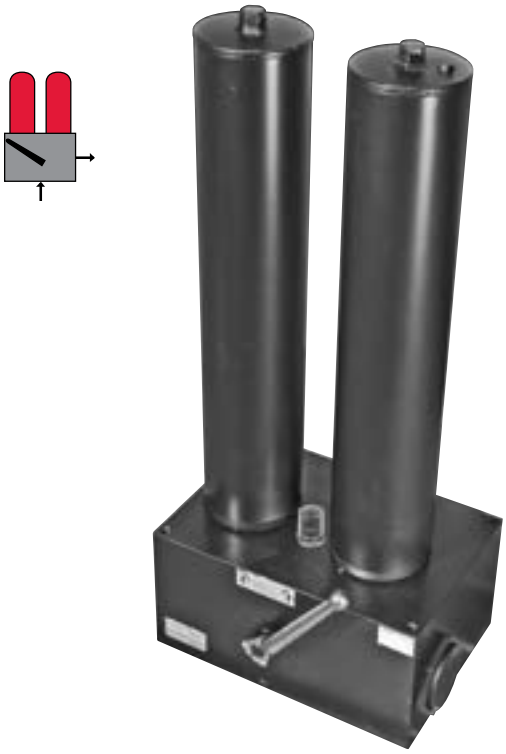
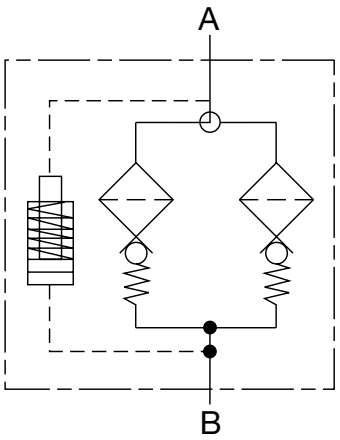
HFDK4P Series

Inline Duplex Filters

4568 psi • up to 90 gpm



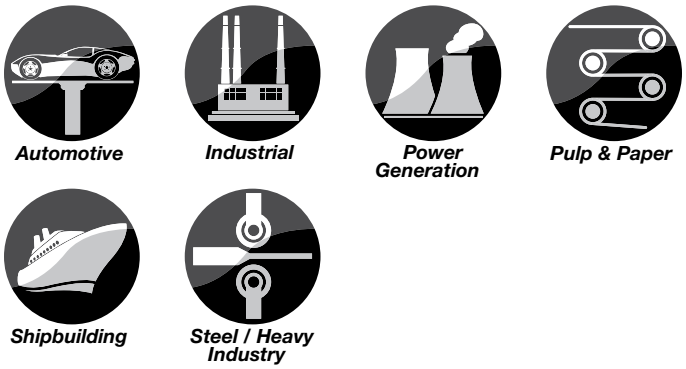
Hydraulic Symbol



Features

- The HFDK4P pressure duplex filter meets HF4 automotive specification element requirements.
- The HFDK4P filters have a filter head and lid of ductile iron and a cold formed steel housing to meet high fatigue pressure requirements.
- The filter housings are designed to withstand pressure surges as well as high static pressure loads.
- The screw-in lids allow top access for the filter element to be easily removed for replacement.
- Visual (pop-up), electrical, electrical/visual (lamp), or electronic differential type clogging indicators are available.
- HFDK4P filters are available only with high collapse pressure elements with no bypass provided.

