

# HYDAC INTERNATIONAL

## Stainless Steel Pressure Filters

Housings, Elements, Indicators & Sizing





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# STAINLESS STEEL PRESSURE FILTERS

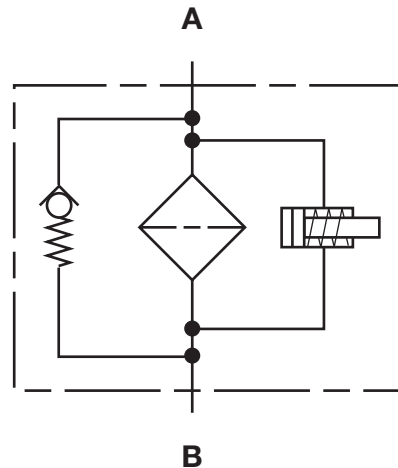
## MPSSF / HPSSFH / ACSSF Series

Inline Filters

Up to 30,000 PSIG • up to 40 GPM



### Hydraulic Symbol



Design conforms to ISO 13628-6

### Description

The pressure filters consist of two main sections: the filter head and the screw-in filter bowl. The standard model is available with and without a bypass and all units have a pressure release plug. The connection for a clogging indicator is available for the complete range up to 15,000 psi.

### Materials

- Filter head: S/S AISI 316 L (UNS 31803)
- Filter bowl: S/S Duplex 2205 (UNS 31803)

### Seals

- FPM (Fluoroelastomer) or NBR (Nitrile/Buna)

### Special Models

- For other seals, please contact our Technical Sales department.
- For flange connections and other thread forms, please contact our Technical Sales department.
- Duplex version with integrated change over valve available

### Accessories

- Single or dual visual clogging indicator
- The clogging indicators must be tightened to the recommended torque of 37 lb-ft (75 ft-lbs).

### Element Hardware Available With

- Nickel plated steel (typical for mineral oils, etc.)
- Stainless steel (typical for water and water/glycol)

### Cleaning of Elements

- Note: Only wire mesh (D) and metal fiber (M) elements can be cleaned. Filter elements type Betamicon® (BN/HC, BH/HC) cannot be cleaned.

### Technical Specifications

<b>Mounting Method</b>	4 mounting holes in filter head
<b>Mounting Position</b>	Vertical
<b>Flow Direction</b>	
Inline/ T-Type	Inlet/Outlet: side connection At the same level (inline), on opposite sides
Manifold Plate Mounting	Inlet/Outlet: top face
<b>Max. Operating Pressure</b>	
MPSSF	6,500 psig (450 bar) max.
HPSSFH	10,150 psig (700 bar) max.
ACSSF	15,000 psig (1035 bar) max. (up to 30,000 psig available)
<b>Element Collapse Pressure Rating</b>	
Betamicon®-H (BH/HC)	3046 psid (210 bar)
Betamicon®-N (BN/HC)	363 psid (25 bar)
Metal fiber (M)	3046 psid (210 bar)
Wire mesh (D)	3046 psid (210 bar) or 4,200
<b>Fluid Temperature Range</b>	-4° to 212°F (-20° to 100°C)
<b>Fluid Compatibility</b>	
Mineral oils: test criteria to ISO 2943	
Lubricating oils: test criteria to ISO 2943	
Water and water glycols	
For use with non-flammable fluids, synthetic oils and rapidly biodegradable oils etc., please contact HYDAC Technical Sales.	
<b>Flow Fatigue Limit to ISO 3724</b>	
High fatigue limit resistance due to solid filter material supports and high inherent stability of filter materials.	
<b>Pressure Setting of Clogging Indicator</b>	
$\Delta P = 29$ psi (2 bar), 72 psi (5 bar) (standard), 116 psi (8 bar)	
<b>Bypass Valve Cracking Pressure</b>	
$\Delta P = 43$ psi (3 bar), 87 psid (6 bar) (standard), 130 psi (9 bar), 203 psi (14 bar)	

# STAINLESS STEEL PRESSURE FILTERS

## Model Code

**MPSSF450 BH/HC 60 N2 005 B X / -V**

### Filter Type

- MPSSF 450 = 6500 psig (450 bar) operating pressure
- HPSSFH 700 = 10150 psig (700 bar) operating pressure
- ACSSF 1035 = 15000 psig (1035 bar) operating pressure *(Higher pressures available – contact HYDAC)*

### Filter Media

- BN/HC = Betamicron® low collapse element
  - BH/HC = Betamicron® high collapse element
  - M = Metal Fiber Chemicon® S/S element
  - D = Wire Mesh S/S element
- Absolute filtration
- Nominal filtration

### Size

30, 60, 110, 160, 240, 280, 330

### Type of Connection

- B = BSPP (G) threaded connection
- N = NPT threaded connection
- S = SAE threaded connection
- A = medium pressure (20,000 psi) form
- P = manifold mounting *(top interface) (only available in certain models)*

### Connection Size Code

	MPSSF/HPSSFH Sizes	BSPP/NPT	SAE	ACSSF Sizes	Medium Pressure
0	= 30, 60, 110	1/4"	SAE-4	30, 60, 110, 160, 240, 280	9/16"-18
1	= 60, 110	3/8"	SAE-6	60, 110, 160, 240, 280	13/16"-16
2	= 30, 60, 110, 160, 240, 280	1/2"	SAE-8	160, 240, 280, 330	3/4"-14 SF750 CX20
3	= 60, 110, 160, 240, 280	3/4"	SAE-12	160, 240, 280, 330	1-3/8"-12 SF1000 CX20
4	= 160, 240, 280	1"	SAE-16	-	-
5	= 160, 240, 280	1 1/4"	SAE-20	-	-

### Filtration Rating (micron)

- 3, 5, 10, 20 = Betamicron® low collapse (BN/HC) / Betamicron® high collapse (BH/HC) - Absolute filtration rating ( $\beta_{x(c)} \geq 1000$ ) **nickel plated carbon steel** hardware
- 3, 5, 10, 20 = Betamicron® low collapse (BN/HC) / Betamicron® high collapse (BH/HC) - Absolute filtration rating ( $\beta_{x(c)} \geq 1000$ ) **stainless steel** hardware
- 1, 3, 5, 10, 20 = Metal fiber Chemicon® S/S (M) - Absolute filtration rating
- 5, 10, 25, 40, 60, 100, 150, 200, 250 = Wire mesh S/S (D) - Nominal filtration rating

### Type of Clogging Indicator

- A = no clogging indicator *(plugged port)*
- B/BM = with visual clogging indicator, Auto reset (B) or Manual reset (BM)
- C = with electrical clogging indicator
- D = with visual/electrical clogging indicator
- E = 1/4 " NPT ports for external piping of DP indicator *(not available with size 30 filters)*
- W = No clogging indicator port
- B + C = dual indicators – visual *(with auto reset)* and electrical
- BM + C = dual indicators – visual *(with manual reset)* and electrical

