Top-Ported Pressure Filter HS60

Model No. of filters in photograph is HS6013HZ3F24

Features and Benefits

- Full flow reverse flow check valve diverts flow past the element in hydrostatic applications
- Top-ported design capable of handling 100 gpm flow
- Offered in SAE straight thread and flange porting
- Thread on bowl with drain plug for easy element service
- 6000 psi cyclic

100 gpm
380 L/min
6000 psi
415 bar

Applications


INDUSTRIAL


MACHINE TOOL

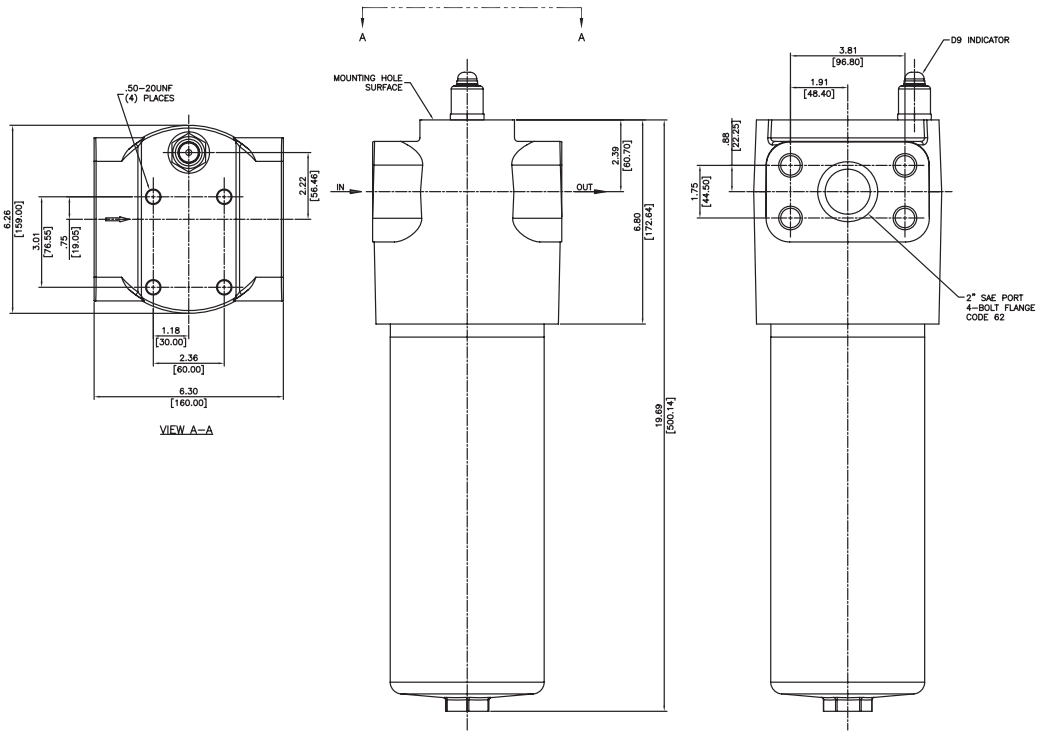

OFFSHORE


MINING TECHNOLOGY

Filter Housing Specifications

Flow Rating:	Up to 100 gpm (380 L/min)
Max. Operating Pressure:	6000 psi (415 bar) only for flange ported models
Min. Yield Pressure:	Contact factory
Rated Fatigue Pressure:	6000 psi (415 bar) (only with 4-bolt flange porting)
Temp. Range:	-20°F to 225°F (-29°C to 107°C)
Bypass Setting:	Cracking: 87 psi (5.9 bar)
Porting Head: Element Case:	Ductile Iron Steel
Weight of HS60-13H:	75 lbs. (34.2 kg)
Element Change Clearance:	4.0" (103 mm)

HS60 Top-Ported Pressure Filter



Metric dimensions in ( ).

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	
	$\beta_x \geq 75$	$\beta_x \geq 100$	$\beta_x \geq 200$	$\beta_{x(c)} \geq 200$	$\beta_{x(c)} \geq 1000$
13HZ3/13HZX3	<1.0	<1.0	<2.0	<4.0	4.8
13HZ5/13HZX5	2.5	3.0	4.0	4.8	6.3
13HZ10/13HZX10	7.4	8.2	10.0	8.0	10.0
13HZ25/13HZX25	18.0	20.0	22.5	19.0	24.0

Dirt Holding Capacity

Element	DHC (gm)	Element	DHC (gm)
13HZ3	100.7	13HZX3	75.7
13HZ5	113.2	13HZX5	74.1
13HZ10	119.7	13HZX10	81.4
13HZ25	123.5	13HZX25	92.9

