

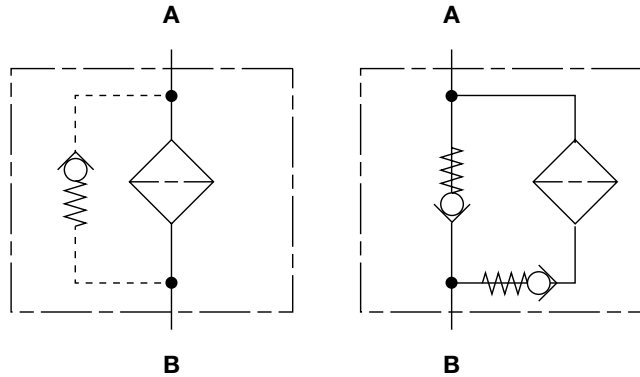
# HDF/HDFF Series

Inline Filters & Inline Filters With Reversible Flow

4060 psi • up to 100 gpm



## Hydraulic Symbol



## Features

- Non-welded housing design reduces stress concentrations and prevents fatigue failure.
- Choice of SAE straight thread O-ring boss, and straight thread BSPP (sizes 300 - 900) to allow easy installation without costly adapters.
- O-ring seals are used to provide positive, reliable sealing. We offer a choice of O-ring materials (Nitrile rubber or Fluorocarbon elastomer), to provide compatibility with petroleum oils, synthetic fluids, water-glycols, oil/water emulsions, and high water based fluids.
- Screw-in bowl mounted below the filter head requires minimal clearance to remove the element for replacement and contaminated fluid cannot be washed downstream when element is serviced.
- HYDAC Differential Pressure Indicators have no external dynamic seal. This results in a high system reliability due to magnetic actuation, thus eliminating a potential leak point.
- A poppet-type bypass valve (optional) provides positive sealing during normal operation and fast opening during cold starts and flow surges.
- The HDF is available with a bypass valve. The HDFF is offered in non bypass only.
- Fatigue pressure ratings equal maximum allowable working pressure rating.
- Inlet/outlet ports in "L" configuration
- No element valve-only available with HDF in "L" configuration.

## Technical Specifications

<b>Mounting Method</b>	4 mounting holes
<b>Port Connection</b> 300, 450, 650, 900:	1" SAE-16 parallel straight thread or 1" BSPP or 1 1/4" SAE-20 parallel straight thread or 1 1/4" BSPP or 1 1/2" SAE-24 parallel straight thread or 1 1/2" BSPP
<b>Flow Direction</b>	Inlet: Side      Outlet: Top
<b>Construction Materials</b>	
Head	Ductile iron
Bowl	Steel
<b>Flow Capacity</b>	
300	30 gpm (114 lpm)
450	60 gpm (227 lpm)
650	90 gpm (340 lpm)
900	100 gpm (378.5 lpm)
<b>Housing Pressure Rating</b>	
Max. Allowable Working Pressure	4060 psi (280 bar)
Fatigue Pressure	4060 psi (280 bar) @ 1 million cycles 6090 psi (420 bar) @ 250,000 cycles
Burst Pressure	(Consult HYDAC)
<b>Element Collapse Pressure Rating</b>	
BH4HC	3045 psid (210 bar)
ON	290 psid (20 bar)
<b>Fluid Temp. Range</b>	14°F to 212°F (-10°C to 100°C)
Consult HYDAC for applications operating below 14°F (-10°C)	
<b>Fluid Compatibility</b>	Compatible with all hydrocarbon based, synthetic, water glycol, oil/water emulsion, and high water based fluids when the appropriate seals are selected.
<b>Indicator Trip Pressure</b>	
ΔP = 29 psid (2 bar) -10% (optional)	
ΔP = 72 psid (5 bar) -10% (standard)	
ΔP = 116 psid (8 bar) -10% (optional non bypass)	
<b>Bypass Valve Cracking Pressure</b>	
ΔP = 43 psid (3 bar) +10% (optional-HDF only)	
ΔP = 87 psid (6 bar) +10% (standard)	
Non Bypass Available for HDF (HDFF available only with no bypass)	