Applications



Technical Specifications

Mounting Method	4 mounting holes
Port Connection	2” SAE Flange Code 62
Flow Direction	Inlet: Bottom Outlet: Left Side
Construction Materials	
Head, Lid	Ductile iron
Housing	Steel
Flow Capacity	
9”	50 gpm (189 lpm)
18”	75 gpm (284 lpm)
27”	90 gpm (340 lpm)
Housing Pressure Rating	
Max. Allowable Working Pressure	4568 psi (315 bar)
Fatigue Pressure	4500 psi (315 bar)
Burst Pressure	Contact HYDAC Office
Element Collapse Pressure Rating	
BH	3045 psid (210 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 = 116 psid (8 bar) -10% *(standard)*	
ΔP = 72 psid (5 bar) -10% *(optional)*	

PN#02081318 / 07.19 / FIL1907-2109

Model Code

HFDK4P BH 27 Q L L 5 C 2 . 2 / 16 A5 V

Filter Type
HFDK4P = Inline duplex pressure filter

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

Element Length
09 = 9 inches
18 = 18 inches
27 = 27 inches

Pressure Range
Q = 4568 psi (315 bar)

Valve
L = ball change over valve in "L" configuration *(standard)*

Type of Connection
L = 2" SAE 4 Bolt Flange (code 62)

Filtration Rating *(micron)*
3, 5, 10, 20 = BH

Type of Clogging Indicator
A, B/BM, C, D

Type Code
2

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

Port Configuration
16 = 2" SAE 4 bolt flange (code 62)

Indicator Trip Pressure
(omit) = 116 psid (8 Bar) *(standard)*
A5 = 72 psid (5 Bar)

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

Supplementary Details
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 = Indicator Thermal Lockout, 100°F *(C and D indicators only)*
cRUus = Electrical Indicator with underwriter's recognition
SFREE = Element specially designed to minimize electrostatic charge generation

Replacement Element Model Code

5 . 03 . 27 D 05 BH /-V

Length *(nominal inches)*
09, 18, 27

Filtration Rating *(micron)*
3, 5, 10, 20 = BH

Element Media
BH

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

Supplementary Details
SFREE = *(same as above)*

Clogging Indicator Model Code

VD 8 C . X / V

Indicator Prefix
VD = G 1/2 6000 psi

Trip Pressure
5 = 72 psid (5 bar) *(optional)*
8 = 116 psid (8 bar) *(standard)*

Type of Indicator
A = No indicator, plugged port
B = Pop-up indicator *(auto reset)*
BM = Pop-up indicator *(manual reset)*
C = Electric switch - SPDT
D = Electric switch and led light - SPDT

Modification Number

Supplementary Details

Seals
(omit)= Nitrile rubber (NBR)
V = Fluorocarbon elastomer (FKM)

