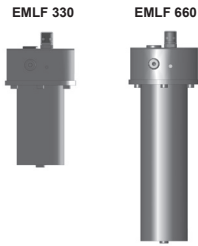




## Return Inline / Recirculation Filter EMLF up to 150 l/min, up to 40 bar



### 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 bolt-on filter bowl.

Standard equipment:

- bypass valve
- connection for a clogging indicator
- oil drain plug in filter bowl

#### 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 11170
- ISO 16889

Filter elements are available with the following pressure stability values:

Optimicon® (ON):	20 bar
Betamicon® (BN4HC)	
"-SS-SO361":	20 bar
Betamicon®/	
Aquamicon®(BN/AM):	10 bar
Wire mesh (W/HC):	20 bar
Ecomicon® (ECON2):	10 bar

#### 1.3 FILTER SPECIFICATIONS

Nominal pressure	40 bar
Test pressure	66 bar (design pressure: 44 bar)
Temperature range	-20 °C to +100 °C
Material of filter head	316S11 EN 1.4404 stainless steel
Material of filter bowl	316S11 EN 1.4404 stainless steel
Type of clogging indicator	VD (differential pressure indicator)
Pressure setting of clogging indicator	2 bar (others on request)
Bypass cracking pressure	3 bar (others on request)

#### 1.4 SEALS

FPM (Viton)

#### 1.5 INSTALLATION

Inline filter

#### 1.6 SPECIAL MODELS AND ACCESSORIES

- Seals in NBR, NLT, EPDM, HNBR, Kalrez®
- Without bypass valve
- Without port for clogging indicator
- With gauge ports (for external piping of pressure sensors)
- Reverse flow check
- Twin indicator version
- Ex or IS differential indicators available
- Flanged versions available (SAE, RF, RTJ, Destec®)

#### 1.7 SPARE PARTS

See Original Spare Parts List

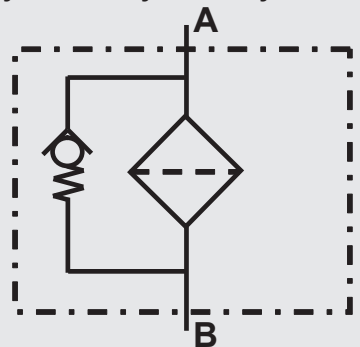
#### 1.8 CERTIFICATES AND APPROVALS

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 HFA, HFB, HFC und HFD
- Operating fluids with high water content (>50% water content) on request

#### Symbol for hydraulic systems



## 2. MODEL CODE (also order example)

### 2.1 COMPLETE FILTER

**EMLF40 ON 660 N4 005 B X /-V**

#### Filter type

EMLF40 40 bar

#### Filter material

ON Optimicon®

BN/HC Betamicon® (BN4HC) only to be used for water-glycol applications with "-SS-SO361"

BN/AM Betamicon®/Aquamicron® (BN4AM)

ECO Ecomicon (ECON2)

W/HC wire mesh

#### Size of filter

330, 660

#### Type and size of connection

Type	Port (thread)	Filter size	
		330	660
B4	1"-BSPP	●	●
B5	1¼"-BSPP	●	●
N4	1"-NPT	●	●
N5	1¼"-NPT	●	●
F32	SAE 32	●	●

#### Filtration rating in µm

ON : 001, 003, 005, 010, 015, 020

BN/HC (-SS-SO361) : 003, 010

ECO : 003, 005, 010, 020

BN/AM : 003, 010

W/HC : 025, 050, 100, 200

#### Type of clogging indicator

W without port (no clogging indicator)

A stainless steel blanking plug in indicator port

B visual

C electrical

D visual and electrical

UE vacuum gauge

BM+C visual with manual reset + electrical (= 2 indicators)

E 1/4"-NPT gauge ports for external connection of pressure sensors

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

#### Modification number

X the latest version is always supplied

#### Supplementary details

B. bypass cracking pressure (e.g. B6 = 6 bar); without details = without bypass valve

EX electrical clogging indicator EX version (Eexd IIC T6; cable length 0.25 m standard)

