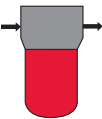


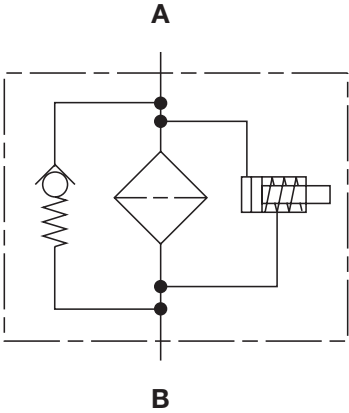
HIGH PRESSURE FILTERS

MFM Series

Inline Filters
4060 PSI • up to 25 GPM



Hydraulic Symbol



Features

- Because of their efficient design and construction, MFM filters are considered a cost effective solution for new equipment, or as a replacement for filters already specified on existing equipment.
- The MFM filter is available in 4 sizes comprised of four different bowl and element lengths. The models 35, 55, 75, and 95, provide maximum flow rates of 10, 18, 20, and 25 GPM respectively.
- A quick-response bypass valve located in filter head protects against high differential pressures caused by cold startups, 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.

Applications



Agricultural



Automotive



Construction



Gearboxes



Industrial



Commercial
Municipal

Technical Specifications

Mounting Method	4 mounting holes - filter head	
Port Connection	SAE-12, 3/4" BSPP	
Flow Direction	Inlet: Side	Outlet: Side (opposite each other)
Construction Materials	Head Ductile iron Bowl Steel	
Flow Capacity	35 10 gpm (35 lpm) 55 18 gpm (68 lpm) 75 20 gpm (76 lpm) 95 25 gpm (95 lpm)	
Housing Pressure Rating	Max. Allowable Working Pressure 4060 psi (280 bar) Fatigue Pressure 4060 psi (280 bar) @ 1 million cycles 4641 psi (320 bar) @ 100,000 cycles 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 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	$\Delta P = 72$ psid (5 bar) -10%	
Bypass Valve Cracking Pressure	$\Delta P = 50.75$ psid (3.5 bar) +10% (optional) $\Delta P = 100$ psid (7 bar) +10% (standard)	

Model Code

MFM ON 35 O I 10 C 4 . 0 / V B7

Filter Type _____
MFM = In-Line High Pressure Filter

Element Media _____
ON = Optimicron® (Low Collapse)

Size _____
35 = 10 gpm
55 = 18 gpm
75 = 20 gpm
95 = 25 gpm

Operating Pressure _____
O = 4000 psi (280 bar)

Type of Connection _____
I = 3/4" Threaded SAE 12 (1-1/16-12UN-2B))
H = 3/4" Threaded G 3/4 (BSPP)
(Other connections available on request)

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 _____
4 = Indicator port on top of head - 4 mounting holes (standard)
3 = Indicator port on side of head - 3 mounting holes

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 _____
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 = Indicator Thermal Lockout, 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

