

HIGH PRESSURE FILTERS

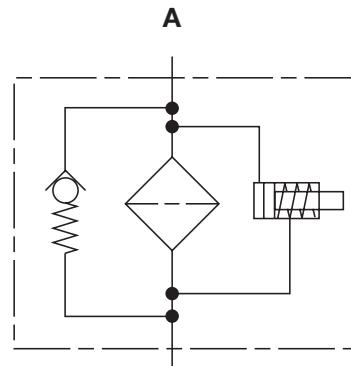
HFM Series

Inline Filters

5800 psi • up to 37 gpm



Hydraulic Symbol



B

Features

- The HFM filter is available in two sizes comprised of two different bowl and element lengths. The models 75 and 95 provide maximum flow rates of 29 and 37 GPM respectively.
- A quick-response by-pass valve located in the filter head, protects against high differential pressures caused by cold start-ups, flow surges and pressure spikes.
- The high bypass pressure setting (100 psid) minimizes the possibility of contamination due to premature bypassing.
- Filter materials are compatible with all mineral, lubricating oils, and commonly used fire retardant fluids per ISO 2943.
- Fatigue pressure rating equals maximum allowable working pressure rating.
- Wide variety of indicators available with standard setting of 72 psid (5 bar).

Applications



Agricultural



Automotive



Construction



Gearboxes



Industrial



Commercial
Municipal



Power
Generation

Technical Specifications

| | |
|--|--|
| Mounting Method | 3 or 4 mounting holes - filter head |
| Port Connection | SAE 16, 1" BSPP |
| Flow Direction | Inlet: Side Outlet: Side (opposite each other) |
| Construction Materials | |
| Head | Ductile iron |
| Bowl | Steel |
| Flow Capacity | |
| 75 | 29 gpm (110 lpm) |
| 95 | 37 gpm (140 lpm) |
| Housing Pressure Rating | |
| Max. Allowable Working Pressure | 5800 psi (400 bar) |
| Fatigue Pressure | Contact HYDAC office |
| Burst Pressure | 13,920 psi (960 bar) |
| Element Collapse Pressure Rating | |
| ON | 290 psid (20 bar) |
| Fluid Temperature Range | |
| 14°F to 212°F (-10°C to 100°C) Consult HYDAC for applications 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 | |
| $\Delta P = 72 \text{ psid (5 bar) } -10\% \text{ (standard)}$ | |
| Bypass Valve Cracking Pressure | |
| $\Delta P = 101.5 \text{ psid (7 bar) } +10\% \text{ (standard)}$ | |

Model Code

Filter Type _____
HFM = In-Line High Pressure Filter

Element Media _____
ON = Optimicron® (Low Collapse)

Size _____
75 = 29 gpm
95 = 37 gpm

Operating Pressure _____
S = 5800 psi (400 bar)

Type of Connection _____
J = 1" threaded (1" BSPP)
K = 1" threaded (1 5/16" threaded-12UN)=SAE 16

Filtration Rating (microns) _____
1, 3, 5, 10, 15, 20 = ON

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

Type Number _____
1

Type Modification Number (latest version always supplied) _____

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

Bypass Valve _____
B3.5 = 50.75 psid (3.5 bar) (optional)
B7 = 101.5 psid (7 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)
LED = 2 LEDs up to a voltage of 24 Volt
T100 = Thermal lockout on indicator at 100°F (C and D indicators only)
SFREE = Element specially designed to minimize electrostatic charge generation
cRUus = Electrical Indicator with underwriter's recognition
SO376 = Modification of ON and W/HC elements for HFA, HFB, HFC, and HFD flame retardant liquids
SO882 = Quality Protection Design

HFM ON 95 S K 10 A 1 . 0 / V B7

Replacement Element Model Code

0095 D 010 ON / V
Size _____
0075, 0095

Filtration Rating (micron) _____
1, 3, 5, 10, 15, 20 = BN4HC

Element Media _____
ON = Optimicron®

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

Supplementary Details _____
SO263 = (same as above)
SFREE = (same as above)
SO376 = (same as above)
SO882 = (same as above)