### Modification Number *(latest version always supplied)*

### Supplementary Details

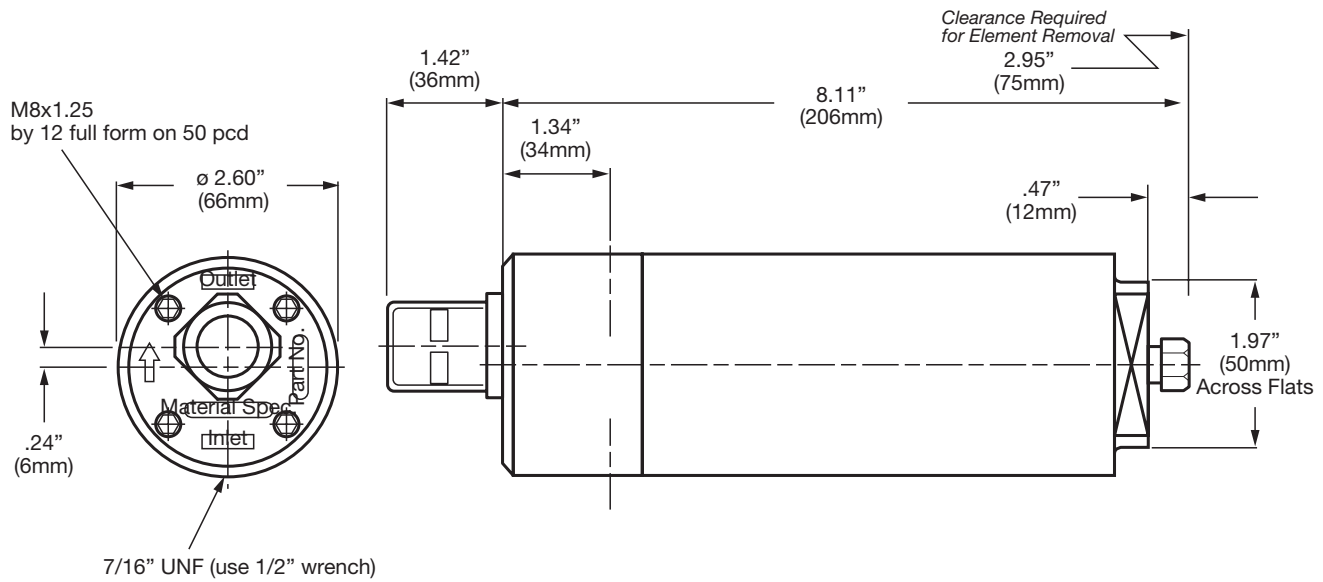
- V = FPM (Fluoroelastomer) seals *(standard)*
- NBR = NBR (Nitrile) seals
- K = FFKM (perfluoroelastomer) seals
- W = BH/HC, BN/HC, or D elements with stainless steel hardware
- B14 = with bypass valve at 203 psid (14 bar) cracking pressure
- B6 = with bypass valve at 87 psid (6 bar) cracking pressure
- B3 = with bypass valve at 43 psid (3 bar) cracking pressure
- TB6 = with triple bypass valve 87 psi (6 bar) cracking pressure *(not available with size 30 filters)*
- /RC = with reverse flow check *(not available with size 30 filters)*
- EX = explosion-proof electrical indicator switch with flying leads
- EX/ENC = explosion-proof electrical indicator switch with enclosure
- IS = intrinsically safe sensor

*Model Codes Containing RED are non-stock items – Minimum quantities may apply – Contact HYDAC for information and availability*

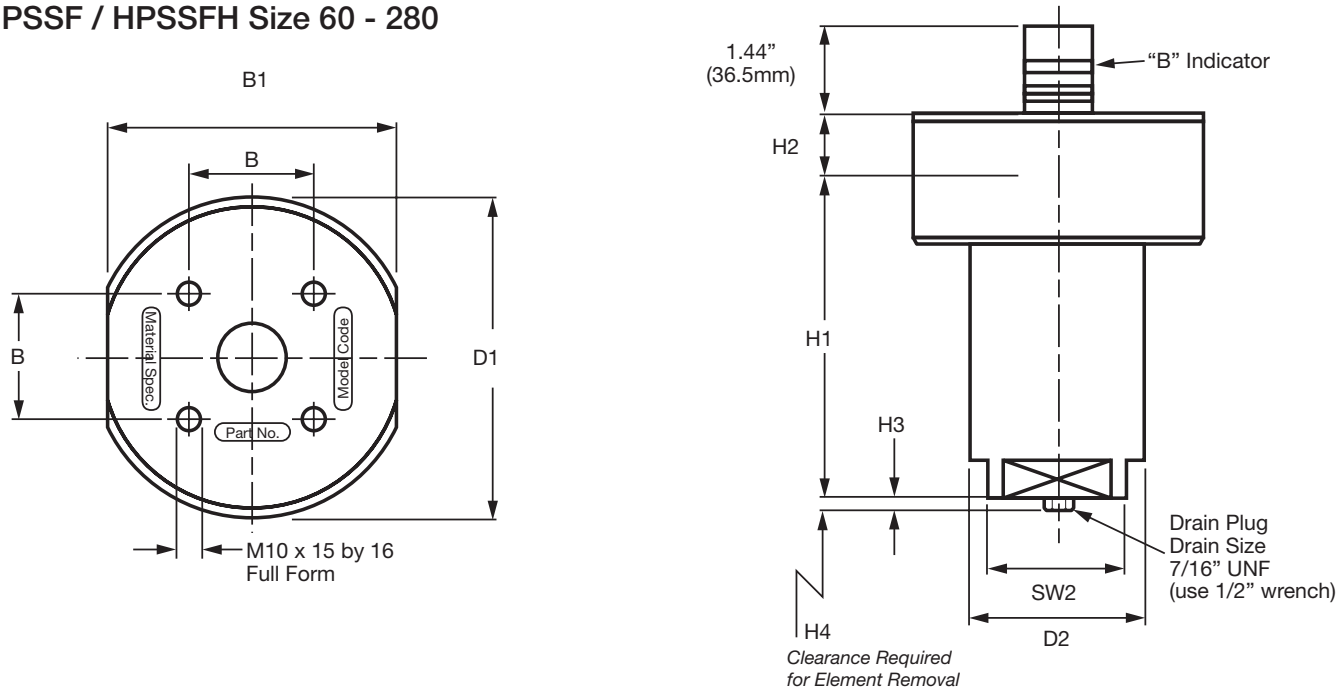
# STAINLESS STEEL PRESSURE FILTERS

## Dimensions

### MPSSF / HPSSFH Size 30



### MPSSF / HPSSFH Size 60 - 280

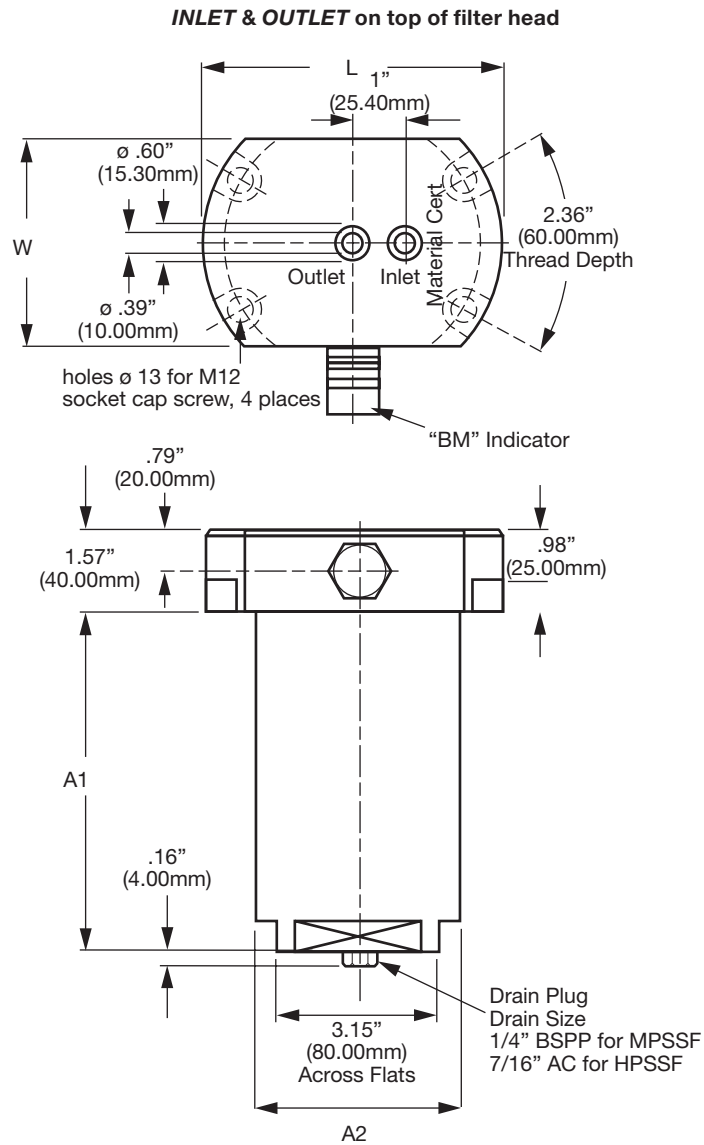


Size	B	B1	D1	D2	H1	H2	H3	H4	SW2	Weight
60	1.97" (50)	3.66" (93)	3.94" (100)	2.83" (72)	7.12" (181)	1.30" (33)	0.20" (5)	3.15" (80)	2.16" (55)	13.2 lb (6.0)
110	1.97" (50)	3.66" (93)	3.94" (100)	2.83" (72)	9.84" (250)	1.30" (33)	0.20" (5)	3.15" (80)	2.16" (55)	18.7 lb (8.5)
160	2.36" (60)	4.57" (116)	5.00" (127)	4.09" (104)	9.17" (233)	1.50" (38)	0.20" (5)	3.54" (90)	3.15" (80)	30.8 lb (14)
240	2.36" (60)	4.57" (116)	5.00" (127)	4.09" (104)	11.46" (291)	1.50" (38)	0.20" (5)	3.54" (90)	3.15" (80)	41.8 lb (19)

