

# MEDIUM PRESSURE FILTERS

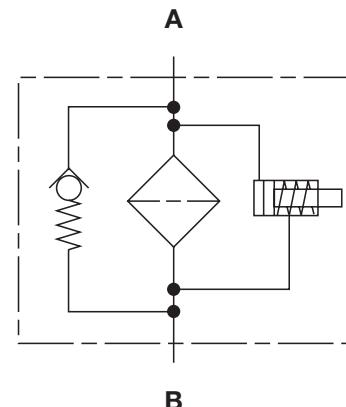
## MFX Series

### Inline Filters

725 psi • up to 35 gpm



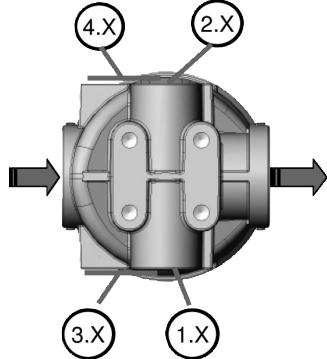
### Hydraulic Symbol



### 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 1/4, SAE-16, G 1, M33x2)

### Clogging Indicator Assignment



### Applications



Agricultural



Automotive



Construction



Commercial  
Municipal



Railways

### Technical Specifications

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

## Model Code

Filter Type	MF <small>X</small>	BN/HC	100	G	I	10	BF	4 . 0 / B3.5
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, see Clogging Indicators section.)							
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

Size	0100	MX	010	BN4HC	/ - B3.5
Type	0100, 0200				
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

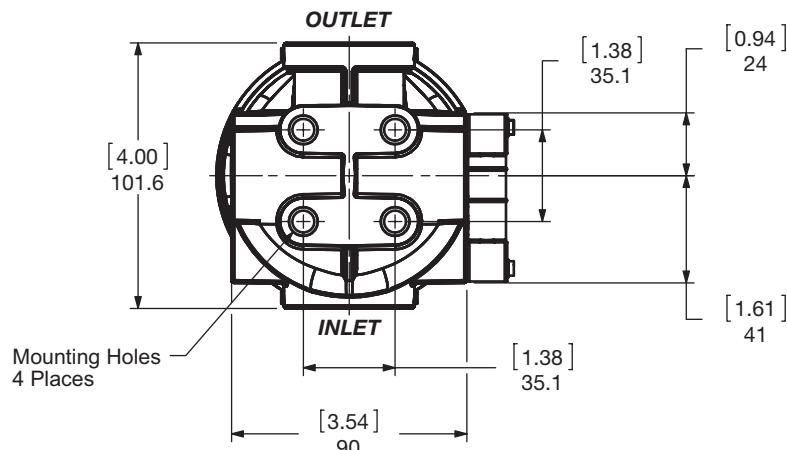
Indicator Prefix	VL	2.5	BF	.	X	/
Trip Pressure	2.5 = 36 psid (2.5 bar) 1 = 14.5 psid (1 bar)					
Type of Indicator	A = No indicator, plugged port W = No indicator, without port BM = Pop-up indicator (manual reset) C = Electric switch - SPDT M = Electric switch, single pole D = Electric switch and LED 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 Clogging Indicators section.)

