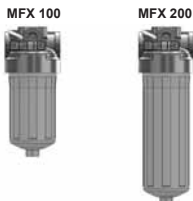




## Inline Filter MFX up to 130 l/min, up to 50 bar



### 1. TECHNICAL SPECIFICATIONS

#### 1.1 FILTER HOUSING

##### Construction

The filter housings are designed in accordance with international regulations. They consist of a filter head and a screw-in filter bowl.

Standard equipment:

- usually 4 possible positions for a clogging indicator
- with bypass valve

#### 1.2 FILTER ELEMENTS

HYDAC filter elements are validated and their quality is constantly monitored according to the following standards:

- ISO 2941
- ISO 2942
- ISO 2943
- ISO 3724
- ISO 3968
- ISO 16889

#### Contamination retention capacities in g

MFX	Betamicon® (BN4HC)		
	5 µm	10 µm	20 µm
100	27.8	27.8	28.8
200	47.4	47.4	49.4

Filter elements are available with the following pressure stability values:

Betamicon® (BN4HC):	10 bar
ECONicon® (ECON2):	10 bar
Mobilemicron (MM):	10 bar

#### 1.3 FILTER SPECIFICATIONS

Nominal pressure	50 bar
Fatigue strength (without BF clogging indicator)	At nominal pressure 10 <sup>6</sup> cycles from 0 to nominal pressure
Temperature range	-30 °C to +100 °C (-10 °C to +80 °C by BF clogging indicator)
Material of filter head	Aluminium
Material of filter bowl	Aluminium
Type of clogging indicator	VM (Diff. pressure indicator up to 210 bar operating pressure) VL (Diff. pressure indicator up to 50 bar operating pressure)
Setting pressure of the clogging indicator	Standard 2.5 bar, optional 1 bar (others on request)
Bypass cracking pressure	Standard 3.5 bar, optional 1.7 bar (others on request)

#### 1.4 SEALS

NBR (= Perbunan)

#### 1.5 INSTALLATION

As inline filter

#### 1.6 SPECIAL MODELS AND ACCESSORIES

Seals in FPM, EPDM (on request)

#### 1.7 SPARE PARTS

See Original Spare Parts List

#### 1.8 CERTIFICATES AND APPROVALS

On request

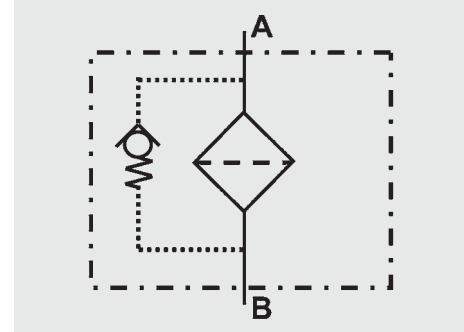
#### 1.9 COMPATIBILITY WITH HYDRAULIC FLUIDS ISO 2943

- Hydraulic oils H to HLPD DIN 51524
- Lubrication oils DIN 51517, API, ACEA, DIN 51515, ISO 6743
- Compressor oils DIN 51506
- Biodegradable operating fluids VDMA 24568 HETG, HEES, HEPG
- Fire-resistant fluids HFC and HFD
- Operating fluids with high water content (>50% water content) on request

#### 1.10 MAINTENANCE INSTRUCTIONS

- Filter housings must be earthed.
- When using electrical clogging indicators, the electrical power supply to the system must be switched off before removing the clogging indicator connector.