Element Collapse Rating: 290 psi (20 bar) for standard elements
3045 psi (210 bar) for high collapse (ZX) versions

Flow Direction: Outside In

Element Nominal Dimensions: 13HZ : 3.5" (90 mm) O.D. x 13" (325 mm) long

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Fluid Compatibility

Type Fluid	Appropriate Schroeder Media
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)
Phosphate Esters	All Z-Media® (synthetic) with H (EPR) seal designation

Element Selection
Based on Flow Rate

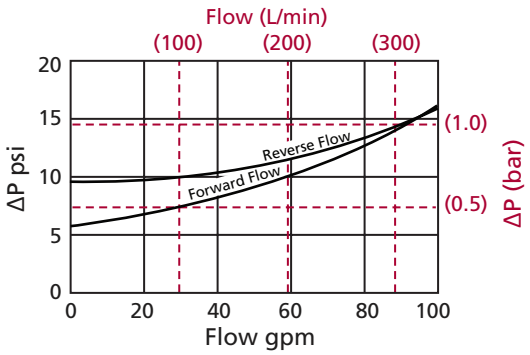
Pressure	Element Series	Part No.	Element selections are predicated on the use of 150 SUS (32 cSt) petroleum based fluid and a 50 psi (3.4 bar) bypass valve.
To 6000 psi (415 bar)	Z-Media®	13HZ3	13HZ3
		13HZ5	13HZ5
		13HZ10	13HZ10
		13HZ25	13HZ25
	Z-Media® (High Collapse)	13HZX3	13HZX3
		13HZX5	13HZX5
		13HZX10	13HZX10
		13HZX25	13HZX25
	Flow	gpm	0 20 40 60 80 100
		(L/min)	0 75 150 225 300 380

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

Pressure Drop Information
Based on Flow Rate and Viscosity

$\Delta P_{housing}$

HS60 $\Delta P_{housing}$ for fluids with sp gr = 0.86:



$\Delta P_{element}$

$\Delta P_{element}$ = flow x element ΔP factor x viscosity factor

El. ΔP factors @ 141 SUS (30 cSt):

13HZ3	0.134	13HZX3	0.176
13HZ5	0.098	13HZX5	0.104
13HZ10	0.060	13HZX10	0.054
13HZ25	0.043	13HZX25	0.048

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

Viscosity factor: Divide viscosity by 141 SUS (30 cSt).

sp gr = specific gravity

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

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

Exercise:

Determine ΔP at 85 gpm (320 L/min) for HS60... using 141 SUS (30 cSt) fluid.

Solution:

$\Delta P_{housing}$ = 13.5 psi [0.93 bar]

$\Delta P_{element}$ = 85 x .134 x (141÷141) = 11.39 psi
or
= [320 x (.134÷54.9) x (32÷32) = .79 bar]

ΔP_{total} = 13.5 + 11.39 = 24.89 psi
or
= [.93 + .79 = 1.71 bar]

HS60 Top-Ported Pressure Filter

Filter Model Number Selection

How to Build a Valid Model Number for a Schroeder HS60:

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5
HS60				

Example: *NOTE: One option per box*

BOX 1	BOX 2	BOX 3	BOX 4	BOX 5	
HS60	13HZ3		F24	D13	**= HS6013HZ3F24D13**

BOX 1

Filter Series
HS60
HSN60 (no bypass in forward flow)

BOX 2

Element Part Number
13HZ3 = 3 µ Excellement® Z-Media® (synthetic)
13HZ5 = 5 µ Excellement® Z-Media® (synthetic)
13HZ10 = 10 µ Excellement® Z-Media® (synthetic)
13HZ25 = 25 µ Excellement® Z-Media® (synthetic)
13HZX3 = 3 µ Excellement® Z-Media® (high collapse center tube)
13HZX5 = 5 µ Excellement® Z-Media® (high collapse center tube)
13HZX10 = 10 µ Excellement® Z-Media® (high collapse center tube)
13HZX25 = 25 µ Excellement® Z-Media® (high collapse center tube)

BOX 3

Seal Material
Omit = Buna N
V = Viton®
H = EPR

BOX 4

Porting Options
S24 = SAE-24
F24 = 1½" SAE 4-bolt flange Code 62
F32 = 2" SAE 4-bolt flange Code 62

BOX 5

Dirt Alarm® Options	
	Omit = None
Visual	D13 = Visual pop-up
Electrical	Contact factory

NOTES:

Box 2. Replacement element part numbers are identical to contents of Boxes 2 and 3.

Box 3. Viton® is a registered trademark of DuPont Dow Elastomers.

Box 5. All Dirt Alarm® Indicators must be Stainless Steel. Standard indicator setting is 75 psi. For replacement indicators, contact the factory.