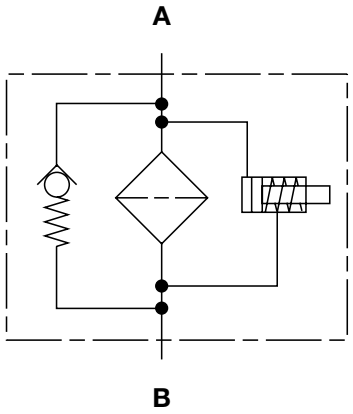
MFX Series

Inline Filters

725 psi • up to 35 gpm

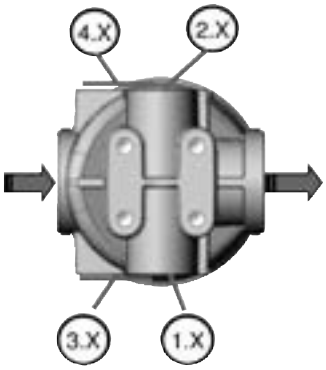
Hydraulic Symbol



Features

- Eco-friendly, cost-effective alternative to spin-on filters
- Integrated retrofit protection
- Longer service life of the filter bowl because of fatigue resistant up to 725 psi
- High level of operational safety - Bowl seal and bypass valve are integrated in the filter element and therefore replaced at every element change
- “Missing Element Protection” - cannot operate without element installed.
- Many choices of clogging indicators available
- Various port connection types (SAE-12, G ¾, SAE-16, G 1, M33x2)

Clogging Indicator Assignment



Technical Specifications

Mounting Method	4 Mounting holes (3/8-16UNC) or (M10-13) Ref. Drawing
Port Connection	SAE-12, G 3/4 SAE-16, G 1, M33x2
Flow Direction	Inlet: Side Outlet: Side (opposite each other)
Construction Materials	
Head	Die Cast Aluminum
Bowl	Extruded Aluminum
Flow Capacity	
100	26 gpm (100 lpm)
200	35 gpm (130 lpm)
Housing Pressure Rating	
Max. Allowable Working Pressure	725 psi (50 bar)
Fatigue Pressure	725 psi (50 bar) @ 1 million cycles
Burst Pressure	2600 psi (183 bar)
Element Collapse Pressure Rating	
BN4HC	290 psid (20 bar)
ECON2, MM	145 psid (10 bar)
Fluid Temperature Range	-22°F to 212°F (-30°C to 100°C) Consult HYDAC for applications below -22˚F (-30˚C)
Fluid Compatibility	Compatible with all hydrocarbon based, synthetic, and high water based fluids compatible with Nitrile Rubber (NBR) seals
ΔP Indicator Trip Pressure	ΔP = 36.25 psid (2.5 bar) -10% (standard). ΔP = 14.5 psid (1 bar) -10% (optional)
Bypass Valve Cracking Pressure	ΔP = 50.75 psid (3.5 bar) +10% *(standard)* ΔP = 25 psid (1.7 bar) +10% *(optional)*

Applications

Agricultural

Automotive

Construction

Commercial Municipal

Railways

PN#02081318 / 07.19 / FIL1907-2109

Model Code

MFX BN/HC 100 G I 10 BF 4 . 0 / B3.5

Filter Type
MFX = In-Line Medium Pressure Filter

Filter Media
BN/HC, ECON2, MM

Size
100, 200

Operating Pressure
G = 725 psi (50 bar)

Type of Connection
C = G 3/4"
I = 3/4" (SAE 12 straight thread)
D = G 1"
K = 1" (SAE 16 straight thread)
L = M33x2

Filtration Rating *(microns)*
3, 5, 10, 20 = BN4HC 3, 5, 10, 20 = ECON2 10, 15 = MM

Type of Clogging Indicator
A, W, BM, C, D, M, BF *(Others available upon request)*

Indicator Location
1-4 = 3 + 4 BF Indicator only
1 + 2 not with BF indicator

Type Modification Number *(latest version always supplied)*

Supplementary Details
B1.7 = Cracking pressure (bypass valve) 25 psi (1.7) bar
B3.5 = Standard, cracking pressure bypass valve 50 psi (3.5 bar)
KB = Non-bypass option
L... = Lamp for relevant voltage (24V, 48V, 110V, 220V)
LED = 2 LEDs up to a voltage of 24 Volt
cRUus = Electrical Indicator with underwriter's recognition

Replacement Element Model Code

0100 MX 010 BN4HC / - B3.5

Size
0100, 0200

Type
MX

Filtration Rating *(micron)*
3, 5, 10, 20 = BN4HC
3, 5, 10, 20 = ECON2
10, 15 = MM