Important Note: Dimensions are for general information only; all critical dimensions should be verified by requesting a certified print.  
Dimensions are in inches/(mm) and lbs/(kg)

## Dimensions

MPSSF / HPSSFH / ACSSF Manifold Mount 60P / 160P / 240P



Other mounting configurations available.

# STAINLESS STEEL PRESSURE FILTERS

## Sizing Information

Total pressure loss through the SSF filters are as follows:

Assembly  $\Delta P = \text{Housing } \Delta P + \text{Element } \Delta P$

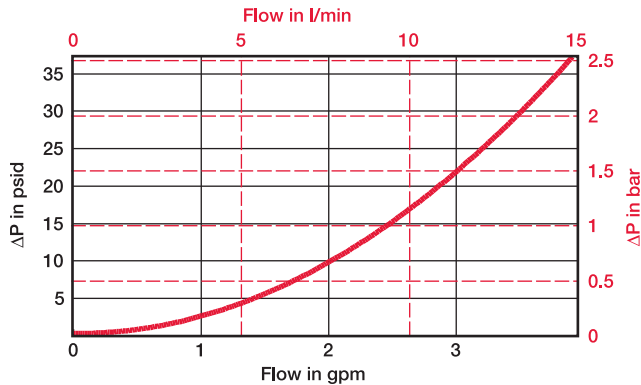
### Housing Curve

Pressure loss through housing is as follows:

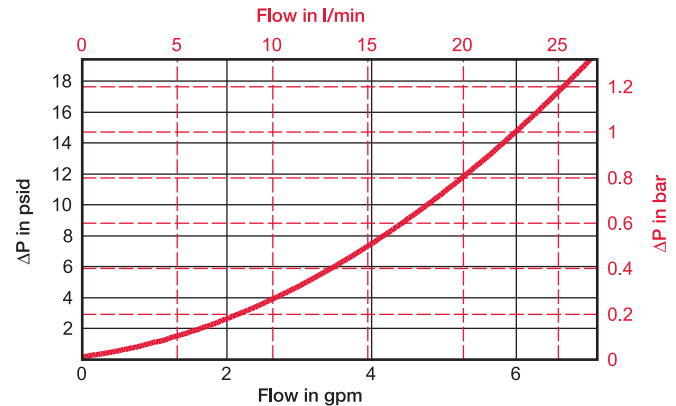
Housing  $\Delta P = \text{Housing Curve } \Delta P \times \frac{\text{Actual Specific Gravity}}{0.86}$

Adjustments must be made for viscosity & specific gravity of the fluid to be used!

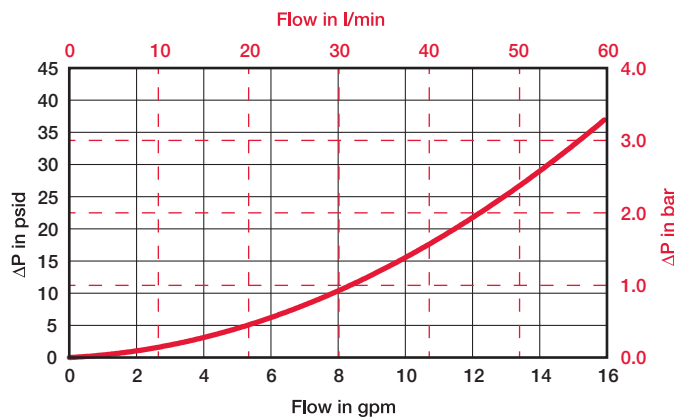
MPSSF & HPSSF size 30 housing, with 1/4" ports



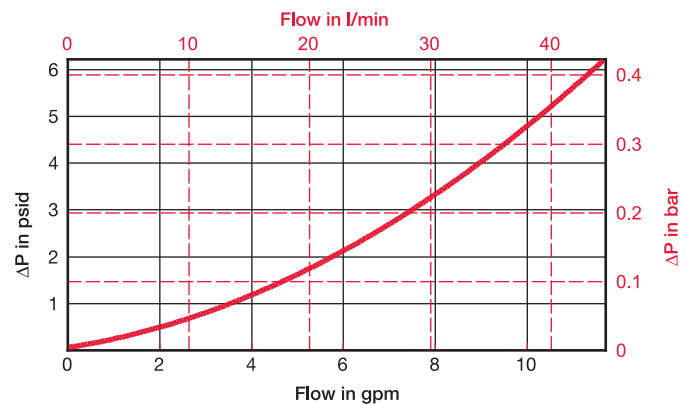
MPSSF & HPSSF size 30 housing, with 1/2" ports



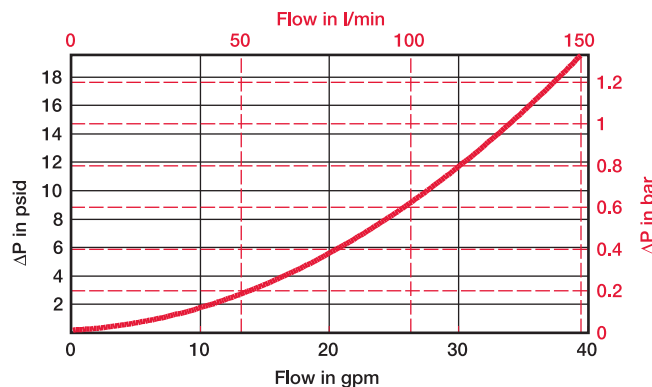
MPSSF & HPSSF size 60 housing, with 1/2" ports