Replacement Element Model Code

0035 D 010 ON / V

Size _____
0035, 0055, 0075, 0095

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

Element Media _____
ON = Optimicron®

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

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

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

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

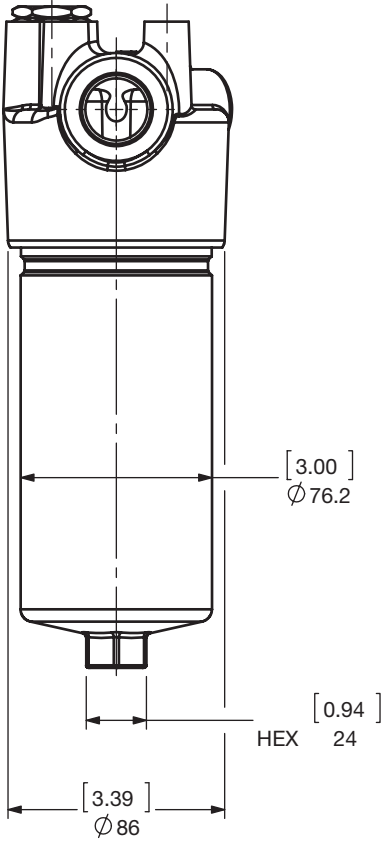
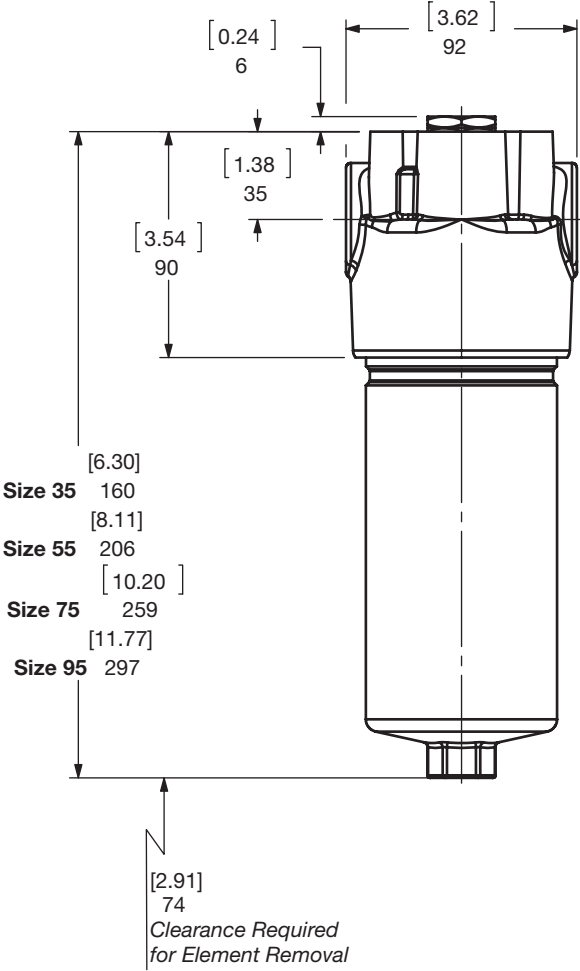
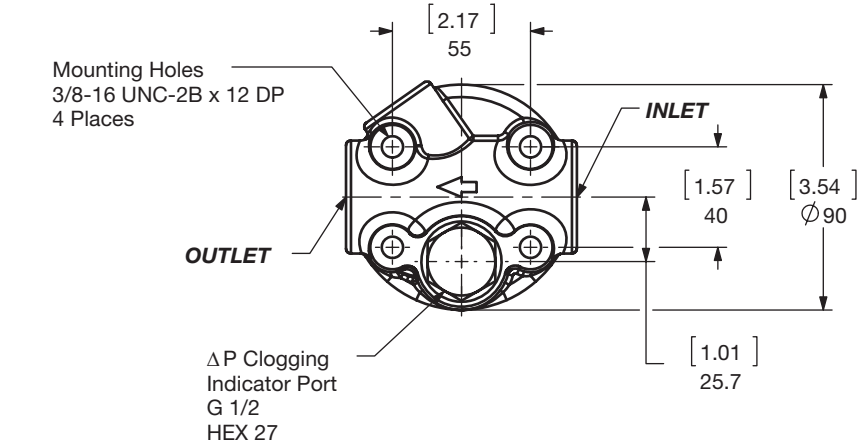
W = "VD..." indicator modified with a brass piston
for use with high water based emulsions/solutions
(HFA) & (HFC)

