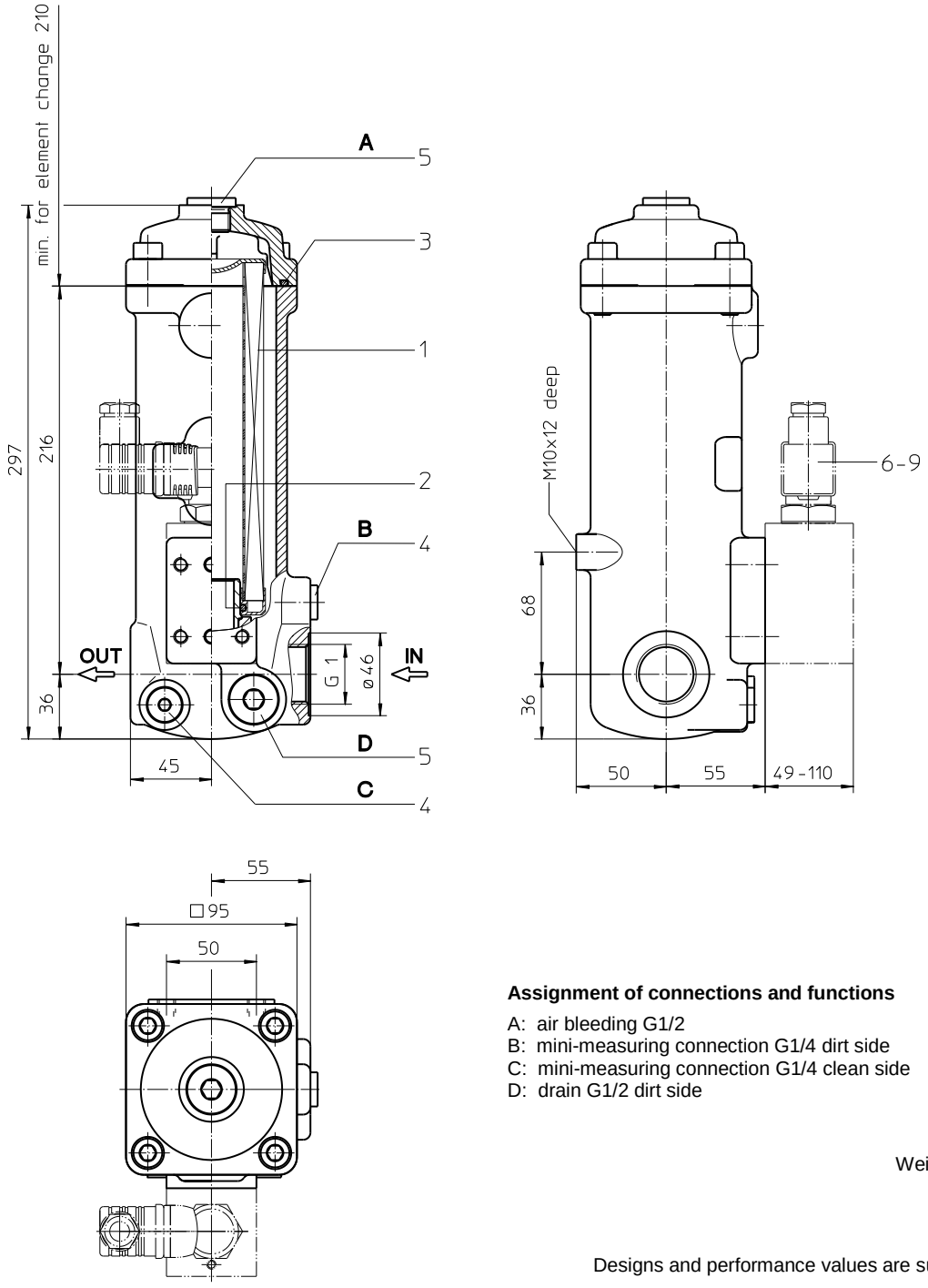
# Series LF 101
# DN25 PN32




**Assignment of connections and functions**

A: air bleeding G1/2
B: mini-measuring connection G1/4 dirt side
C: mini-measuring connection G1/4 clean side
D: drain G1/2 dirt side

Weight: approx. 4 kg

Dimensions: mm

Designs and performance values are subject to change.

EDV 07/19

**For more information:**
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# Pressure Filter
# Series LF 101
# DN25 PN32

## Description:

In-line filters of the type LF 101 are suitable for a working pressure up to 32 bar. Pressure peaks are absorbed with a sufficient margin of safety. It can be used as suction filter, pressure filter and return-line filter.