## Model Code

**HDF BH/HC 450 O L E 10 D 1 . X / 12 V**

**Filter Type** \_\_\_\_\_  
HDF or HDFF (*HDFF on request*)

**Element Media** \_\_\_\_\_  
ON = Optimicron®      BH/HC = Betamicon® (*High Collapse*)

**Size** \_\_\_\_\_  
300, 450, 650, 900

**Pressure Range** \_\_\_\_\_  
O = 4060 psi (280 bar); 6090 psi (420 bar) at 250,000 cycles

**Type of Connection** \_\_\_\_\_  
L = Flow path in L-configuration (*standard version*)

**Size and Nominal Connection** \_\_\_\_\_  
D = 1" Threaded  
E = 1 1/4" Threaded  
F = 1 1/2" Threaded

**Filtration Rating (microns)** \_\_\_\_\_  
3, 5, 10, 20 = BH/HC      1, 3, 5, 10, 15, 20 = ON

**Type of ΔP Clogging Indicator** \_\_\_\_\_  
A, BM, C, D, Y

**Type Modification Number** \_\_\_\_\_  
1

**Modification Number (latest version always supplied)** \_\_\_\_\_

**Port Configuration** \_\_\_\_\_  
0 = BSPG straight thread  
12 = SAE parallel straight thread o-ring boss ports

**Seals** \_\_\_\_\_  
(omit) = Nitrile rubber (NBR) (*standard*)      V = Fluorocarbon elastomer (FKM)

**Bypass Valve** \_\_\_\_\_  
(omit) = Non-bypass - critical applications (high collapse element required)  
B3 = 43 psid (3 bar) - *optional*  
B6 = 87 psid (6 bar) - *standard setting for pressure filters*

**Supplementary Details** \_\_\_\_\_  
L24, L48, L110, L220 = Lamp for D-type clogging indicator (*LXX, XX = voltage*)  
LED = 2 light-emitting diodes up to 24 Volt (*only for clogging indicator type "D"*)  
NEV = No Element valve (*only for HDF filters in L-configuration*)  
SO184 = pressure release drain screw (G-1/2")  
SFREE = Element specially designed to minimize electrostatic charge generation  
W = "VD..." indicator modified with a brass piston for use with high water based emulsions/solutions (HFA) & (HFC) or when using "V" elements

## Replacement Element Model Code

**0450 D 010 BH4HC / V**

**Size** \_\_\_\_\_  
0300, 0450, 0650, 0900

**Type** \_\_\_\_\_  
D

**Filtration Rating (micron)** \_\_\_\_\_  
3, 5, 10, 20 = BH4HC  
1, 3, 5, 10, 15, 20 = ON

**Element Media** \_\_\_\_\_  
BH4HC, ON

**Seals** \_\_\_\_\_  
(omit) = Nitrile rubber (NBR) (*standard*)  
V = Fluorocarbon elastomer (FKM)

**Supplementary Details** \_\_\_\_\_  
W = (*same as above*)  
SFREE = (*same as above*)

## Clogging Indicator Model Code

**VD 8 D . X / V**

**Indicator Prefix** \_\_\_\_\_  
VD = differential pressure indicator up to 420 bar operating pressure

**Pressure setting** \_\_\_\_\_  
5 = standard 5 bar (*for HDF filters*)  
8 = standard 8 bar (*for HDFF filters*)  
*Others available upon request*

**Type of Indicator** \_\_\_\_\_  
A = No indicator, plugged port  
BM = Pop-up indicator (*manual reset*)  
C = Electric switch – SPDT  
D = Electric switch and LED light – SPDT  
Y = Plastic blanking plug in indicator port

**Modification Number (latest version always supplied)** \_\_\_\_\_

**Supplementary Details** \_\_\_\_\_

**Seals** \_\_\_\_\_  
(omit) = Nitrile rubber (NBR) (*standard*)  
V = Fluorocarbon elastomer (FKM)

**Light Voltage (D type indicators only)** \_\_\_\_\_  
L24 = 24V    L110 = 110V

W = "VD..." indicator modified with a brass piston for use with high water based emulsions/solutions (HFA) & (HFC)

(For additional details and options, see Section G - Clogging Indicators.)