#### Symbol for hydraulic systems



## 2. MODEL CODE (also order example)

**MFX BN/HC 100 G I 10 BF 4 . X /-B3.5**

### 2.1 COMPLETE FILTER

**Filter type** \_\_\_\_\_

MFX

**Filter material of element** \_\_\_\_\_

BN/HC Betamicron® (BN4HC)

ECO/N ECOmicron® (ECON2)

MM Mobilemicron

**Size of filter or element** \_\_\_\_\_

MFX: 100, 200

**Operating pressure** \_\_\_\_\_

G = 50 bar

**Type and size of connection** \_\_\_\_\_

Type	Connection	Filter size	
		100	200
C	G ¾	●	●
D	G 1	●	●
E	M26 x 1.5	●	●
I	1 1/16-12 UN	●	●
K	1 5/16-12 UN	●	●
L	M33 x 2	●	●

**Filtration rating in µm** \_\_\_\_\_

BN/HC, ECO/N : 5, 10, 20

MM : 8, 10, 15

**Type of clogging indicator** \_\_\_\_\_

W without port (no clogging indicator)

A plastic blanking plug in indicator port

B visual

C electrical

D visual and electrical

BF visual, mobile (only on type codes 3.X and 4.X)

for other clogging indicators,  
see brochure no. 7.050../..

**Type code** \_\_\_\_\_

1-4 see point 2.5 – Mounting position of the clogging indicator

**Modification number** \_\_\_\_\_

X the latest version is always supplied

**Supplementary details** \_\_\_\_\_

B3.5 standard: bypass cracking pressure 3.5 bar

B. special bypass cracking pressure (B1.7 = 1.7 bar)

L... light with appropriate voltage (24, 48, 110, 220 Volt)

LED 2 light emitting diodes up to 24 Volt

V FPM seals (on request)

W suitable for HFA and HFC emulsions

] A bypass is essential  
and must be selected!

] only for clogging indicators  
type "D"

### 2.2 Preferred models

MFX ..... 100/200 G C .... BF 4.X/-B3.5

MFX ..... 100/200 G C .... W 0.X/-B3.5

MFX ..... 100/200 G C .... A 2.X/-B3.5

MFX ..... 100/200 G D .... BF 4.X/-B3.5

MFX ..... 100/200 G D .... W 0.X/-B3.5

MFX ..... 100/200 G D .... A 2.X/-B3.5

### 2.3 REPLACEMENT ELEMENT

**0100 MX 010 BN4HC /-B3.5**

**Size** \_\_\_\_\_

0100, 0200

**Type** \_\_\_\_\_

MX

**Filtration rating in µm** \_\_\_\_\_

BN4HC, ECON2 : 005, 010, 020

MM : 008, 010, 015

**Filter material** \_\_\_\_\_

BN4HC, ECON2, MM

**Supplementary details** \_\_\_\_\_

V, W (for description, see point 2.1)

B3.5 standard: bypass opening pressure 3.5 bar

B. special bypass cracking pressure (B1.7 = 1.7 bar)

] A bypass valve is essential and must be  
selected!

## 2.4 REPLACEMENT CLOGGING INDICATOR

VM 2.5 D . X /-L24

### Type of indicator

VM Diff. pressure indicator up to 210 bar operating pressure

VL Diff. pressure indicator type "BF" up to 50 bar operating pressure and max. operating temperature of 80 °C

### Pressure setting

2.5 standard 2.5 bar, others on request

### Type of clogging indicator (see Point 2.1)

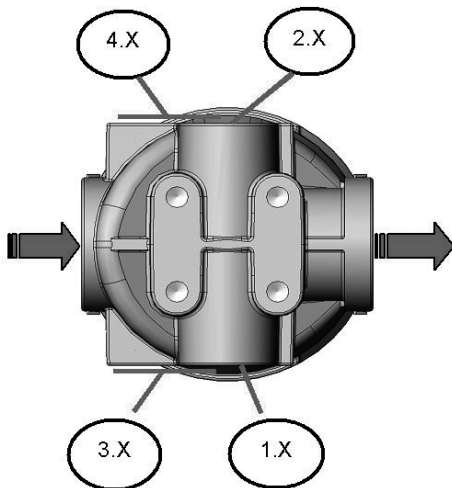
### Modification number

X the latest version is always supplied

### Supplementary details

L..., LED, V, W (for descriptions, see Point 2.1)

## 2.5 TYPE CODE: MOUNTING POSITION OF THE CLOGGING INDICATOR



Type code 3.X and 4.X only possible with indicator type "BF"!