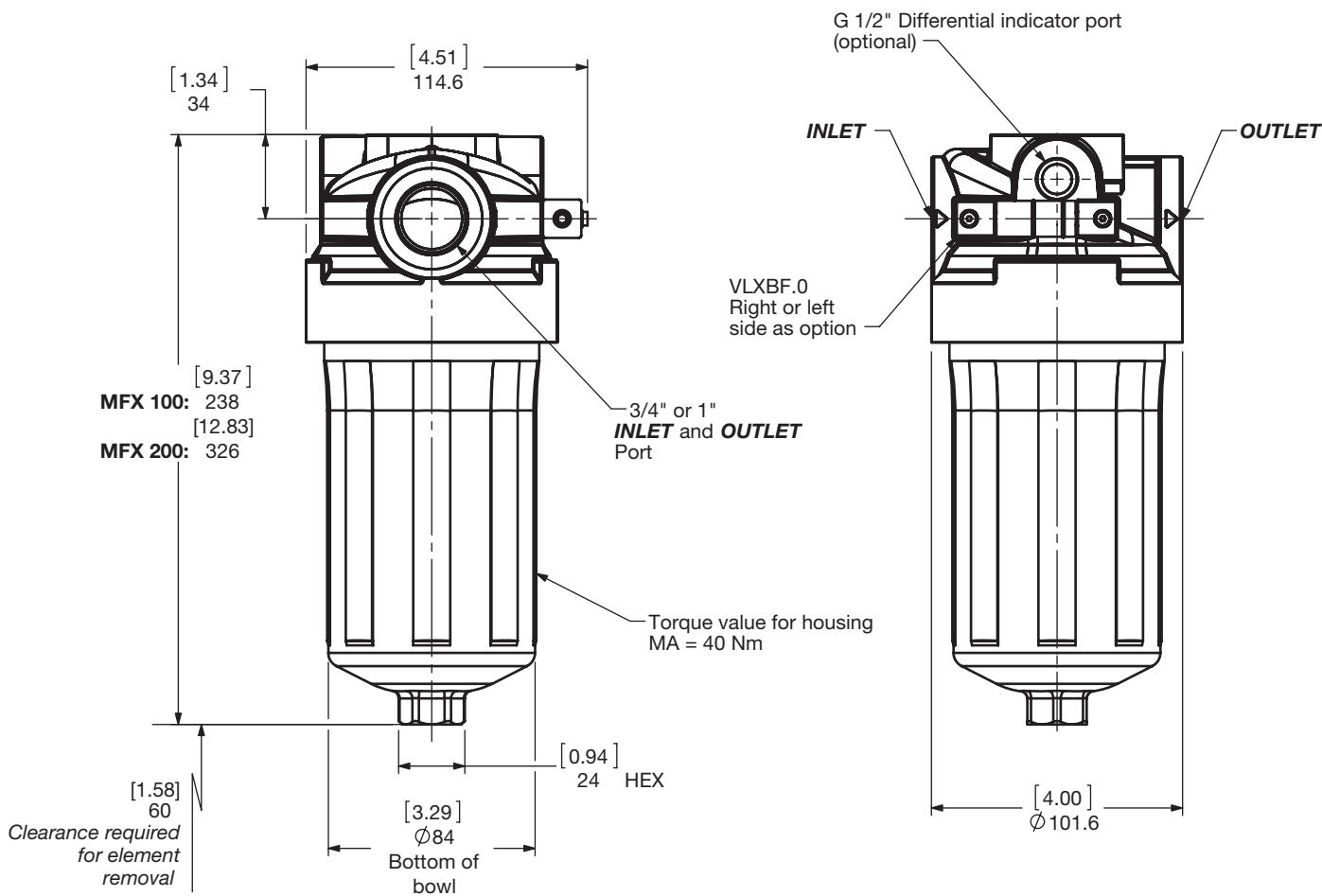
Model Codes Containing RED are non-stock items — Minimum quantities may apply — Contact HYDAC for information and availability

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Dimensions  
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**

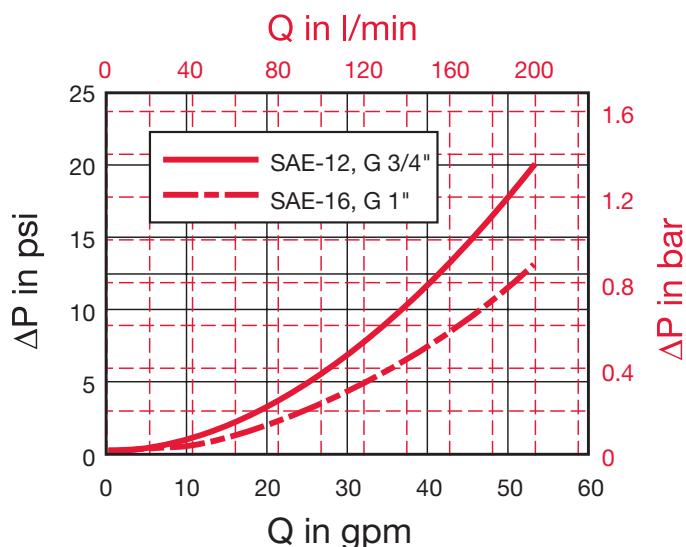
Total pressure loss through the filter is as follows:

Assembly  $\Delta P$  = Housing  $\Delta P$  + Element  $\Delta P$ **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 &amp; specific gravity of the fluid to be used! (see "Sizing HYDAC Filter Assemblies" in Section B - Overview)

**MFX 100/200 Housing****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)

Betamicron	...MX...BN4HC (Betamicron® Low Collapse)			
	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			
	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		
	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.

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## Notes