MPSSF & HPSSF sizes 60 & 110 housing, with 3/4" ports



MPSSF & HPSSF sizes 160 & 240 housing, with 1" ports

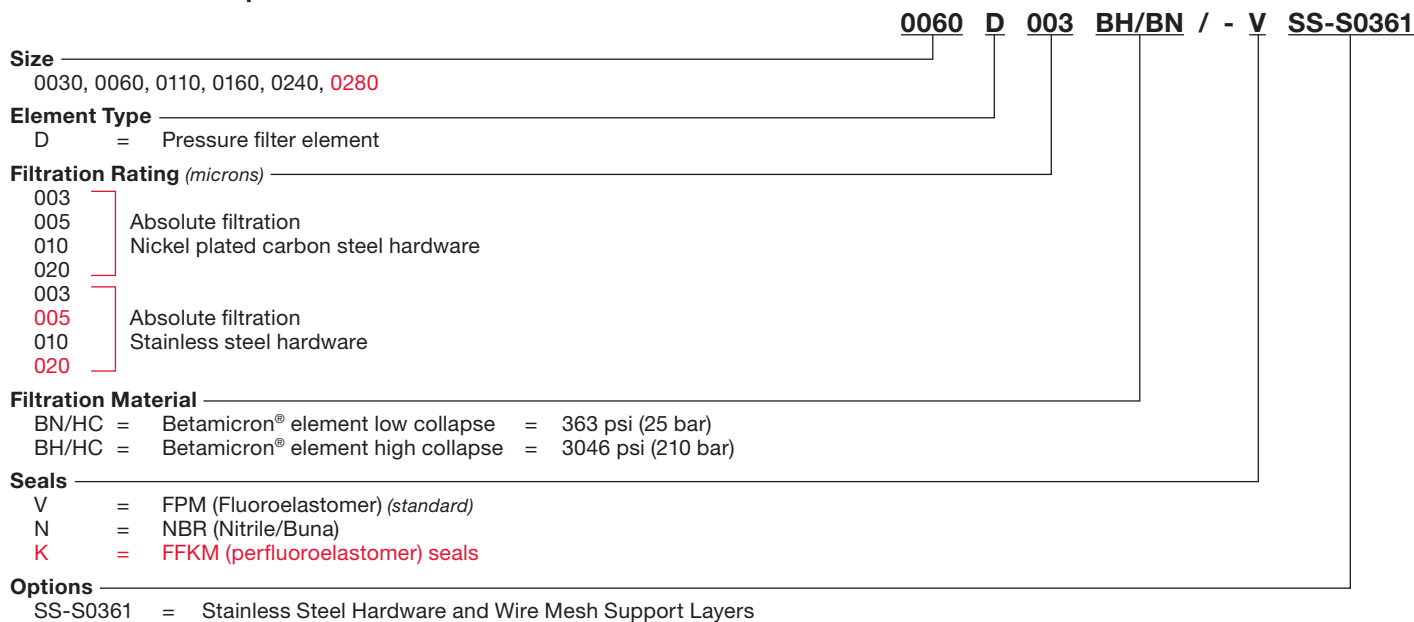


Note: Flow characteristics according to ISO 3968 using ISO VG32 hydraulic oil.

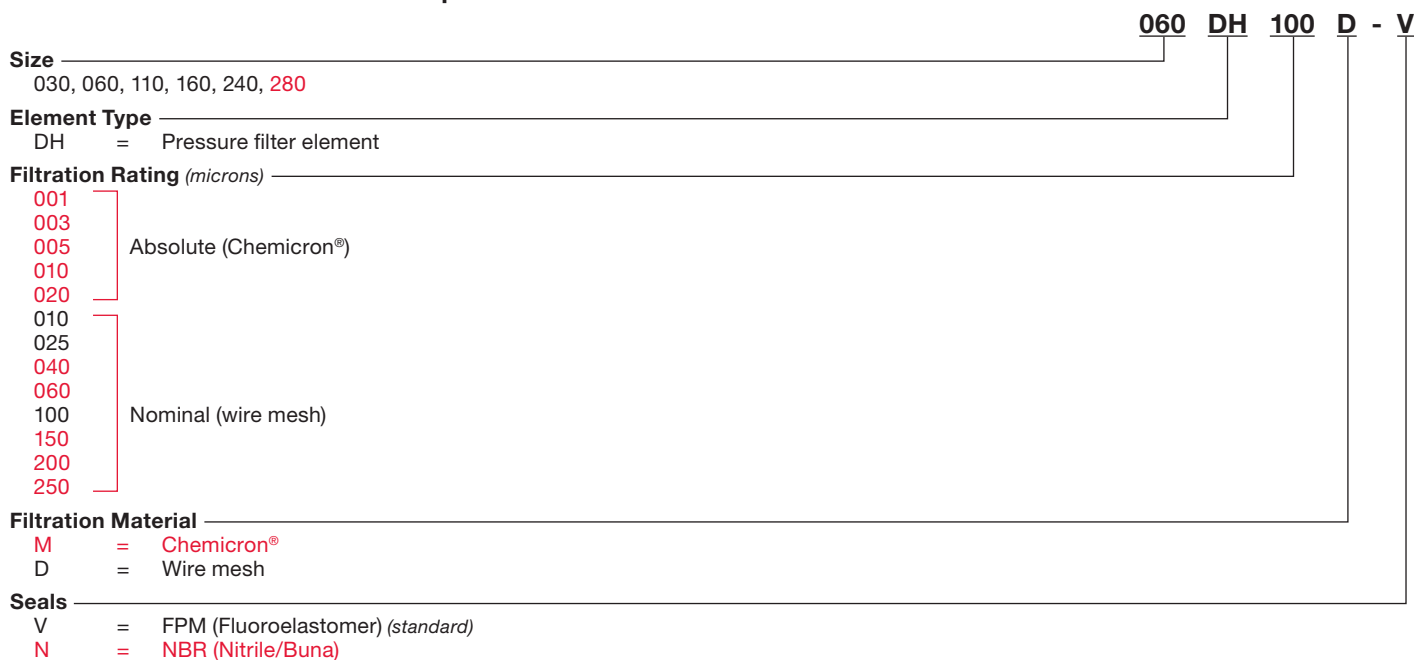


# STAINLESS STEEL PRESSURE FILTERS

## Betamicon® Replacement Element Model Code



## Chemicon® or Wire Mesh Replacement Element Model Code



Model Codes Containing RED are non-stock items – Minimum quantities may apply – Contact HYDAC for information and availability

# STAINLESS STEEL PRESSURE FILTERS

## VDHA Series

Hazardous Area Clogging Indicator



### Description

The VDHA is designed to meet the requirements of hazardous areas around the world. This indicator has been approved for use in ATEX, IECEX, CSA, TRCU and UL zones by a notified body.

The VDHA's function is to inform the user when a filter element needs replacing due to the increased differential pressure measured across the filter element. This will trigger a signal and an operator can then make the system safe and change the element.

The VDHA is available in 3 standard pressure ranges, 450, 700 and 1035 Bar. This means that there will always be a suitable indicator available regardless of the pressure of the filter housing.

The indicator has a 316 stainless steel junction box that can be rotated 360 degrees to aid wiring of the unit. With the use of a suitably rated cable gland the indicator has an IP rating of both IP66 and IP67 as well as having a dual temperature rating of T4 & T6.

The VDHA indicators are fully compatible with the HYDAC range of filters including both stainless steel and carbon steel filters.

### Technical Specifications

<b>Type of Indication</b>	Electronic Switch
<b>Permitt. Operating Pressure</b>	450, 700 & 1035 Bar
<b>Permitt. Operating Temperature</b>	-20 °C +100°C T4
<b>Indication Range</b>	2 or 5 Bar ΔP
<b>Thread</b>	G1/2 or M20
<b>Switching Type</b>	N/C or N/O
<b>Protection Class</b>	IP66 & IP67
<b>Electrical Connection</b>	M20 X 1.5 cable gland

### Product Certification

#### Exd



II 2 GD Exd IIC T6 / T4



Exd IIC T6 Gb

Exd IIC T4 Gb

Extb IIIC T85°C Db

Extb IIIC T135°C Db

#### Exi



II 1 GD Exia IIC T6/T4 Ga



Exia IIC T6 Ga

Exia IIC T4 Ga

Exia IIIC T85°C IP66/67 Da

Exia IIIC T135°C Db

#### UL/CSA



Class I Div 1 Groups A, B, C, & D

Class II Div 1 Groups E, F, & G

#### TR CU



As per ATEX/IECEX Exd & Exia

# STAINLESS STEEL PRESSURE FILTERS

## Model Code

**VDHA - 450 - C - 5 - Exd - X - V**

### Hazardous Area

#### Clogging Indicator

Electrical Clogging Indicator

#### Max Pressure Rating

450 Bar = 450 bar (6525 psi)  
 700 Bar = 700 bar (10150 psi)  
 1035 Bar = 1035 bar (15000 psi)

#### Indicator Type

Electrical = C

#### Differential Pressure Indication Setting

2 Bar = 2 bar (29 psid)  
 5 Bar = 5 bar (72 psid)  
 X Bar = X bar

#### Protection Level

IECEX-Exd, ATEX-Exd (Zone 1 & 2) UL/CSA Class 1 Div1 = Exd  
 IECEX Exia, ATEX Exia (Zones 0,1 & 2) = Exi

