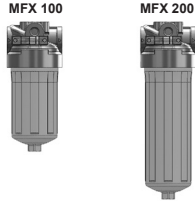




Inline Filter MFX

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

Filter elements are available with the following pressure stability values:

| | |
|----------------------|--------|
| Betamicron® (BN4HC): | 20 bar |
| Ecomicon® (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

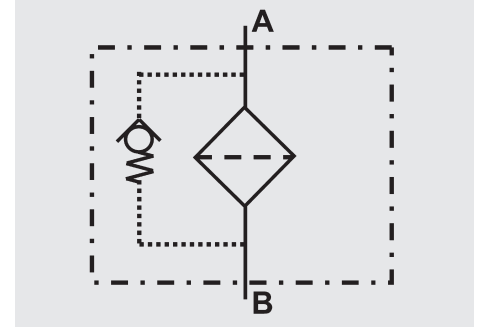
1.9 COMPATIBILITY WITH HYDRAULIC FLUIDS ISO 2943

- 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

BN/HC Betamicon® (BN4HC)

ECO/N Ecomicon® (ECON2)

MM Mobilemicon

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, manual

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 – 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)

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

LED 2 light-emitting diodes up to 24 volts

W suitable for HFA and HFC emulsions

] A bypass is essential
and must be selected!

] only for clogging indicator
indicators type "D"

2.2 Preferred models

MFX 100/200 G C ... BF 4.X/-A1.0

MFX 100/200 G C ... W 0.X

MFX 100/200 G C ... A 2.X

MFX 100/200 G D ... BF 4.X/-A1.0

MFX 100/200 G D ... W 0.X

MFX 100/200 G D ... A 2.X

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!

* If an MFX filter is set up with a 3.5 bar bypass valve and clogging indicator (VA), the response pressure of the VA is automatically 2.5 bar (=A2.5)

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)

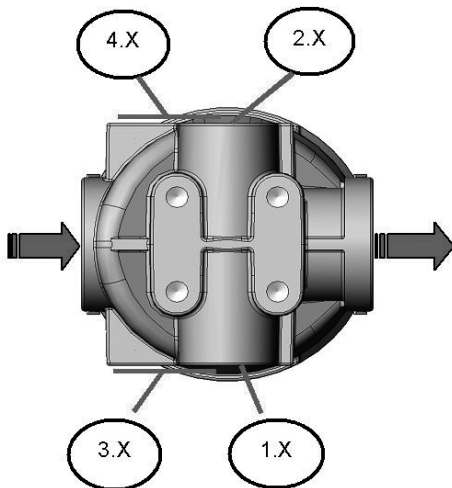
Modification number

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:

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

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

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

(*see point 3.2)

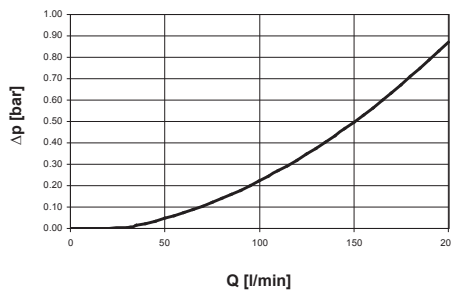
For ease of calculation, our Filter Sizing Program is available on request free of charge.

NEW: Sizing online at www.hydac.com

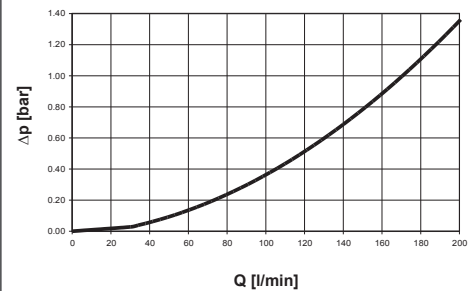
3.1 Δp -Q HOUSING CURVES BASED ON ISO 3968

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.