Clogging Indicator Model Code

VD 5 B . 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 15 psid (1 bar) & 116 psid (8 bar) available upon request

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) (standard)
V = Fluorocarbon elastomer (FKM)

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

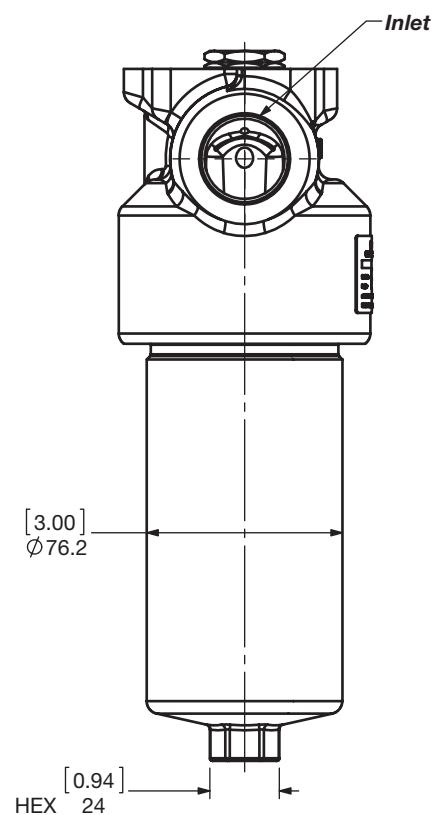
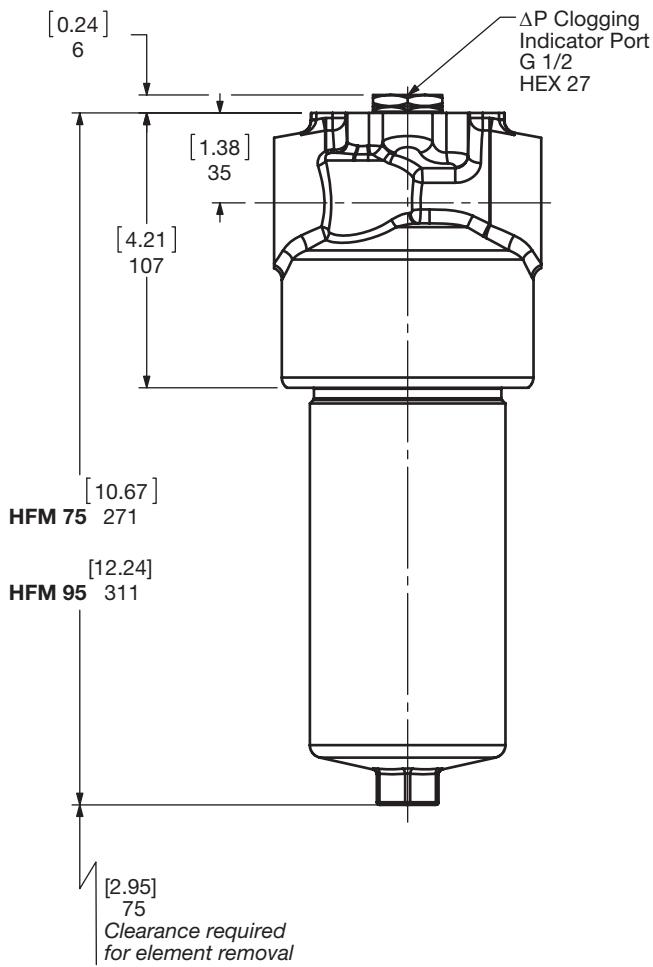
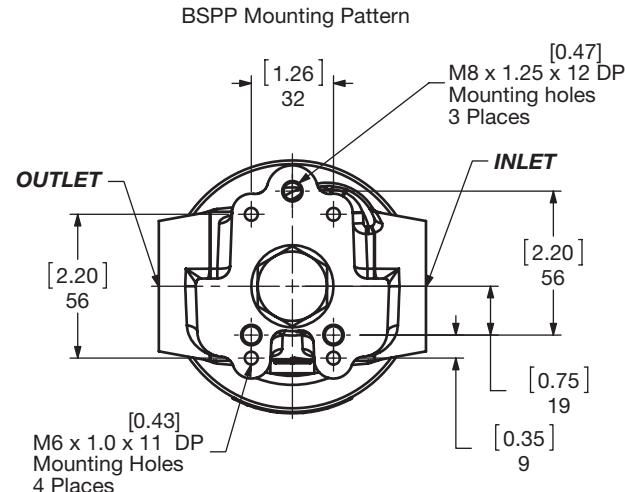
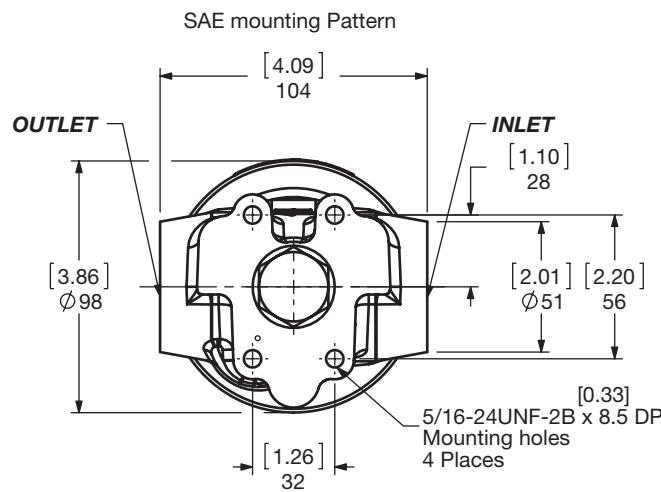
W = "VD..." indicator modified with a brass piston for use with high water based emulsions/solutions (HFA) & (HFC)