EX/ENC electrical clogging indicator EX version (Eexd IIC T6; with IP66 junction box, M20x1.5 cable entry)

IS intrinsically safe electrical clogging indicator with cable length 0.25 m (standard)

IS/ENC intrinsically safe electrical clogging indicator with IP66 junction box (M20x1.5 cable entry)

IS2GBC intrinsically safe electrical clogging indicator with gold contacts (e. g. suitable for PLC)

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

LED 2 light emitting diodes up to 24 Volt

only for clogging indicators  
type "D"

N NBR seals

V FPM seals

NLT nitrile low temperature seals

HNBR hydrogenated nitrile (high temperature) seals

EPDM EPDM seals

K Kalrez® seals

SS-SO361 stainless steel elements with polyamide support fibre, optimised for water-glycol (only for BN/HC material)

### 2.2 REPLACEMENT ELEMENT

**0660 D 005 ON /-V**

#### Size

0330, 0660

#### Type

D

#### Filtration rating in µm

ON: : 001, 003, 005, 010, 015, 020

BN4HC /-SS-SO361 : 003, 010

BN4AM : 003, 010

ECON2 : 003, 005, 010, 020

W/HC : 025, 050, 100, 200

#### Filter material

ON, BN4HC, ECON2, BN4AM, W/HC

#### Supplementary details

SS-SO361 stainl. steel core and end caps, polyamide support fibre, optimised for water-glycol

V, N, NLT, HNBR, EPDM, K (for descriptions, see Point 2.1)

### 2.3 REPLACEMENT CLOGGING INDICATOR

**VD 2 D . X /-V-L24**

#### Type

VD differential pressure indicator

#### Pressure setting

2 standard 2 bar, others on request

#### Type of clogging indicator

(see Point 2.1)

#### Modification number

X the latest version is always supplied

#### Supplementary details

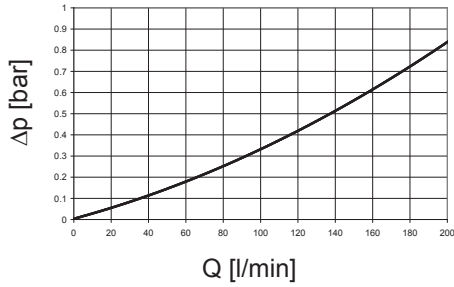
L..., LED, V, W (for descriptions, see Point 2.1)

