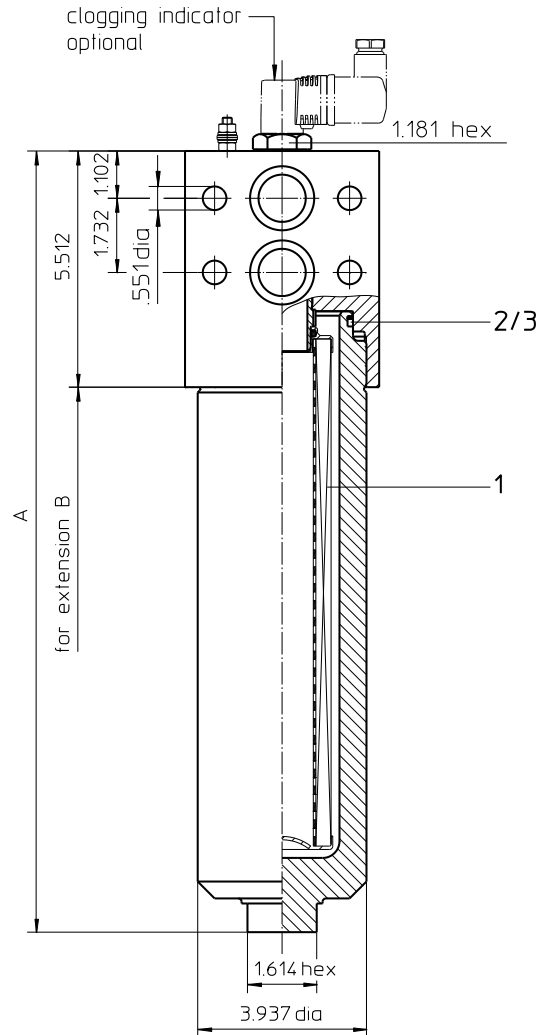
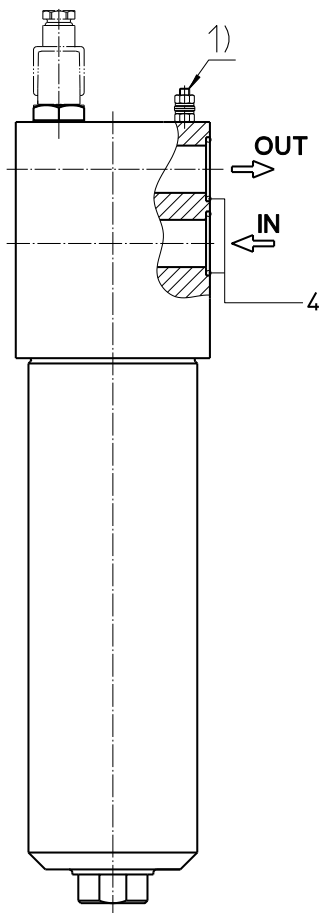
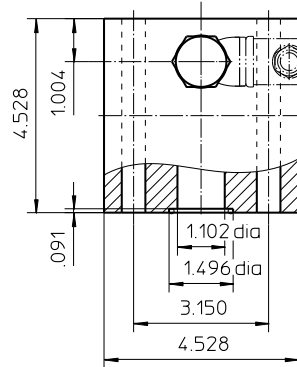


Series EHPF 170-450 4568 PSI

Dimensions:

| type | EHPF 170 | EHPF 240 | EHPF 360 | EHPF 450 |
|-------------|----------|----------|----------|----------|
| connection | DN 28 | | | |
| A | 13.11 | 15.07 | 18.22 | 22.36 |
| B | 13.00 | 14.00 | 18.00 | 22.00 |
| weight lbs. | 48 | 53 | 57 | 66 |
| volume tank | .18 Gal. | .23 Gal. | .31 Gal. | .42 Gal. |

- 1) Connection for the potential equalization, only for application in the explosive area.



Pressure Filter

Series EHPF 170-450

4568 PSI

Description:

Stainless steel-pressure filter series EHPF 170-450 have a working pressure up to 4568 PSI. Pressure peaks can be absorbed with a sufficient safety margin. The EHPF-filters are flanged to the mounting-surface.

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. Filter elements are available down to 5 $\mu\text{m(c)}$.

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

Eaton filter elements are available up to a pressure resistance of Δp 2320 PSI and a rupture strength of Δp 3625 PSI.

Eaton filter are suitable for all petroleum based fluids, HW-emulsions, most synthetic hydraulic fluids and lubrication oils.

The internal valve is integrated into the filter head. After reaching the bypass pressure setting, the bypass valve will send unfiltered partial flow around the filter.

The reversing valve provides another level of protection for the filter element. The reverse flow will not be filtered.