(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

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Dimensions HFM 75/95



| Size | 75 | 95 |
|---------------|------|------|
| Weight (lbs.) | 12.4 | 13.5 |

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:

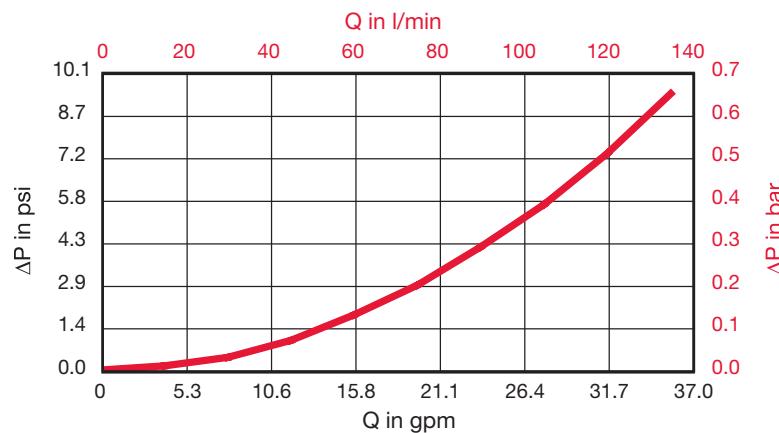
Assembly ΔP = Housing ΔP + Element ΔP

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

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

(From Tables Below)

| Optimicron | ...D...ON (Pressure Elements) | | | | | | |
|---------------|-------------------------------|-------|-------|-------|-------|-------|-------|
| | Size | 1 μm | 3 μm | 5 μm | 10 μm | 15 μm | 20 μm |
| 0075 D XXX ON | | 0.916 | 0.461 | 0.37 | 0.296 | 0.183 | 0.136 |
| 0095 D XXX ON | | 0.724 | 0.37 | 0.296 | 0.238 | 0.144 | 0.105 |

All Element K Factors in psi / gpm.