### 3. FILTER CALCULATION / SIZING

#### 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.

#### EMLF



#### 3.2 GRADIENT COEFFICIENTS (SK) FOR FILTER ELEMENTS

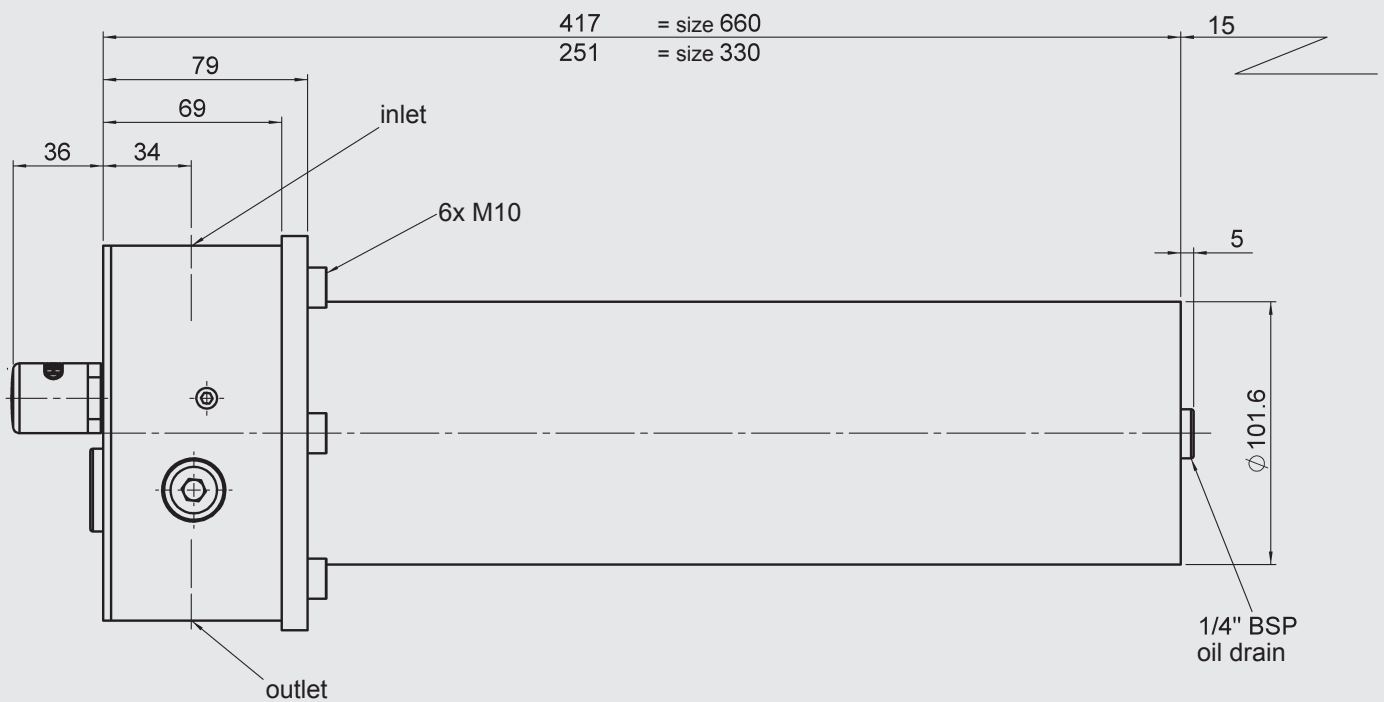
The gradient coefficients in mbar/(l/min) apply to mineral oils with a kinematic viscosity of 30 mm<sup>2</sup>/s. The pressure drop changes proportionally to the change in viscosity.

EMLF	ON						W/HC
	1 μm	3 μm	5 μm	10 μm	15 μm	20 μm	–
330	8.23	4.19	3.37	2.46	1.55	1.22	0.138
660	3.78	1.93	1.56	0.93	0.71	0.56	0.069

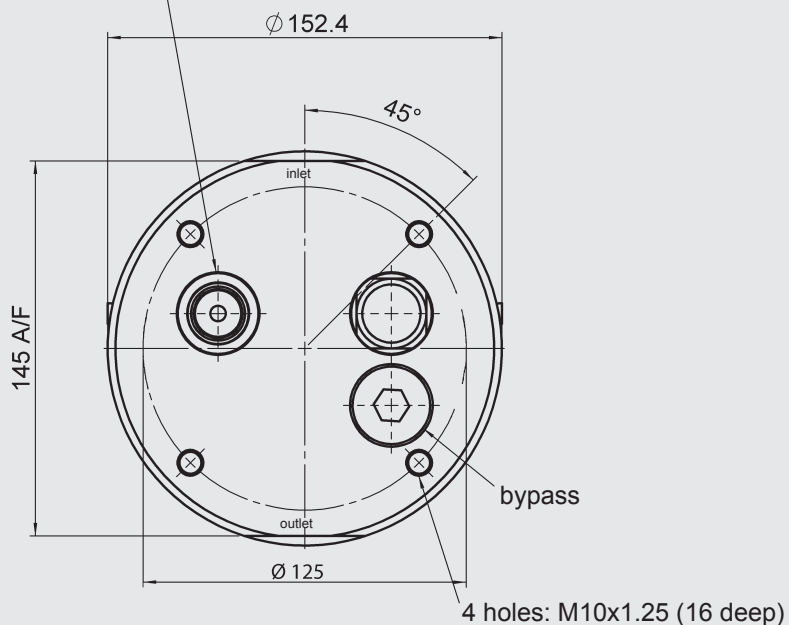
EMLF	BN4HC		ECON2			
	3 μm	10 μm	3 μm	5 μm	10 μm	20 μm
330	5.4	3.0	4.2	2.7	1.7	1.2
660	2.5	1.1	1.9	1.2	0.8	0.5

## 4. DIMENSIONS

EMLF 330/660



port for clogging indicator



### 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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