## 3. FILTER CALCULATION / SIZING

The total pressure drop of a filter at a certain flow rate Q is the sum of the housing  $\Delta p$  and the element  $\Delta p$  and is calculated as follows:

$$\Delta p_{\text{total}} = \Delta p_{\text{housing}} + \Delta p_{\text{element}}$$

$$\Delta p_{\text{housing}} = \text{given in diagrams (see point 3.1)}$$

$$\Delta p_{\text{element}} = Q \cdot \frac{SK^*}{1000} \cdot \frac{\text{viscosity}}{30}$$

(\*see point 3.2)

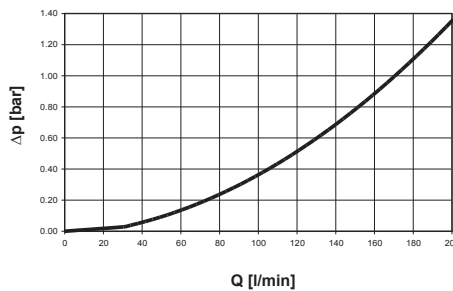
For ease of calculation, our Filter Sizing Program is available on request free of charge.

**NEW:** Sizing online at [www.hydac.com](http://www.hydac.com)

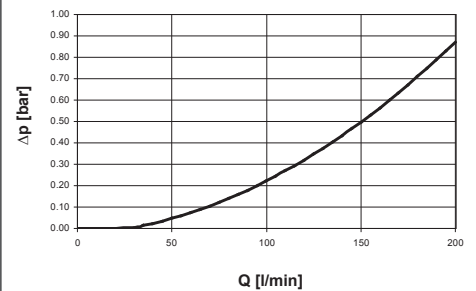
## 3.1 $\Delta p$ -Q HOUSING CURVES BASED ON ISO 3968

The housing curves apply to mineral oil with a density of 0.86 kg/dm<sup>3</sup> and a kinematic viscosity of 30 mm<sup>2</sup>/s. In this case, the differential pressure changes proportionally to the density.

### MFx 100/200: G 3/4



### MFx 100/200: G1



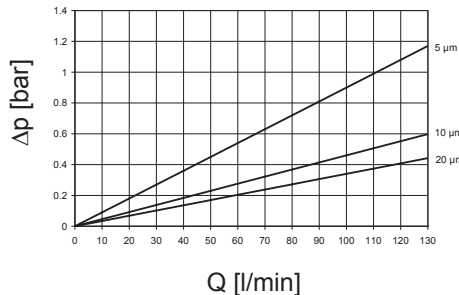
## 3.2 GRADIENT COEFFICIENTS (SK) FOR FILTER ELEMENTS

The gradient coefficients in mbar/(l/min) apply to mineral oils with a kinematic viscosity of 30 mm<sup>2</sup>/s. The pressure drop changes proportionally to the change in viscosity.

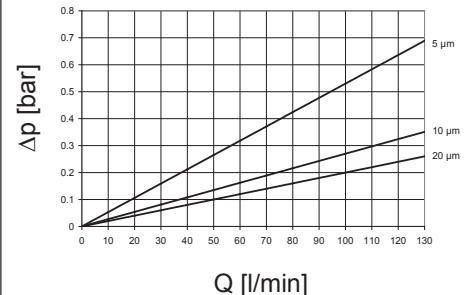
	ECON2			MM*	
	5 μm	10 μm	20 μm	10 μm	15 μm
100	10.00	6.50	4.80	2.70	2.20
200	5.90	3.80	2.80	1.60	1.30

\* 8 μm values on request!

