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:

- 4 possible positions for a clogging indicator
- 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

	Betamicron® (BN4HC)			
MFX	3 µm	5 µm	10 µm	20 µm
100	24.2	27.8	27.8	28.8
200	41.3	47.4	47.4	49.4

Filter elements are available with the following pressure stability values:

Betamicron® (BN4HC):	20 bar
ECOmicron® (ECON2):	10 bar
Mobilemicron (MM):	10 bar

1.3 FILTER SPECIFICATIONS

Nominal pressure	50 bar
Fatigue strength (without BF clogging indicator)	At nominal pressure 10^6 cycles from 0 to nominal pressure 300,000 cycles at 70 bar
Temperature range	-10 °C to +80 °C
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

INLINE FILTER

1.6 SPECIAL MODELS AND ACCESSORIES

Seals in EPDM (on request)

1.7 SPARE PARTS

See Original Spare Parts List

1.8 CERTIFICATES AND APPROVALS

On request

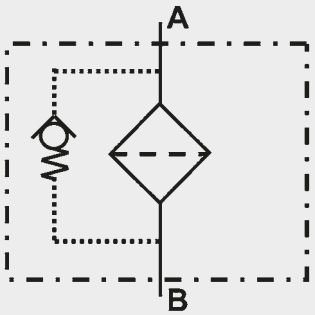
1.9 COMPATIBILITY WITH HYDRAULIC FLUIDS ISO 2943

- 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
] for other clogging indicators, see brochure no. 7.050../..
BF visual, mobile (only on type codes 3.X and 4.X)

Type code
1-4 see point 2.5 – Installation 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 (e.g. B1.7 = 1.7 bar)
] A bypass is essential and must be selected!
L... light with appropriate voltage (24, 48, 110, 220 Volt)
LED 2 light emitting diodes up to 24 Volt
] only for clogging indicators type "D"
W suitable for HFA and HFC emulsions

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
W (for descriptions, see point 2.1)
B3.5 standard: bypass cracking pressure 3.5 bar
B. special bypass cracking pressure (e.g. B1.7 = 1.7 bar)
] A bypass 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 -10 °C to +80 °C

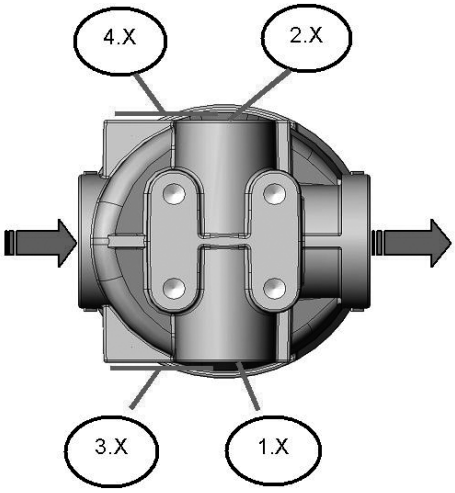
Pressure setting
2.5 standard 2.5 bar, others on request

Type of clogging indicator (see Point 2.1)

Modification number
X the latest version is always supplied

Supplementary details
L..., LED, W (for descriptions, see point 2.1)

2.5 TYPE CODE: INSTALLATION 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 Δp and the element Δp and is calculated as follows:

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

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

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

(*see point 3.2)

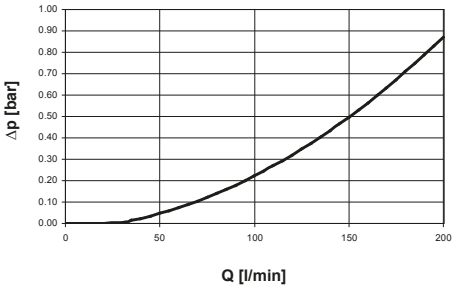
For ease of calculation, our Filter Sizing Program is available on request free of charge.

NEW: Sizing online at www.hydac.com

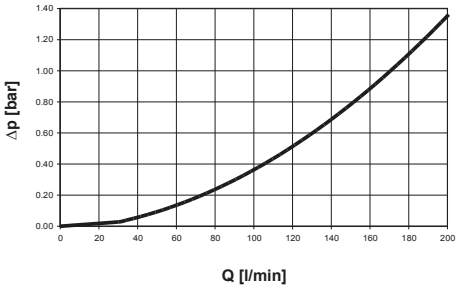
3.1 Δp-Q HOUSING CURVES BASED ON ISO 3968

The housing curves apply to mineral oil with a density of 0.86 kg/dm³ and a kinematic viscosity of 30 mm²/s.
In this case, the differential pressure changes proportionally to the density.

MFX 100/200: G1



MFX 100/200: G 3/4



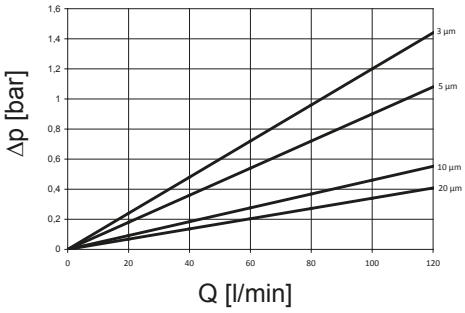
3.2 GRADIENT COEFFICIENTS (SK) FOR FILTER ELEMENTS

The gradient coefficients in mbar/(l/min) apply to mineral oils with a kinematic viscosity of 30 mm²/s. The pressure drop changes proportionally to the change in viscosity.