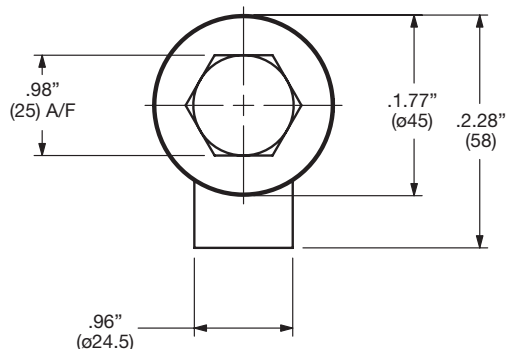
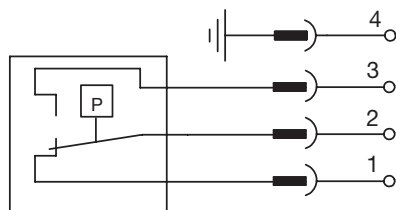
#### Revision Status

Latest Revision = X

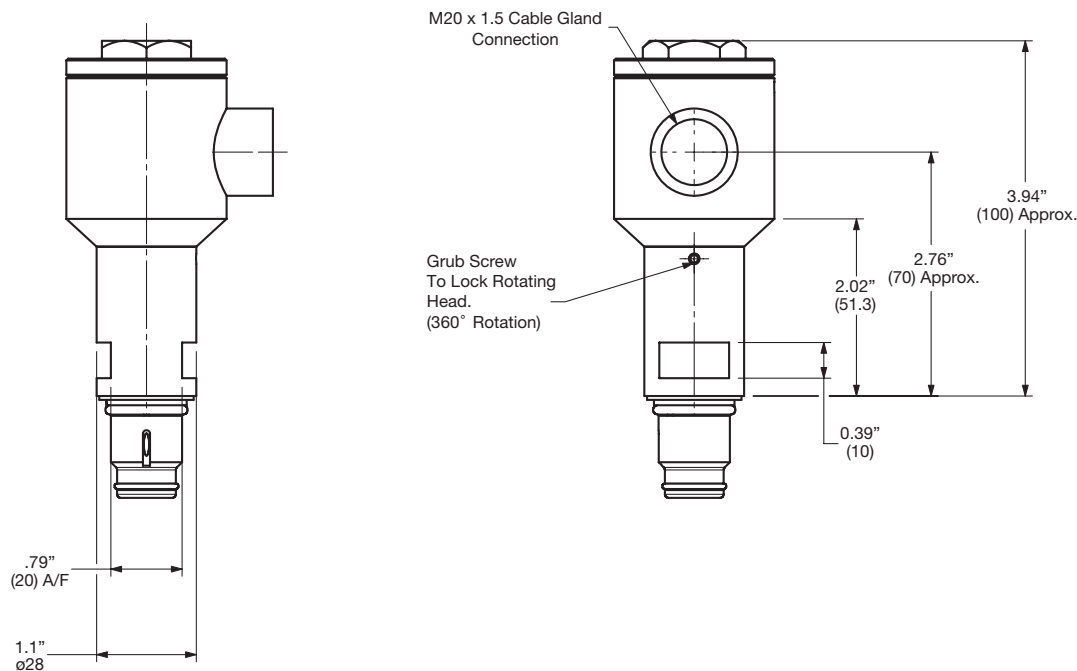
#### Sealing Polymer

Viton/Equivalent = V  
 Nitrile /Equivalent = N  
 EPDM (Ethylene Propylene Diene Monomer) = E  
 Kalrez/Equivalent = K

## Circuit



## Dimensions



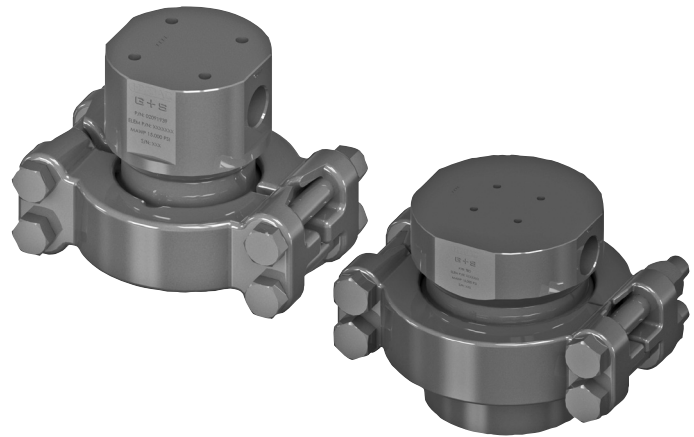
Generic assembly drawings of each pressure range available on request.  
 450 Bar - 3972672 700 Bar - 3972672 1035 Bar - 3972515

# STAINLESS STEEL PRESSURE FILTERS

## ACSSFH-1035

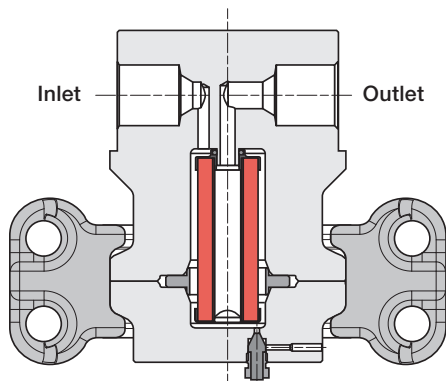
High Pressure Filter

Up to 15,000 PSIG • up to 63 GPM

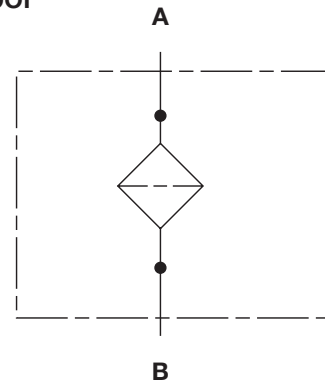


### Features

- Non-welded housing design reduces stress concentrations and prevents fatigue failure.
- Medium pressure Engineering ports allow easy installation.
- O-ring free housing assembly eliminates seal compatibility issues.
- Clamped bowl mounted below the filter head eliminates thread galling issues, requires minimal clearance for element replacement with minimal weight.
- Filter drain can be oriented in any position.



### Hydraulic Symbol



### Technical Specifications

<b>Mounting Method</b>	4 Mounting holes in the filter head	
<b>Port Connection</b>	30 110 240	1" } medium pressure 1-1/2" } (20,000 psi) form 1-1/2" }
<b>Flow Direction</b>	Side inlet and outlet ( <i>opposite each other</i> )	
<b>Construction Materials</b>	Head & Bowl 17-4PH H1150M Stainless Steel Clamp SA182-F304 Bolts & Nuts SA 193 B 8/SA 194-GR8 Seal Ring AISI 630 (17-4PH) PTFE Coated <i>Other materials upon request.</i>	
<b>Flow Capacity</b> <i>(based upon Methanol)</i>	30 110 240	15 GPM (60 LPM) 35 GPM (130 LPM) 63 GPM (240 LPM)
<b>Housing Pressure Rating</b>	Max. Operating Pressure 15,000 psi (1,034 bar) Proof Pressure 22,500 psi (1551 bar) Burst Pressure 45,000 psi min.	
<b>Element Collapse Pressure Rating</b>	4200 psid (290 bar)	
<b>Fluid Temp. Range</b>	-22° to 250°F (-30° to 121°C)	
<b>Fluid Compatibility</b>	Compatible with all fluids suitable for use with stainless steel and PTFE encapsulated seals.	

