8

Element	DHC (gm)	Element	DHC (gm)
4YZ1/4YLKZ1	6.3	8YZ1/8YLKZ1	12.1
4YZ3/4YLKZ3	5.1	8YZ3/8YLKZ3	9.9
4YZ5/4YLKZ5	6.4	8YZ5/8YLKZ5	12.4
4YZ10/4YLKZ10	5.4	8YZ10/8YLKZ10	10.5
4YZ25/4YLKZ25	4.9	8YZ25/8YLKZ25	9.4
4YZX5	4.3	8YZX5	8.9
4YZX10	4.3	8YZX10	8.9

Element Collapse Rating: 150 psid (10 bar) for standard elements
3000 psid (210 bar) for high collapse (ZX) versions

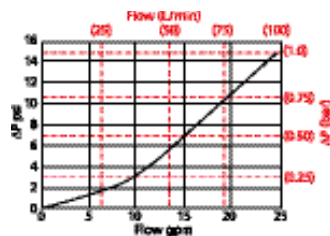
Flow Direction: Outside In

Element Nominal Dimensions: 4Y/4YLK:1.77" (45 mm) O.D. x 4.50" (114 mm) long
8Y/8YLK:1.77" (45 mm) O.D. x 8.21" (209 mm) long

Top-Ported Pressure Filter YF30/YFLK30

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

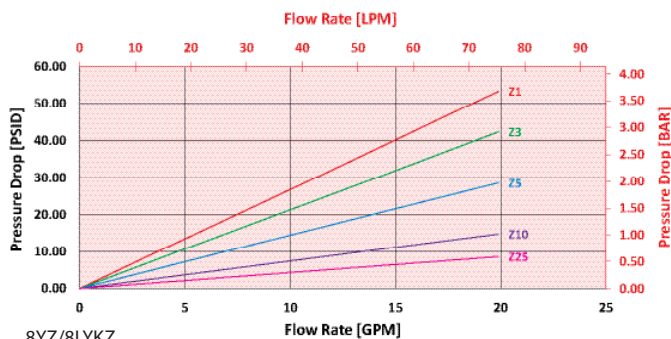
YF30 $\Delta P_{\text{housing}}$ for fluids with sp gr (specific gravity) = 0.86:



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

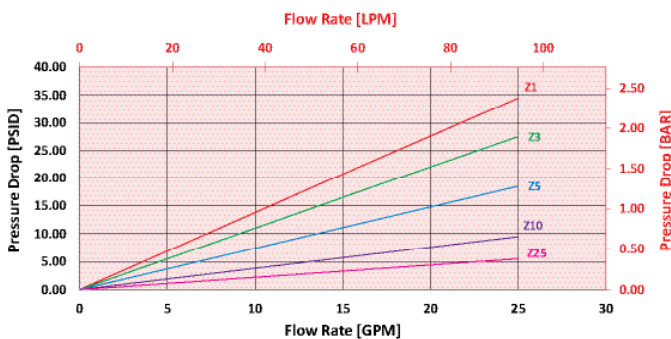
4YZ/4LKYZ

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



8YZ/8LYKZ

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



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

Exercise:

Determine ΔP_{filter} at 10 gpm (37.9 L/min) for YF304YZ10WSDRD5 using 200 SUS (42.6 cSt) fluid.

Use the housing pressure curve to determine $\Delta P_{\text{housing}}$ at 10 gpm. In this case, $\Delta P_{\text{housing}}$ is 3 psi (.21 bar) on the graph for the YF30 housing.

Use the element pressure curve to determine $\Delta P_{\text{element}}$ at 10 gpm. In this case, $\Delta P_{\text{element}}$ is 8 psi (.55 bar) according to the graph for the 4YZ10 element.

Because the viscosity in this sample is 200 SUS (42.6 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 drop differential across the element.

Solution:

$$\Delta P_{\text{housing}} = 3 \text{ psi } [.21 \text{ bar}] \mid \Delta P_{\text{element}} = 8 \text{ psi } [.55 \text{ bar}]$$

$$V_f = 200 \text{ SUS (42.6 cSt)} / 150 \text{ SUS (32 cSt)} = 1.3$$

$$\Delta P_{\text{filter}} = 3 \text{ psi} + (8 \text{ psi} * 1.3) = 13.4 \text{ psi}$$

OR

$$\Delta P_{\text{filter}} = .21 \text{ bar} + (.55 \text{ bar} * 1.3) = .93 \text{ bar}$$

Pressure
Drop
Information
Based on
Flow Rate
and Viscosity

NF30

NFS30

YF30/
YFLK30

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

Note:

If your element is not graphed, use the

following equation:

$$\Delta P_{\text{element}} = \text{Flow Rate} \times \Delta P_f \text{ Plug}$$

this variable into the overall pressure drop equation.

Ele.	ΔP	Ele.	ΔP
4YZX5	1.65	8YZX5	0.92
4YZX10	0.09	8YZX10	0.63

Filter
Model
Number
Selection

How to Build a Valid Model Number for a Schroeder YF30:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
YF30							

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	BOX 6	BOX 7	BOX 8
YF30	4	YZ10	W	S		DR	D5

= YF304YZ10WSDRD5

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
Filter Series	Element Length (in)	Element Size and Media	Seal Material	Inlet Port
YF30	4	YZ1/YLKZ1 = Y size 1 µ Excellement® Z-Media® (synthetic)	Omit = Buna N	S = SAE-12
	8	YZ3/YLKZ3 = Y size 3 µ Excellement® Z-Media® (synthetic)	V = Viton®	O = Subplate (contact factory)
YFN30 (Non-bypassing; requires ZX high collapse elements)		YZ5/YLKZ5 = Y size 5 µ Excellement® Z-Media® (synthetic)	W = Buna N, Anodized Aluminum parts	
		YZ10/YLKZ10 = Y size 10 µ Excellement® Z-Media® (synthetic)		
		YZ25/YLKZ25 = Y size 25 µ Excellement® Z-Media® (synthetic)		
YFLK30		YZX5 = Y size 5 µ Excellement® Z-Media® (high collapse center tube)		
		YZX10 = Y size 10 µ Excellement® Z-Media® (high collapse center tube)		

BOX 6	BOX 7	BOX 8
Dirt Alarm® Location	Optional Bowl Drain	Dirt Alarm® Options
Omit = Side of filter head	Omit = No drain	Omit = None
T = Top of filter head	DR = Drain	Visual D5 = Visual pop-up
		Visual with Thermal Lockout D8 = Visual w/ thermal lockout
		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 MS13DC = Supplied w/ threaded connector & light MS14DC = 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 combination of Boxes 2,3, and 4. Example 4YZ10V

Box 4. For options V and W, all aluminum parts are anodized. Viton® is a registered trademark of DuPont Dow Elastomers.

Box 8. Standard indicator setting for non-bypassing model is 50 psi unless otherwise specified.