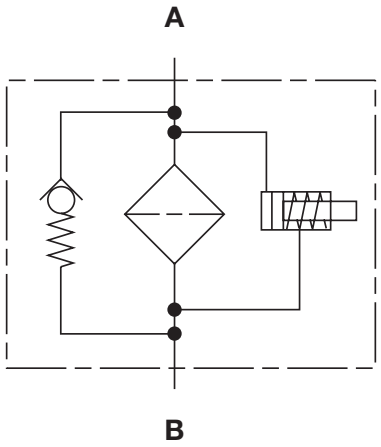
HF2P Series

Inline Filters

4000 psi • up to 25 gpm

Hydraulic Symbol



Features

- Non-welded housing design reduces stress concentrations and prevents fatigue failure.
- Inlet/Outlet port options include SAE straight thread O-ring boss, BSPP and subplate mounting to allow easy installation without costly adapters.
- O-ring seals are used to provide positive, reliable sealing. A choice of O-ring materials (nitrile, fluorocarbon elastomer, ethylene propylene rubber) provides 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.
- Clogging indicators are actuated by differential pressure and have no external dynamic seal. High reliability is achieved and magnetic indicator actuation eliminates a potential leak point.
- A poppet type bypass valve is typically mounted in the filter head out of the flow path between the inlet and outlet port to provide positive sealing during normal operation and fast response during cold starts and flow surges.
- Fatigue pressure rating equals maximum allowable working pressure rating.

Technical Specifications

Mounting Method	2 mounting holes	
Port Connection	SAE-12, 3/4” BSPP, Manifold Mount – (0.689”)	
Flow Direction	Inlet: Side	Outlet: Side
Construction Materials		
Head	Ductile iron	
Bowl	Steel	
Flow Capacity		
4”	16 gpm (60 lpm)	
8”	25 gpm (95 lpm)	
Housing Pressure Rating		
Max. Allowable Working Pressure	4000 psi (276 bar)	
Fatigue Pressure	4000 psi (276 bar) @ 1 million cycles	
Burst Pressure	14,680 psi (1012 bar)	
Element Collapse Pressure Rating		
BH4HC	3045 psid (210 bar)	
BN	290 psid (20 bar)	
Fluid Temperature Range	14°F to 212°F (-10°C to 100°C)	
Consult HYDAC for applications operating below 14°F (-10°C)		
Fluid Compatibility		
Compatible with all hydrocarbon based, synthetic, water glycol, oil/water emulsion, and high water based fluids when the appropriate seals are selected.		
Indicator Trip Pressure		
ΔP = 29 psid (2 bar) -10% *(optional)* ΔP = 72 psid (5 bar) -10% *(standard)* ΔP = 116 psid (8 bar) -10% *(optional on bypass)*		
Bypass Valve Cracking Pressure		
ΔP = 43 psid (3 bar) +10% *(optional)* ΔP = 87 psid (6 bar) +10% *(standard)* Non Bypass Available		

Applications


Agricultural


Automotive


Construction


Industrial


Railways

Model Code

HF2P BN 08 O I 3 C 1 . 2 / 12 V - B6 - T100

Filter Type
HF2P = Inline pressure filter

Element Media
BN = Betamicron® *(Low Collapse)* BH = Betamicron® *(High Collapse)*

Element Length
04 = 4 inches 08 = 8 inches

Pressure Range
O = 276 bar

Size and Nominal Connection
I = 3/4" Threaded In-Line P = Manifold Mount

Filtration Rating *(microns)*
3, 6, 12, 25 = BN 3, 6, 10, 17 = BH

Type of Clogging Indicator
A, B, BM, C, D, J, J4 *(Others available upon request, see Clogging Indicators section.)*

Type Code
1

Modification Number *(the latest version is always supplied)*

Port Configuration
(omit) = Manifold Filter
12 = SAE 12" straight thread O-ring boss
0 = BSPP straight thread G 3/4" *(contact factory for minimum quantity & availability)*

Seals
(omit) = Nitrile rubber (NBR) *(standard)* V = Fluorocarbon elastomer (FKM) EPR = Ethylene propylene rubber (EPR)

Bypass Valve
(omit) = Non-bypass - Critical applications *(high collapse element required)*
B3 = 43 psid (3 bar) - Optional
B6 = 87 psid (6 bar) *(standard)*