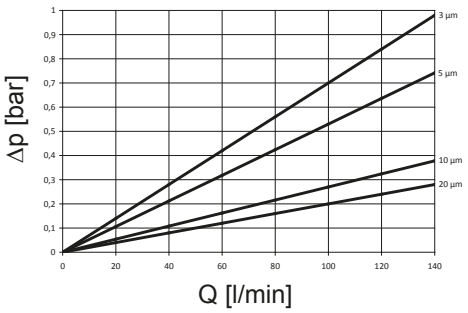
	ECON2				MM*	
	3 µm	5 µm	10 µm	20 µm	10 µm	15 µm
100	13.00	10.00	6.50	4.80	2.70	2.20
200	8.00	5.90	3.80	2.80	1.60	1.30

* 8 µm values on request!

BN4HC: MFX 100

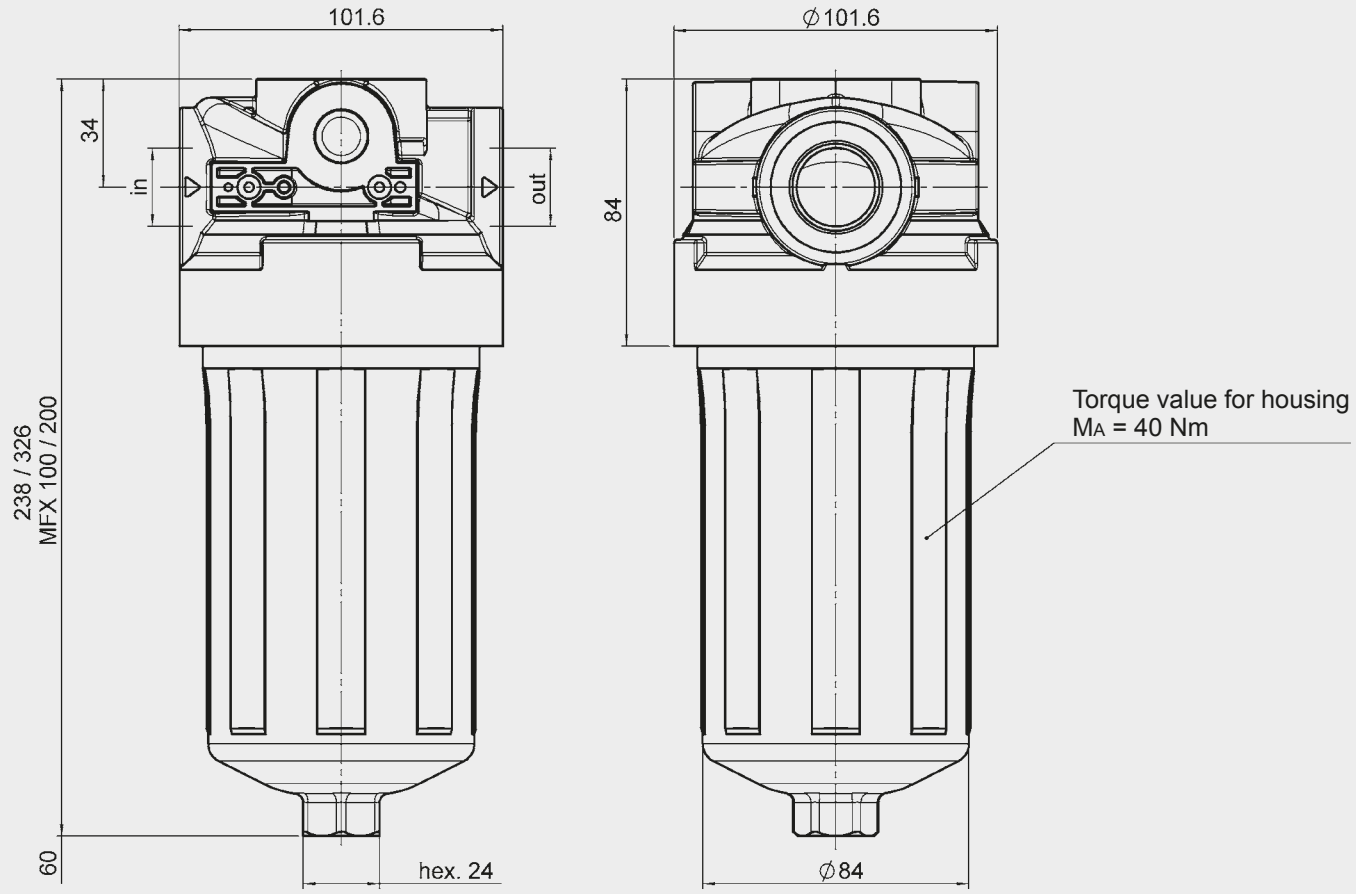


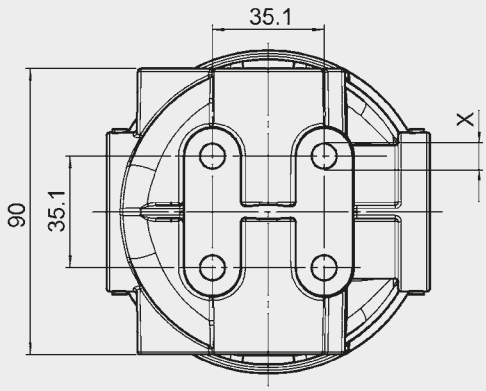
BN4HC: MFX 200



4. DIMENSIONS

MFX 100/200





MFX 100/200...	Mounting x
...G C...	M10 – 13 [0.5] deep
...G D...	M10 – 13 [0.5] deep
...G E...	M10 – 13 [0.5] deep
...G I...	3/8 – 16 UNC, 13 [0.5] deep
...G K...	3/8 – 16 UNC, 13 [0.5] deep
...G L...	M 10 – 13 [0.5] deep

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.

HYDAC Filtertechnik GmbH
Industriegebiet
D-66280 Sulzbach/Saar
Tel.: 0 68 97 / 509-01
Fax: 0 68 97 / 509-300
Internet: www.hydac.com
E-Mail: filter@hydac.com