The filter element consists of star-shaped, pleated filter material, which is supported on the inside by a perforated core tube and is bonded to the end caps with a high-quality adhesive. The flow direction is from outside to inside.

For cleaning the stainless steel mesh element (see special leaflets 21070-4 and 39448-4) or changing the filter element, remove the cover and take out the element. The mesh elements are not guaranteed to maintain 100% performance after cleaning.

For filtration finer than 40 µm, use the disposable elements made of microglass. Filter elements as fine as 5 µm(c) are available; finer filter elements are available upon request.

Eaton filter elements are known for a high intrinsic stability and an excellent filtration capability, a high dirt-retaining capacity and a long service life.

Eaton filter can be used for petroleum-based fluids, HW emulsions, water glycols, most synthetic fluids and lubrication fluids. Consult factory for specific fluid applications.

Ship classifications available upon request.

## Type index:

### Complete filter: (ordering example)

| LF. | 101. | 10VG. | 16. | E. | P. | -. | G. | 5. | -. | -. | -. | AE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |

1 **series:**
LF = in-line filter

2 **nominal size:** 101

3 **filter-material:**
130G, 80G, 40G, 25G stainless steel wire mesh
25VG, 16VG, 10VG, 6VG, 3VG microglass
25API, 10API microglass according to API

4 **filter element collapse rating:**
16 = Δp 16 bar

5 **filter element design:**
E = single end open
S = with bypass valve Δp 2,0 bar
S1 = with bypass valve Δp 3,5 bar

6 **sealing material:**
P = Nitrile (NBR)
V = Viton (FPM)

7 **filter element specification:**
- = standard
VA = stainless steel
IS06 = for HFC application, see sheet-no. 31601

8 **process connection:**:
G = thread according to ISO 228

9 **process connection size:**
5 = G1

10 **filter housing specification:**
- = standard

11 **pressure vessel specification:**
- = standard (PED 2014/68/EU)

12 **internal valve:**
- = without

13 **clogging indicator or clogging sensor:**
- = without
AE = visual-electric, see sheet-no.1609
OP = visual, see sheet-no.1628
OE = visual-electric, see sheet-no.1628
VS5 = electronic, see sheet-no.1641

To add an indicator/sensor to your filter, use the corresponding indicator data sheet to find the indicator details and add them to the filter assembly model code.

### Filter element: (ordering example)

| 01N. | 100. | 10VG. | 16. | E. | P. | - |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

1 **series:**
01N = filter element according to company standard

2 **nominal size:** 100

3 - 7 see type index complete filter

**For more information:**
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## Technical data:

| | |
|---|---|
| operating temperature: | -10 °C to +100 °C |
| operating medium: | mineral oil, other media on request |
| max. operating pressure: | 32 bar |
| test pressure: | 64 bar |
| process connection: | thread connection according to ISO 228 |
| housing material: | aluminium-cast |
| sealing material: | Nitrile (NBR) or Viton (FPM), other materials on request |
| installation position: | vertical |
| measuring connections: | G ¼ |
| drain- and bleeder connections: | G ½ |
| volume tank: | 1,0 l |

Classified under the Pressure Equipment Directive 2014/68/EU for mineral oil (fluid group 2), Article 4, Para. 3.
Classified under ATEX Directive 2014/34/EU according to specific application (see questionnaire sheet-no. 34279-4).

## Pressure drop flow curves:

### Filter calculation/sizing

The pressure drop of the assembly at a given flow rate Q is the sum of the housing Δp and the element Δp and is calculated as follows:

$\Delta p_{assembly} = \Delta p_{housing} + \Delta p_{element}$
$\Delta p_{housing}$ = *(see Δp = f (Q) - characteristics)*

$$\Delta p_{Element}\,(mbar) = Q\left(\frac{l}{min}\right) x \frac{MSK}{10}\left(\frac{mbar}{l/min}\right) x\, \nu\left(\frac{mm^2}{s}\right) x \frac{p}{0{,}876}\left(\frac{kg}{dm^3}\right)$$

For ease of calculation our Filter Selection tool is available online at
www.eatonpowersource.com/calculators/filtration/