Filter Material
BN4HC, ECON2, MM

Supplementary Details
Seals:
(omit) = Nitrile rubber (NBR) *(standard)*
B1.7 = Cracking pressure (bypass valve) 25 psi (1.7 bar)
B3.5 = Standard, cracking pressure (bypass valve) 50 psi (3.5 bar)
KB = Non-bypass option

Clogging Indicator Model Code

VL 2.5 BF . X /

Indicator Prefix
VM = G 1/2 3000 psi
VL = BF only

Trip Pressure
2.5 = 36 psid (2.5 bar)
1 = 14.5 psid (1 bar)

Type of Indicator
A = No indicator, plugged port
W = No indicator, without port
BM = Pop-up indicator *(manual reset)*
C = Electric switch - SPDT
M = Electric switch, single pole
D = Electric switch and LED light - SPDT
BF = Visual analog

Modification Number

Supplementary Details
Seals
(omit) = Nitrile rubber (NBR) *(standard)*

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

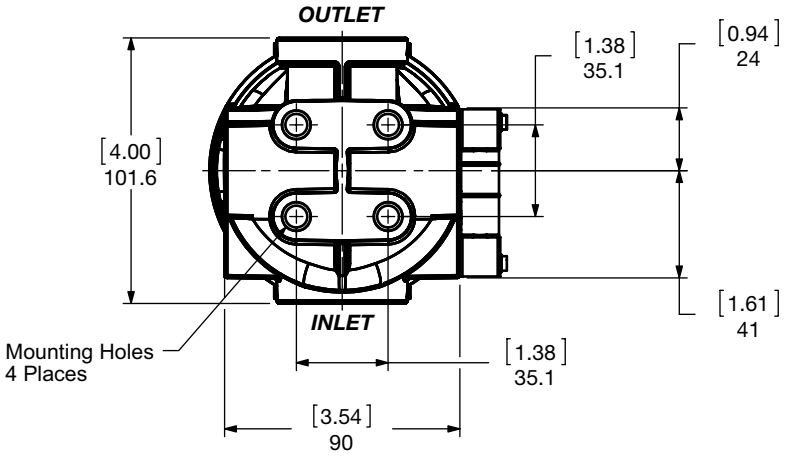
Thermal Lockout *(VM, VD types C, D, J, and J4 only)*
T100 = Lockout below 100°F

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

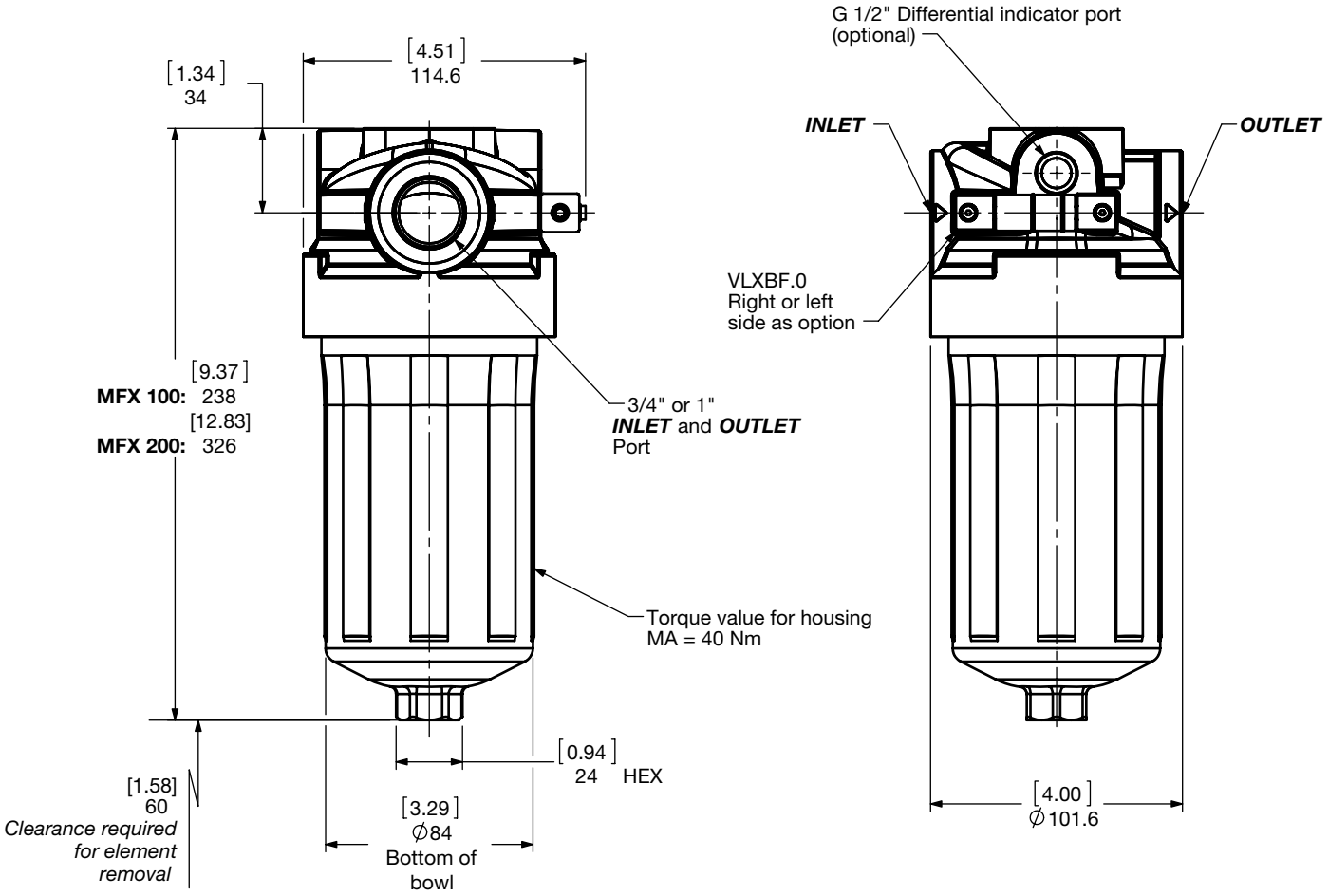
(*For additional details and options, see Section H - Clogging Indicators.*)