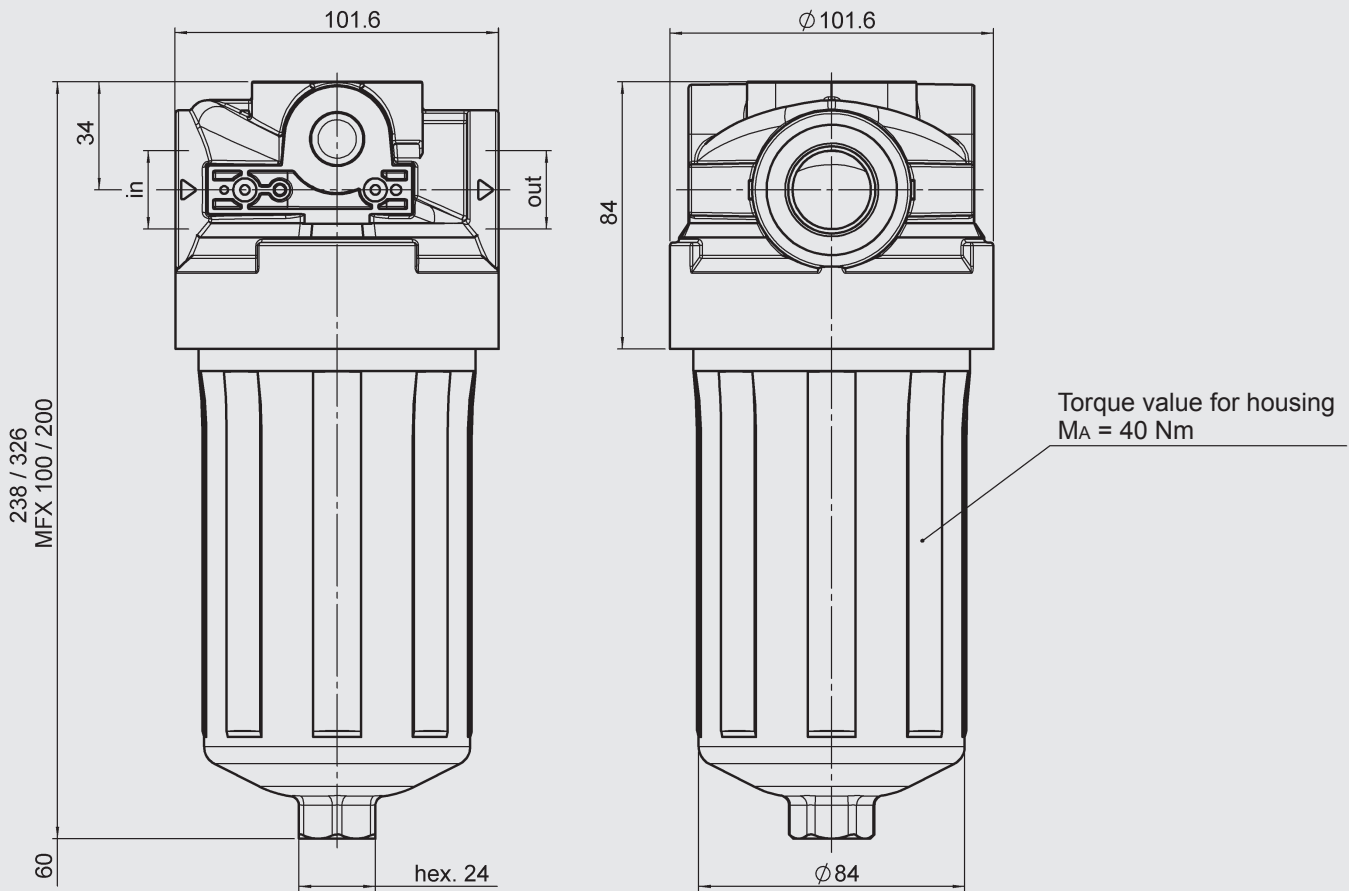
| MFX | BN4HC | | | |
|-----|-------|------|-------|-------|
| | 3 μm | 5 μm | 10 μm | 20 μm |
| 100 | 12.0 | 9.0 | 4.6 | 3.4 |
| 200 | 7.0 | 5.3 | 2.7 | 2.0 |

| MFX | 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!

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.

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