(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

HIGH PRESSURE FILTERS

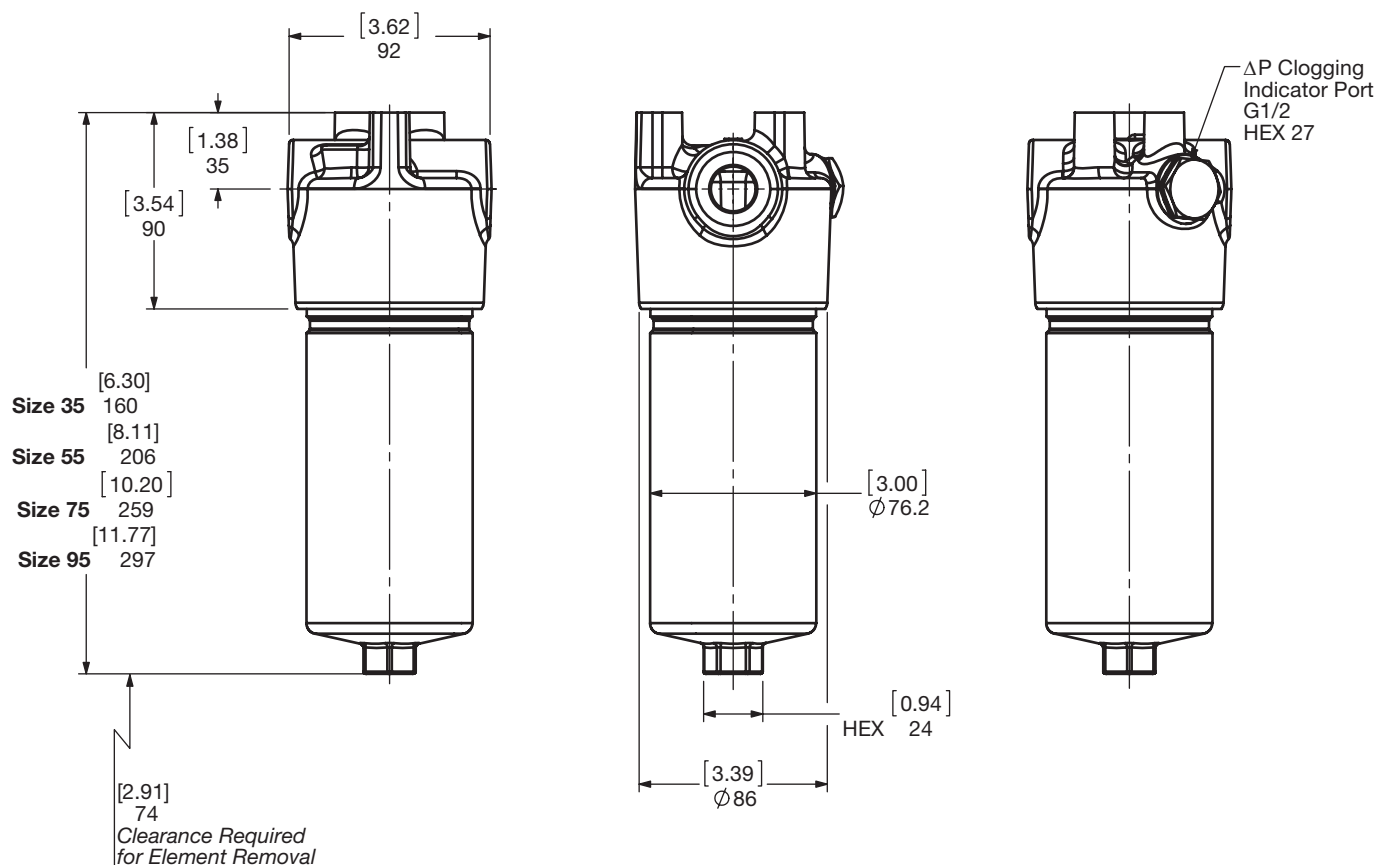
Dimensions MFM 4.X Version (Standard)



Size	35	55	75	95
Weight (lbs.)	8.2	9.3	10.4	11.3

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.

PN#02081318 / 03.25 / FIL1907-2109



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.

HIGH PRESSURE FILTERS

Sizing Information

Total pressure loss through the filter is as follows:

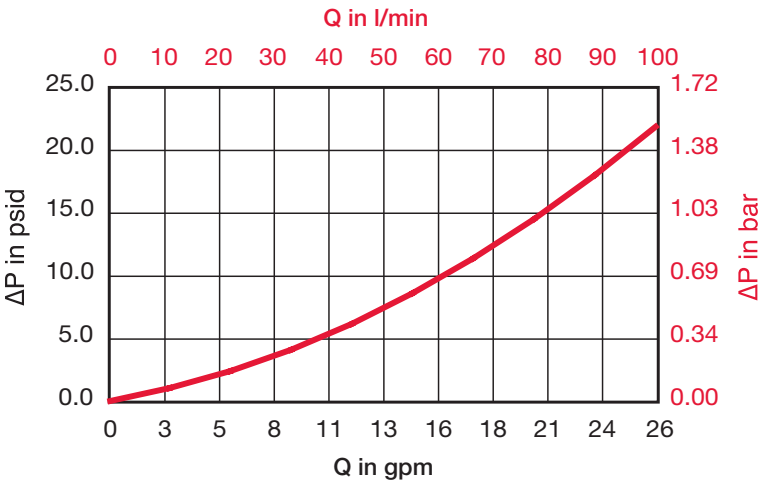
Assembly ΔP = Housing ΔP + Element ΔP

Housing Curve:

Pressure loss through housing is as follows:

Housing ΔP = Housing Curve ΔP x $\frac{\text{Actual Specific Gravity}}{0.86}$

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

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

Optimicron	...D...ON (Pressure Elements)					
Size	1 μm	3 μm	5 μm	10 μm	15 μm	20 μm
0035 D XXX ON	2.755	1.169	0.938	0.752	0.549	0.408
0055 D XXX ON	1.427	0.675	0.543	0.434	0.284	0.211
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.