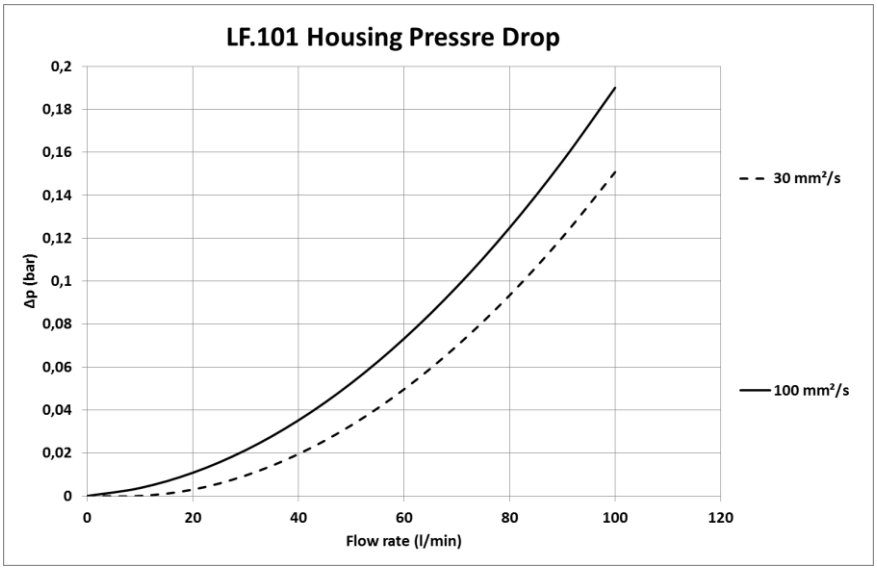
### Material gradient coefficients (MSK) for filter elements

The material gradient coefficients in mbar/(l/min) apply to mineral oil (HLP) with a density of 0,876 kg/dm³ and a kinematic viscosity of 30 mm²/s (139 SUS). The pressure drop changes proportionally to the change in kinematic viscosity and density.

| LF | VG | | | | | G | | | API | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 3VG | 6VG | 10VG | 16VG | 25VG | 25G | 40G | 80G | 10API | 25API |
| 101 | 2,052 | 1,425 | 0,912 | 0,794 | 0,542 | 0,0717 | 0,0531 | 0,0496 | 0,475 | 0,217 |

### Δp = f(Q) – characteristics according to ISO 3968

The pressure drop characteristics apply to mineral oil (HLP) with a density of 0,876 kg/dm³. The pressure drop changes proportionally to the density.

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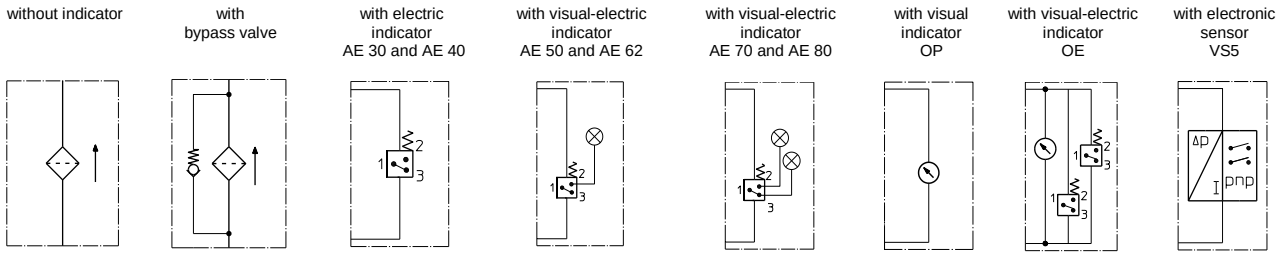
## Symbols:




## Spare parts:

| item | qty. | designation | dimension | article no. | |
|---|---|---|---|---|---|
| 1 | 1 | filter element | 01N.100… | | |
| 2 | 1 | O-ring | 32 x 3,5 | 304378 (NBR) | 304401 (FPM) |
| 3 | 1 | O-ring | 76 x 4 | 305599 (NBR) | 310291 (FPM) |
| 4 | 2 | screw plug | G ¼ | 305003 | |
| 5 | 2 | screw plug | G ½ | 304678 | |
| 6 | 1 | clogging indicator, visual | OP | see sheet no. 1628 | |
| 7 | 1 | clogging indicator, visual-electric | OE | see sheet no. 1628 | |
| 8 | 1 | clogging indicator, visual-electric | AE | see sheet no. 1609 | |
| 9 | 1 | clogging indicator, electronic | VS 5 | see sheet no. 1641 | |

## Test methods:

Filter elements are tested according to the following ISO standards:

| | |
|---|---|
| ISO 2941 | Verification of collapse/burst resistance |
| ISO 2942 | Verification of fabrication integrity |
| ISO 2943 | Verification of material compatibility with fluids |
| ISO 3723 | Method for end load test |
| ISO 3724 | Verification of flow fatigue characteristics |
| ISO 3968 | Evaluation of pressure drop versus flow characteristics |
| ISO 16889 | Multi-pass method for evaluating filtration performance |