### Applications



Industrial



Offshore



Steel / Heavy Industry

# STAINLESS STEEL PRESSURE FILTERS

## Model Code

ACSSFH1035 D 30 A3 005 W X / -T-SO199H

### Filter Type

ACSSFH 1035 = 15000 psig (1034 bar) operating pressure  
(Higher pressures available – contact HYDAC)

### Filter Media

BH/HC = Betamicon® high collapse element  
M = Metal fiber Chemicon® S/S element  
D = Wire mesh S/S element

Absolute filtration  
Nominal filtration

### Size

30, 110, 240

### Type of Connection

A = Medium pressure (20,000 psi) form

### Connection Size Code

Sizes	Medium pressure (20,000 psi) port size
3	30, 1 3/8"-12UN
4	110, 240 1 7/8"-12UN

### Filtration Rating (micron)

3, 5, 10, 20 = Betamicon® high collapse (BH/HC) - Absolute filtration rating ( $\beta_{x(c)} \geq 1000$ ) stainless steel hardware  
1, 3, 5, 10, 20 = Metal fiber Chemicon® S/S (M) - Absolute filtration rating  
10, 25, 74, 100, 149 = Wire mesh S/S (D) - Nominal filtration rating

### Type of Clogging Indicator

A = no clogging indicator  
B = with visual clogging indicator  
C = with electrical clogging indicator  
D = with visual/electrical clogging indicator  
W = no clogging indicator cavity

### Modification Number (latest version always supplied)

### Supplementary Details

-T = FEP/FKM encapsulated o-ring (standard)  
SO199H = Grayloc® clamp for head and bowl joint  
SO212 = 4500 psid (310 bar) element collapse pressure

## Replacement Element Model Code

0110 DH 100 D V

### Size

30, 110, 240

### Element Type

DH = use for Chemicon® and wire mesh elements (up to max. + 200°C)  
D = use for Betamicon® elements

### Filtration Rating (microns)

1, 3, 5, 10, 20 (Chemicon®)  
25, 40, 60, 100, 150, 200, 250 (Wire mesh)

### Element Media

M = Chemicon® metal fiber (1-20 µm absolute)  
D = Wire mesh (25 - 250 µm nominal)  
BH/HC = Betamicon® glass fiber (3 - 20 µm absolute)

### Material seals

V = FPM (Fluoroelastomer)  
E = EPDM  
T = FEP encapsulated (Teflon®)

Note: Other seals on request

Model Codes Containing RED are non-stock items – Minimum quantities may apply – Contact HYDAC for information and availability  
Other options and micron ratings – Consult HYDAC Product Management

# STAINLESS STEEL PRESSURE FILTERS

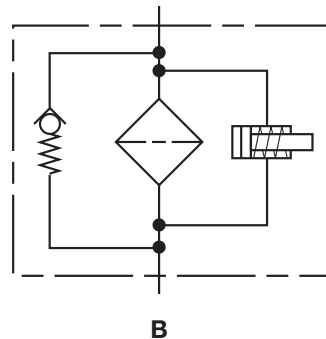
## EDFR Series

Inline Filters

Up to 6000 PSIG • up to 105 GPM



Hydraulic Symbol A



### Description

These pressure filters consist of two main sections: the filter head and the screw-in filter bowl. The standard model is available with and without a bypass and/or a clogging indicator.

#### Materials

- Filter head and bowl: stainless steel 316Ti (1.4571)

#### Seals

- FPM (Fluoroelastomer) up to 200°C or NBR (Nitrile/Buna) up to 150°C
- other seals available (see model code key)

#### Special Models

- Additional connection port sizes/layouts
- Duplex filters (with piping and change-over valve)
- Material certificates (3.1 according to DIN EN 10204) available if specified at time of order
- Other certificates also available if specified at time of order

#### Elements

- Reusable stainless steel filter elements are available in either wire mesh (D) or Chemicon® metal fiber (M). These filter elements can be cleaned several times, thereby saving the costs of disposal and replacement.
- Disposable filter elements are available in Betamicon® glass fiber (BN/HC, BH/HC). Please note that these elements cannot be cleaned.

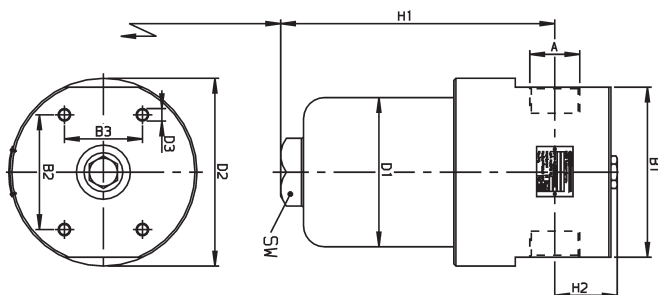
#### Element Hardware Available With

- Nickel plated steel (typical for mineral oils, etc.)
- Stainless steel hardware (typical for water and water/glycol)

### Technical Specifications

<b>Mounting Method</b>	4 mounting holes in filter head
<b>Mounting Position</b>	Vertical
<b>Flow Direction</b>	In-line on opposite sides
<b>Max. Operating Pressure</b>	6000 psig (414 bar) at 390°F (200°C)
<b>Flow Capacity</b> <i>(based on water)</i>	
60	25 GPM (95 LPM)
160	50 GPM (190 LPM)
330/660/990	105 GPM (400 LPM)
<b>Element Collapse Pressure Rating</b>	D, M, BH/HC = 3046 psid (210 bar) BN/HC = 363 psid (25 bar)
<b>Fluid Temperature Range</b>	-4°F to +390°F (-20° to +200°C)
(lower and/or higher temperatures available with alternate seal choices, including low temp NBR down to -40°C and DA option up to +400°C)	
<b>Fluid Compatibility</b>	Mineral oils: test criteria to ISO 2943 Lubricating oils: test criteria to ISO 2943 Water and water glycols Please contact HYDAC Technical Sales for non-flammable fluids, synthetic oils, rapidly biodegradable oils, etc.
<b>Trip Pressure Setting of Clogging Indicator</b>	$\Delta P = 72$ psid (5 bar) (standard)

### Dimensions



Size	A	B1	B2	B3	D1	D2	D3	H1	H2	H4	SW
030	G 1/2	92	50	40	62	98	M6	136.5	25.5	45	27
060	G 3/4	110	60	40	72	120	M6	139	45	50	27
160	G 1 1/4	136	80	50	105	150	M10	197	46	60	32
330	G 1 1/2	164	110	75	150	180	M12	263	50	75	46
660	G 1 1/2	180	110	75	150	180	M12	425	50	75	41
990	G 1 1/2	180	110	75	150	180	M12	594	50	75	41

## Model Code

	<b>EDFR</b>	<b>D</b>	<b>060</b>	<b>G</b>	<b>100</b>	<b>1</b>	<b>V</b>	<b>X</b>	<b>L24</b>
<b>Filter Type</b>	_____								
EDFR									
<b>Element Media</b>	_____								
D	= Wire mesh S/S element - 25 µm to 250 µm nominal filtration								
M	= Metal fiber Chemicon® S/S element - 1 µm to 20 µm absolute filtration								
BH/HC	= Betamicron® high collapse element - 3 µm to 20 µm absolute filtration								
<b>Size</b>	_____								
030, 060, 160, 330, 660, 990									
<b>Type of Connection</b>	_____								
G	= BSPP (G) threaded connection								
SAE	= 4 bolt code 62 (1", 1 1/2" & 2")(size 330, 660 and 990 only)								
<b>Filtration Rating (micron)</b>	_____								
1, 3, 5, 10, 20 (Chemicon®)									
25, 40, 60, 100, 150, 200, 250 (wire mesh)									
3, 5, 10, 20 (Betamicron®)									
<b>Type of Clogging Indicator</b>	_____								
0	= no clogging indicator								
1	= visual clogging indicator, Auto reset (B) – PVD 5 B.1								
2	= visual-electrical clogging indicator – PVD 5 D.0/-L...								
6	= electrical clogging indicator – PVD 5 C.0								
<i>For more details refer to HYDAC brochure – Filtration in Industrial Processing (E7700-10-10-13)</i>									
<b>Seal material</b>	_____								
V	= FPM (Fluoroelastomer) seals (standard) – max 200°C								
E	= EPDM – max 120°C								
N	= NBR (Nitrile) – max 150°C								
M	= FFKM (perfluoroelastomer) – max 240°C								
<b>Modification Number (latest version always supplied)</b>	_____								
<b>Supplementary Details</b>	_____								
Voltage for light on visual/electrical clogging indicator (L24 or L220)									