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

Dimensions
MFX 100 / 200



MFX 100/200...	Mounting x
...G C...	M10-13 [0.5] Deep
...G D...	M10-13 [0.5] Deep
...G I...	3/- 16UNC. 13 [0.5] Deep
...G K...	3/8-16UNC. 13 [0.5] Deep
...G L...	M10-13 [0.5] Deep



Size	100	200
Weight (lbs.)	3.3	3.9

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:

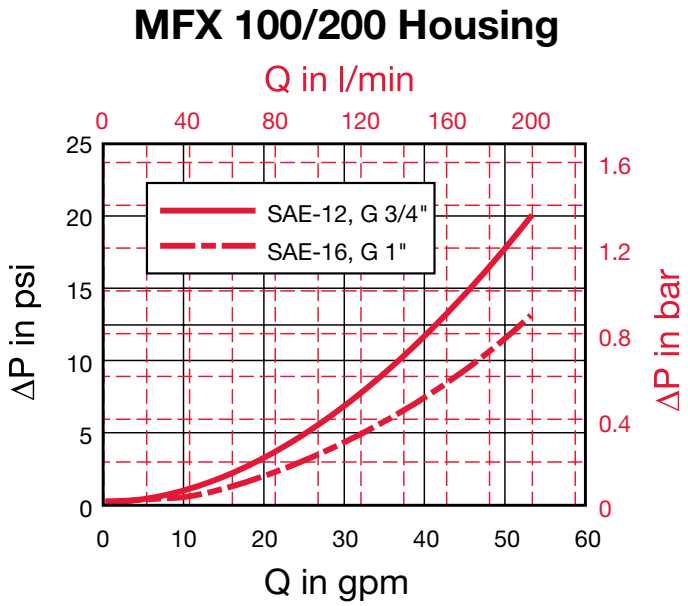
Assembly ΔP = Housing ΔP + Element ΔP

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

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

Betamicron	**...MX...BN4HC** (Betamicron® Low Collapse)			
Size	**3 µm**	**5 µm**	**10 µm**	**20 µm**
0100 MX XXX BN4HC	0.659	0.494	0.252	0.187
0200 MX XXX BN4HC	0.384	0.291	0.148	0.110

ECOmicron	**...MX...ECON2**			
Size	**3 µm**	**5 µm**	**10 µm**	**20 µm**
0100 MX XXX ECON2	0.713	0.549	0.357	0.263
0200 MX XXX ECON2	0.439	0.324	0.209	0.154

Mobilemicron	**...MX...MM**		
Size	**8 µm**	**10 µm**	**15 µm**
0100 MX XXX MM	0.148	0.148	0.121
0200 MX XXX MM	0.088	0.088	0.071

All Element K Factors in psi / gpm.

Notes