### BN4HC: MFx 100

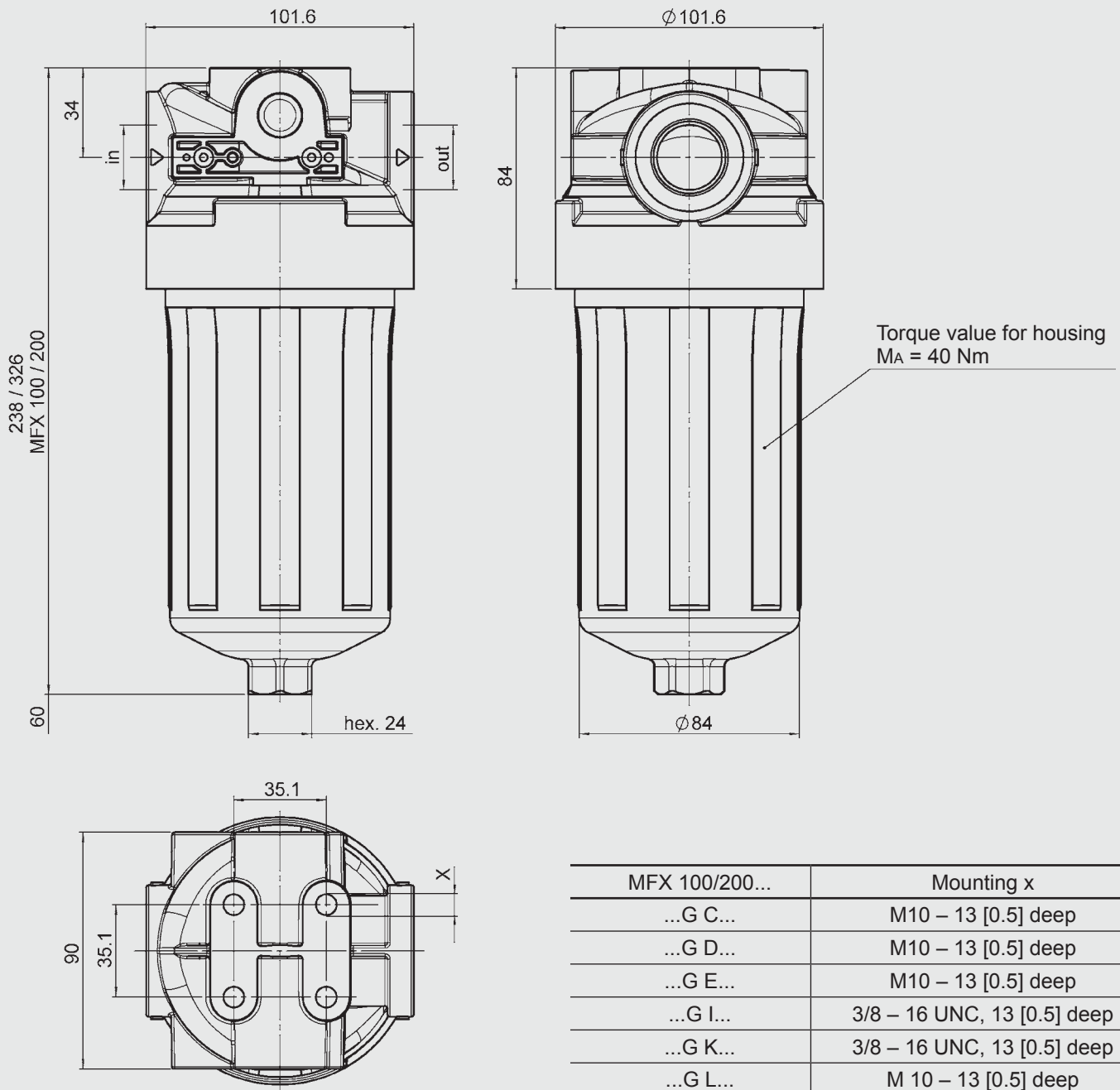


### BN4HC: MFx 200



## 4. DIMENSIONS

### MFX 100/200



MFX	Weight incl. element [kg]	Volume of pressure chamber [l]
100	1.46	0.71
200	1.74	1.12

### NOTE

The information in this brochure relates to the operating conditions and applications described.  
For applications or operating conditions not described, please contact the relevant technical department.  
Subject to technical modifications.

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