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

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

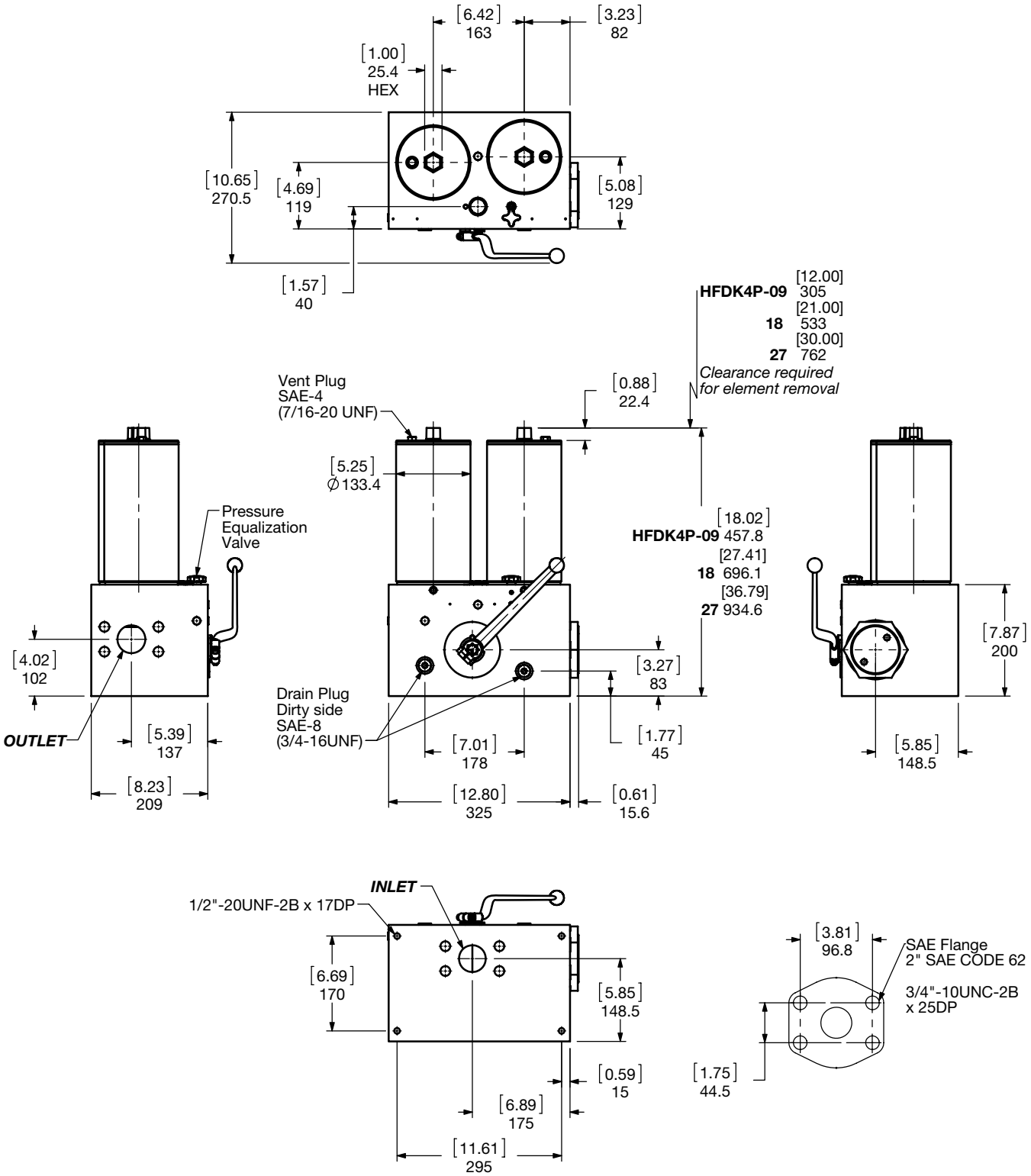
Underwriters Recognition *(VD types C, D, J, and J4 only)*
cRUus = Electrical Indicator with underwriter's recognition

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

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

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

Dimensions
HFDK4P 09, 18, 27...2.2



Size	09	18	27
Weight (lbs.)	233.7	270.5	306.4

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:

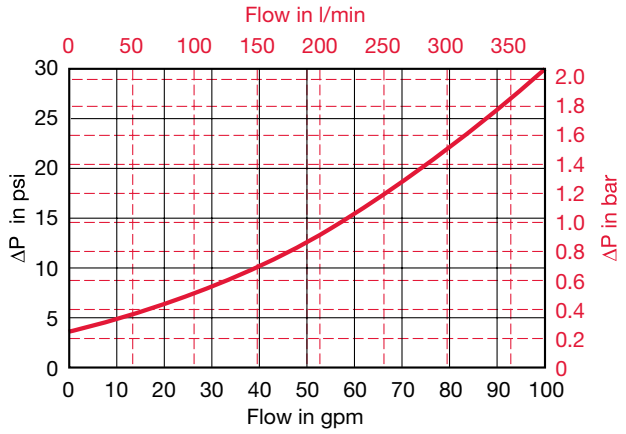
Assembly ΔP = Housing ΔP + Element ΔP

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

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

Autospec HF4 Depth	5.03.XXDXXBH (High Collapse)			
Size	3 µm	5 µm	10 µm	20 µm
5.03.09DXXBH	0.207	0.146	0.089	0.047
5.03.18DXXBH	0.097	0.068	0.041	0.022
5.03.27DXXBH	0.063	0.044	0.027	0.014

All Element K Factors in psi / gpm.