## Replacement Element Model Code

		<b>0160</b>	<b>DR</b>	<b>100</b>	<b>D</b>	<b>V</b>
<b>Size</b>	_____					
030, 060, 160, 330, 660, 990						
<b>Element Type</b>	_____					
DR	= Suitable for EDFR (up to max. + 200°C)					
D	= Use for Betamicron® elements					
DA	= (axial seal version of DR)					
<b>Filtration Rating (microns)</b>	_____					
1, 3, 5, 10, 20 (Chemicon®)						
25, 40, 60, 100, 150, 200, 250 (wire mesh)						
<b>Element Media</b>	_____					
D	= Wire mesh (25 - 250 µm nominal)					
M	= Metal fiber Chemicon® S/S element 1 µm – 20 µm absolute filtration					
BH/HC	= Betamicron® glass fiber (3 - 20 µm absolute)					
<b>Material of seals</b>	_____					
V	= FPM (Fluoroelastomer)					
E	= EPDM					
T	= FEP encapsulated (Teflon®)					
E	= Stainless steel (for DA elements only)					
Note: other seals on request						

*Model Codes Containing RED are non-stock items – Minimum quantities may apply – Contact HYDAC for information and availability*

# STAINLESS STEEL PRESSURE FILTERS

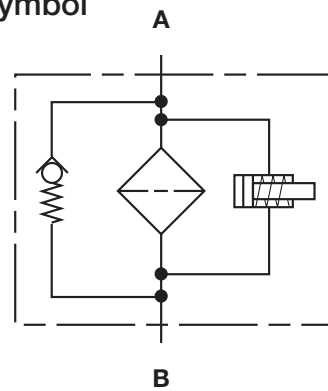
## EMLF Series

Inline Filters

Up to 580 PSIG • up to 60 GPM



Hydraulic Symbol



### Description

These pressure filters consist of two main sections: the filter head and the bolt-on filter bowl. The standard model is available with and without a bypass and/or a clogging indicator. All units have a pressure release plug at the base of the bowl.

#### Materials

- Filter head and bowl: stainless steel 316L

#### Seals

- FPM (Fluoroelastomer) up to 100°C or NBR (Nitrile) up to 100°C
- Other seals available (see model code key)

#### Special Models

- Additional connection port sizes/layouts
- Reverse flow check
- Certificates (for additional cost) if specified at time of order

#### Elements

- Reusable stainless steel filter elements are available in wire mesh (W/HC) and can be cleaned several times, saving the costs of disposal and replacement.
- Disposable filter elements are available in Betamicon® glass fiber (BN/HC), Betamicon/Aquamicon (BN/AM) or Ecomicon® (ECO).

#### Betamicon (BN/HC) Element Hardware Available With

- Nickel plated steel (typical for mineral oils, etc.)
- Stainless steel hardware (typical for water and water/glycol)

NOTE: Betamicon/Aquamicon (BN/AM) elements only available with nylon 66 hardware

### Technical Specifications

<b>Mounting Method</b>	4 mounting holes in filter head
<b>Mounting Position</b>	Vertical
<b>Flow Direction</b>	In-line on opposite sides
<b>Max. Operating Pressure</b>	580 psig (40 bar) at 212°F (100°C) for higher temperatures, contact HYDAC
<b>Element Collapse Pressure Rating</b>	W/HC and BN/HC = 290 psid (20 bar) BN/AM and ECO = 145 psid (10 bar)
<b>Fluid Temperature Range</b>	-20°C to +100°C
<b>Fluid Compatibility</b>	-Mineral oils: test criteria to ISO 2943 -Lubricating oils: test criteria to ISO 2943 -Water and water glycols -Please contact HYDAC Technical Sales for non-flammable fluids, synthetic oils, rapidly biodegradable oils, etc.
<b>Trip Pressure Setting of Clogging Indicator</b>	$\Delta P = 29$ psid (2 bar) and 72 psid (5 bar) available as standard
<b>Bypass Valve Cracking Pressure</b>	$\Delta P = 43$ psid (3 bar) and 87 psid (6 bar) available as standard



# STAINLESS STEEL PRESSURE FILTERS

## Model Code

		<b>EMLF40</b>	<b>BN/HC</b>	<b>660</b>	<b>N4</b>	<b>005</b>	<b>B</b>	<b>X / -V</b>
<b>Filter Type</b>	_____							
EMLF40=	580 psi							
<b>Element Media</b>	_____							
BN =	Betamicon® low collapse	AM =	Water removal	ECO =	ECOmicron®			
W/HC =	Wire mesh							
<b>Size</b>	_____							
	330, 660							
<b>Type of Connection</b>	_____							
N4 =	1" - NPT							
N5 =	1 1/4" - NPT							
F32 =	SAE 32							
<b>Filtration Rating (micron)</b>	_____							
3, 5, 10, 20 =	BN/HC	3, 10 =	AM	25, 50, 100, 200 =	W/HC			
<b>Type of Clogging Indicator</b>	_____							
W =	without port (no clogging indicator)							
A =	stainless steel blanking plug in indicator port							
B =	visual							
C =	electrical for other clogging indicators							
D =	visual and electrical see brochure no. 7.050../..							
UE =	vacuum gauge							
BM+C =	visual with manual reset + electrical (= 2 indicators)							
E =	1/4"-NPT gauge ports for external connection of pressure sensors							
<b>Type Number</b>	_____							
X =	the latest version is always supplied							
<b>Supplementary Details</b>	_____							
B =	cracking pressure of bypass (e.g. B6 = 6 bar); no details = without bypass valve							
EX =	electrical clogging indicator EX version (Eexd IIC T6; cable length 3 m standard)							
EX/ENC =	electrical clogging indicator EX version (Eexd IIC T6; with IP66 junction box, M20x1.5 cable entry)							
IS =	intrinsically safe electrical clogging indicator with cable length 3 m (standard)							
IS/ENC =	intrinsically safe electrical clogging indicator with IP66 junction box (M20x1.5 cable entry)							
IS2GBC =	intrinsically safe electrical clogging indicator with gold contacts (e. g. suitable for PLC)							
L... =	light with appropriate voltage (24, 48, 110, 220 volt) only for clogging indicators							
LED =	2 light emitting diodes up to 24 Volt type "D"							
N =	NBR seals							
V =	FPM seals							
NLT =	nitrile low temperature seals							
HNBR =	hydrogenated nitrile (high temperature) seals							
EPDM =	EPDM seals							
K =	Kalrez® seals							

## Replacement Element Model Code

		<b>0660</b>	<b>D</b>	<b>005</b>	<b>BN4HC</b>	<b>/-V</b>
<b>Size</b>	_____					
	0330, 0660					
<b>Type</b>	_____					
	D					
<b>Filtration Rating (microns)</b>	_____					
BN4HC, ECON2	003, 005, 010, 020					
BN/AM	003, 010					
W/HC	025, 050, 100, 200					
<b>Element Media</b>	_____					
	BN, AM, ECO, W/HC					
<b>Supplementary Details</b>	_____					
	V, N, NLT, HNBR, EPDM, K					
	(for descriptions, see Supplementary Details above)					

Model Codes Containing RED are non-stock items – Minimum quantities may apply – Contact HYDAC for information and availability  
Other options and micron ratings – Consult HYDAC Product Management

# STAINLESS STEEL PRESSURE FILTERS

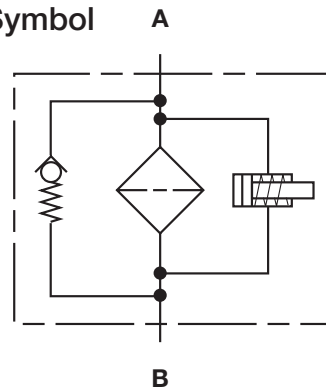
## EMF Series

Inline Filters

up to 120 PSIG • up to 60 GPM



### Hydraulic Symbol



### Description

These filters consist of a filter head and a screw-on filter element can. The standard model is available with and without a bypass and/or a clogging indicator. The stainless steel filter head provides excellent resistance to external environments, while the element typically gets replaced before significant corrosion occurs.