Supplementary Details
SO263 = Modification of elements for Skydrol or HYJET phosphate ester fluids
W = "VD..." indicator modified with a brass piston for use with high water based emulsions/solutions (HFA) & (HFC)
L24, L48, L110, L220 = Lamp for D-type clogging indicator *(LXX, XX = voltage)*
T100 = Thermal lockout on indicator at 100°F *(C, D, J, and J4 indicators only)*
cRUus = Electrical Indicator with underwriter's recognition
SFREE = Element specially designed to minimize electrostatic charge generation
SO376 = Modification of ON and W/HC elements for HFA, HFB, HFC, and HFD flame retardant liquids

Replacement Element Model Code

1 . 07 . 08 D 03 BN / V

Length *(nominal inches)*
04, 08

Filtration Rating *(micron)*
3, 6, 12, 25 = BN
3, 6, 10, 17 = BH

Element Media
BN, BH

Seals
(omit) = Nitrile rubber (NBR) *(standard)*
V = Fluorocarbon elastomer (FKM)
EPR = Ethylene propylene rubber (EPR)

Supplementary Details
SO263 = *(same as above)*
SFREE = *(same as above)*
SO376 = *(same as above*

Clogging Indicator Model Code

VD 5 C . X / V

Indicator Prefix
VD = G 1/2 6000 psi

Trip Pressure
2 = 29 psid (2 bar) *(option)*
5 = 72 psid (5 bar) *(standard)*
Optional 116 psid (8 bar) available upon request

Type of Indicator
A = No indicator, plugged port
B = Pop-up indicator *(auto reset)*
(Top mount only)
BM = Pop-up indicator *(manual reset)*
C = Electric switch - SPDT
D = Electric switch and LED light - SPDT
J = Electric switch
(Brad Harrison 5-pin mini connector)
J4 = Electric switch - M12
(Brad Harrison 4-pin micro connector)

Modification Number

Supplementary Details

Seals
(omit) = Nitrile RUBBER (NBR) *(standard)*
V = Fluorocarbon elastomer (FKM)
EPR = Ethylene propylene rubber (EPR)

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

Thermal Lockout *(VM, VD types C, D, J, and J4 only)*
T100 = Lockout below 100°F

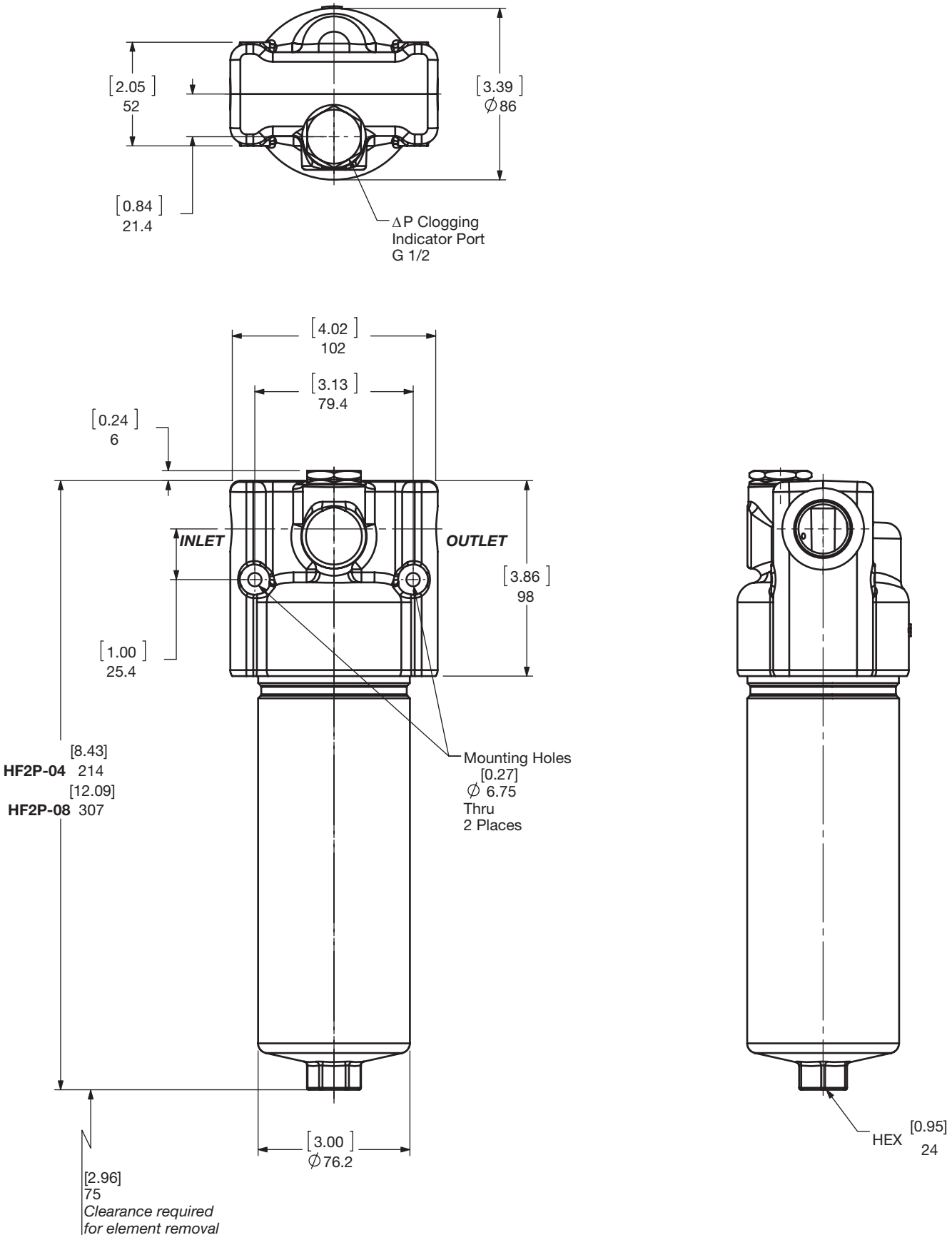
Underwriters Recognition *(VM, VD types C, D, J, and J4 only)*
cRUus = Electrical Indicator with underwriter's recognition