#### Materials

- Filter head: Type 316 stainless steel
- Element can: carbon steel

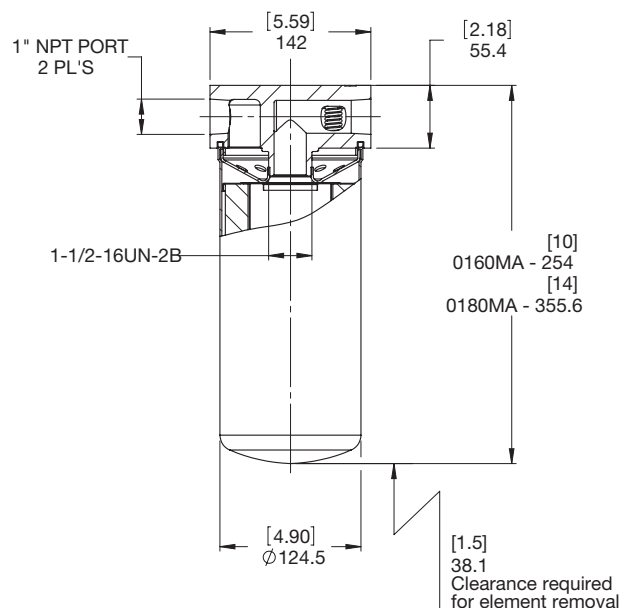
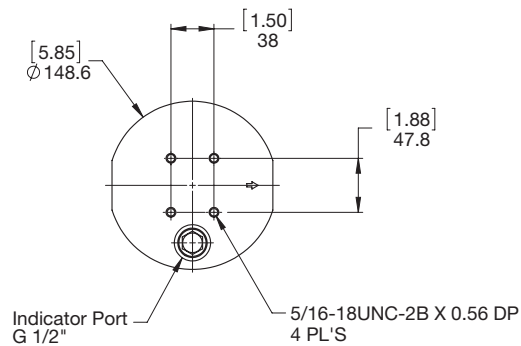
#### Seals

- FPM (Fluoroelastomer) or NBR (Nitrile/Buna) up to 120°C

#### Elements

Disposable spin-on element cans, available in Betamicon® glass fiber (BN) or Aquamicon (AM).

### Dimensions

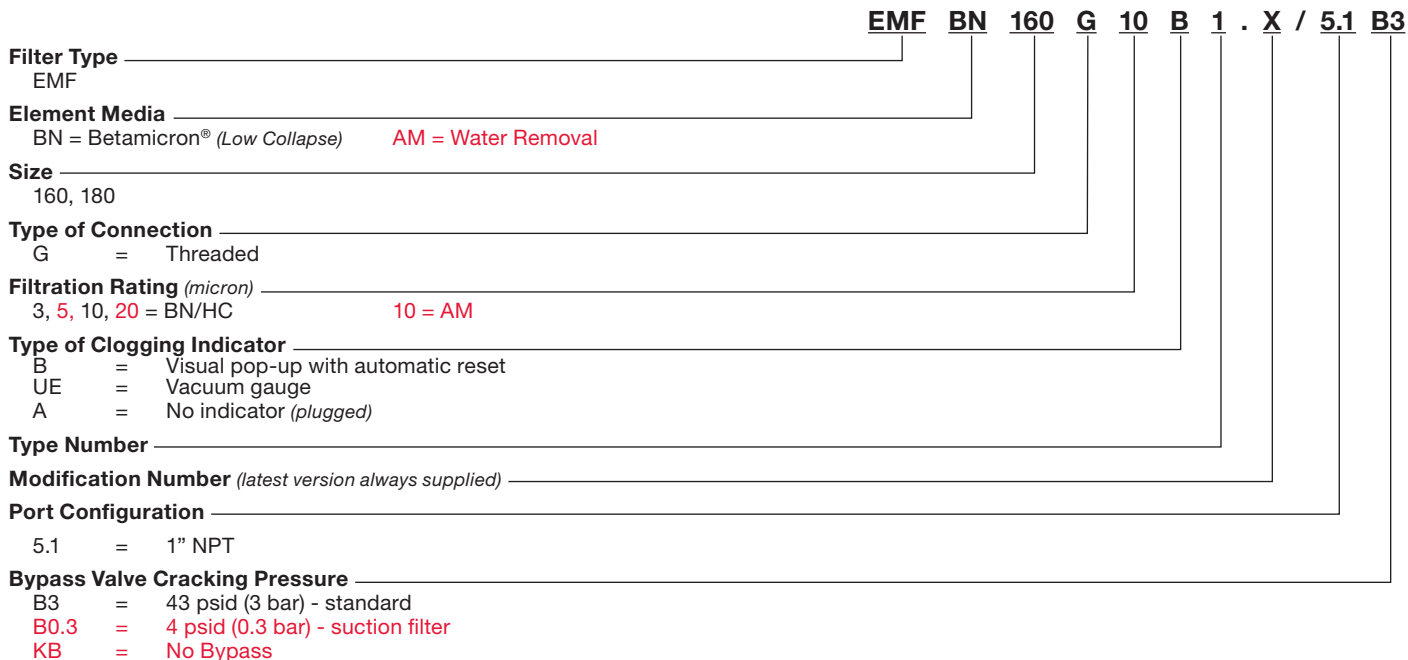


### Technical Specifications

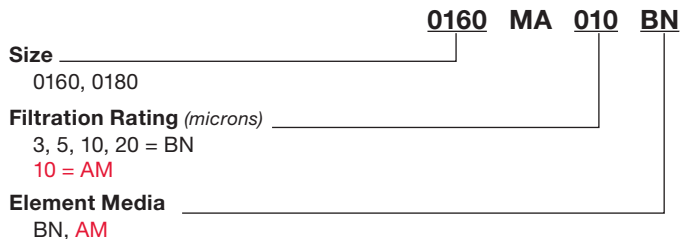
<b>Mounting Method</b>	4 mounting holes in filter head
<b>Mounting Position</b>	Vertical
<b>Flow Direction</b>	In-line on opposite sides
<b>Max. Operating Pressure</b>	120 psig (8 bar) at 250°F (120°C)
<b>Flow Capacity</b>	160 30 GPM (114 LPM) 180 60 GPM (227 LPM)
<b>Element Collapse Pressure Rating</b>	BN, AM = 80 psid (5.5 bar)
<b>Fluid Temperature Range</b>	-20°F to +250°F (-30°C to +120°C)
<b>Fluid Compatibility</b>	Compatible with all petroleum oils and synthetic fluids rated for use with nitrile or fluoroelastomer seals. Contact HYDAC for information on special housing and element constructions available for use with water glycols, oil/water emulsions and HWBF.
<b>Trip Pressure Setting of Clogging Indicator</b>	$\Delta P = 29$ psid (2 bar) available as standard for 3 bar bypass cracking pressure
<b>Bypass Valve Cracking Pressure</b>	$\Delta P = 3$ psid (0.2 bar) (suction applications) $\Delta P = 25$ psid (1.7 bar) (nominal filtration) $\Delta P = 43$ psid (3 bar) (absolute filtration)

# STAINLESS STEEL PRESSURE FILTERS

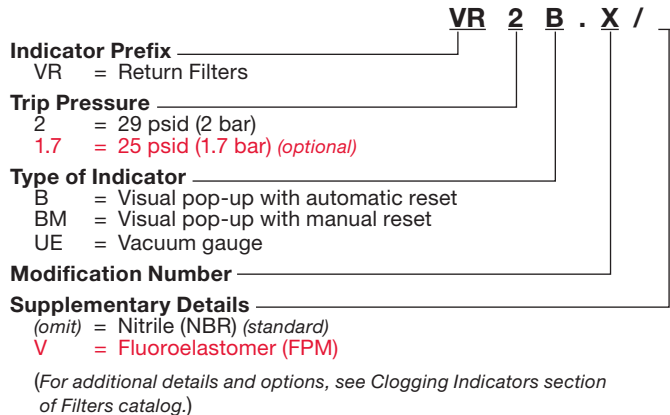
## Model Code



## Replacement Element Model Code



## Clogging Indicator Model Code



Model Codes Containing RED are non-stock items — Minimum quantities may apply — Contact HYDAC for information and availability

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