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

(For additional details and options, see Clogging Indicators section.)

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

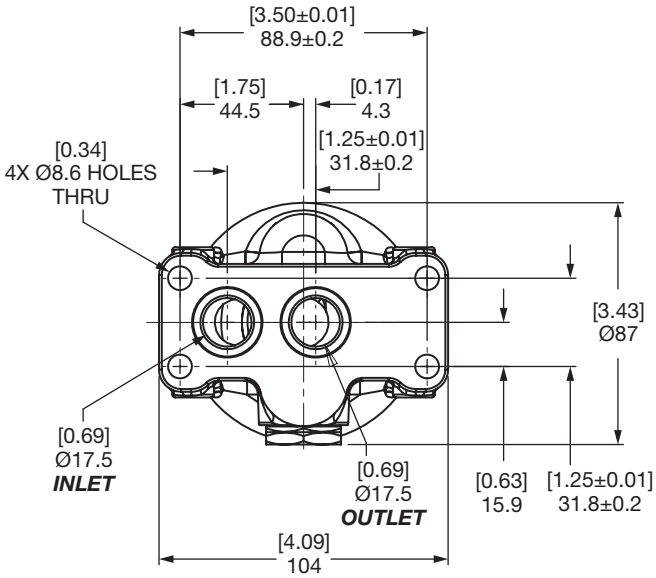
Dimensions
HF2P Inline Mounting

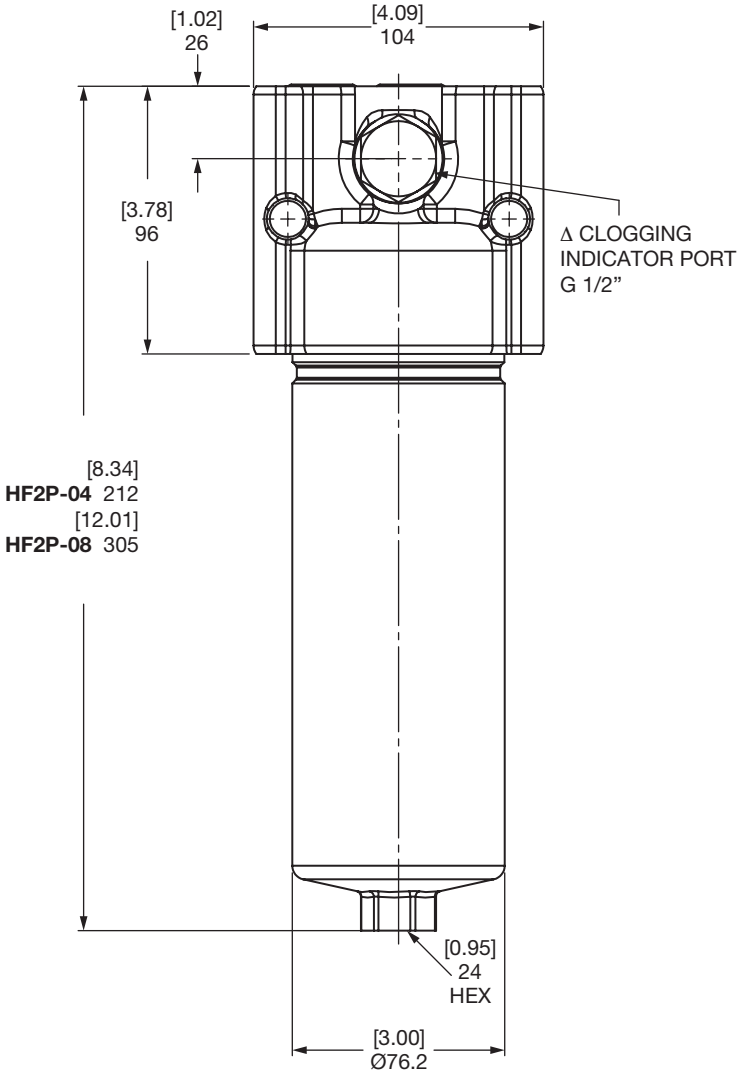


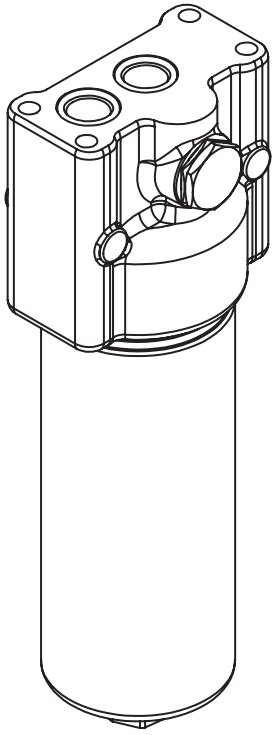
Size	04	08
Weight (lbs.)	10.7	14.3

Dimensions shown are [inches] millimeters for general information and overall envelope size only. Weights listed include element.
For complete dimensions please contact HYDAC to request a certified print.

Dimensions
HF2P Subplate Mounting







Size	04	08
Weight (lbs.)	10.7	14.3

Dimensions shown are [inches] millimeters for general information and overall envelope size only. Weights listed include element.
For complete dimensions please contact HYDAC to request a certified print.

Sizing Information

Total pressure loss through the filter is as follows:

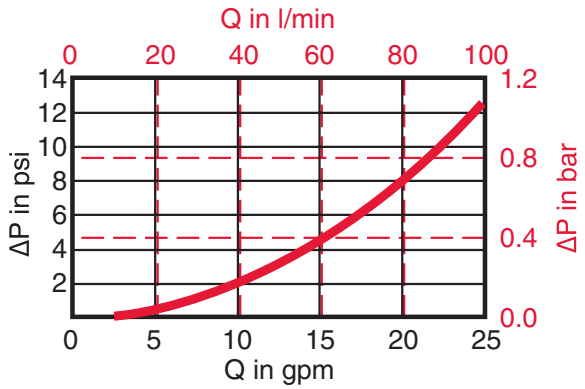
Assembly ΔP = Housing ΔP + Element ΔP

Housing Curve:

Pressure loss through housing is as follows:

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

Adjustments must be made for viscosity & specific gravity of the fluid to be used! *(see "Sizing HYDAC Filter Assemblies" in Section B - Overview)*



Element K Factors

$$\Delta P \text{ Elements} = \underset{\text{(From Tables Below)}}{\text{Elements (K) Flow Factor}} \times \text{Flow Rate (gpm)} \times \frac{\text{Actual Viscosity (SUS)}}{141 \text{ SUS}} \times \frac{\text{Actual Specific Gravity}}{0.86}$$

Autospec HF2 Depth	**1.07.08DXXBN** (Low Collapse)			
Size	**3 µm**	**6 µm**	**12 µm**	**25µm**
1.07.04DXXBN	2.046	1.735	0.925	0.531
1.07.08DXXBN	0.975	0.815	0.457	0.257

Autospec HF2 Depth	**1.07.08DXXBH** (High Collapse)			
Size	**3 µm**	**6 µm**	**10 µm**	**17 µm**
1.07.04DXXBH	2.400	1.690	1.027	0.538
1.07.08DXXBH	1.165	0.820	0.499	0.262

All Element K Factors in psi / gpm.

Notes