1. Type index:

1.1. Complete filter: (ordering example)

EHPF. 360. 10VG. HR. E. P. VA. F. 5. VA. -. AE

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|----|----|----|

1 | **series:**
EHPF = stainless steel-pressure filter, manifold mounted

2 | **nominal size:** 170, 240, 360, 450

3 | **filter material:**
80G, 40G, 25G stainless steel wire mesh
25VG, 16VG, 10VG, 6VG, 3VG microglass

4 | **filter element collapse rating:**
30 = Δp 435 PSI
HR = Δp 2320 PSI (rupture strength Δp 3625 PSI)

5 | **filter element design:**
E = single-end open

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

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

8 | **process connection:**
F = manifold mounted

9 | **process connection size:**
5 = 1"

10 | **filter housing specification:**
VA = stainless steel

11 | **internal valve:**
- = without
S1 = with by-pass valve Δp 51 PSI
S2 = with by-pass valve Δp 102 PSI
R = reversing valve, $Q \leq 55.75$ GPM

12 | **clogging indicator or clogging sensor:**
- = without
AOR = visual, see sheet-no. 1606
AOC = visual, see sheet-no. 1606
AE = visual-electric, see sheet-no. 1615
VS5 = electronic, see sheet-no. 1619

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.

1.2. Filter element: (ordering example)

01E. 360. 10VG. HR. E. P. VA

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|

1 | **series:**
01E. = filter element according to company standard

2 | **nominal size:** 170, 240, 360, 450

3 | - **7** | see type index-complete filter

Technical data:

| | |
|--------------------------|--|
| operating temperature: | +14 °F to +212 °F |
| operating medium | mineral oil, other media on request |
| max. operating pressure: | 4568 PSI |
| test pressure: | 6525 PSI |
| process connection: | manifold mounted |
| housing material: | EN10088-1.4571 (316 Ti according to AISI) |
| sealing material: | Nitrile (NBR) or Viton (FPM), other materials on request |
| installation position: | vertical |

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:

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

$$\Delta p_{housing} = (\text{see } \Delta p = f(Q) \text{ - characteristics})$$

$$\Delta p_{element} (PSI) = Q (GPM) \times \frac{MSK}{1000} \left(\frac{PSI}{GPM} \right) \times \nu (SUS) \times \frac{\rho}{0.876} \left(\frac{kg}{dm^3} \right)$$

For ease of calculation our Filter Selection tool is available online at www.eaton.com/hydraulic-filter-evaluation

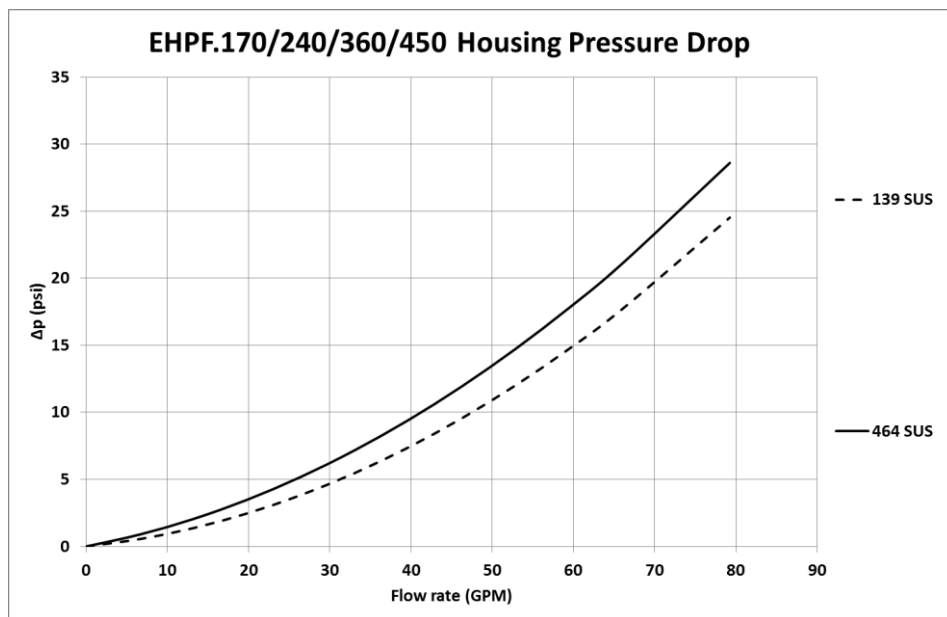
Material gradient coefficients (MSK) for filter elements

The material gradient coefficients in psi/gpm apply to mineral oil (HLP) with a density of 0.876 kg/dm³ and a kinematic viscosity of 139 SUS (30 mm²/s). The pressure drop changes proportionally to the change in kinematic viscosity and density.

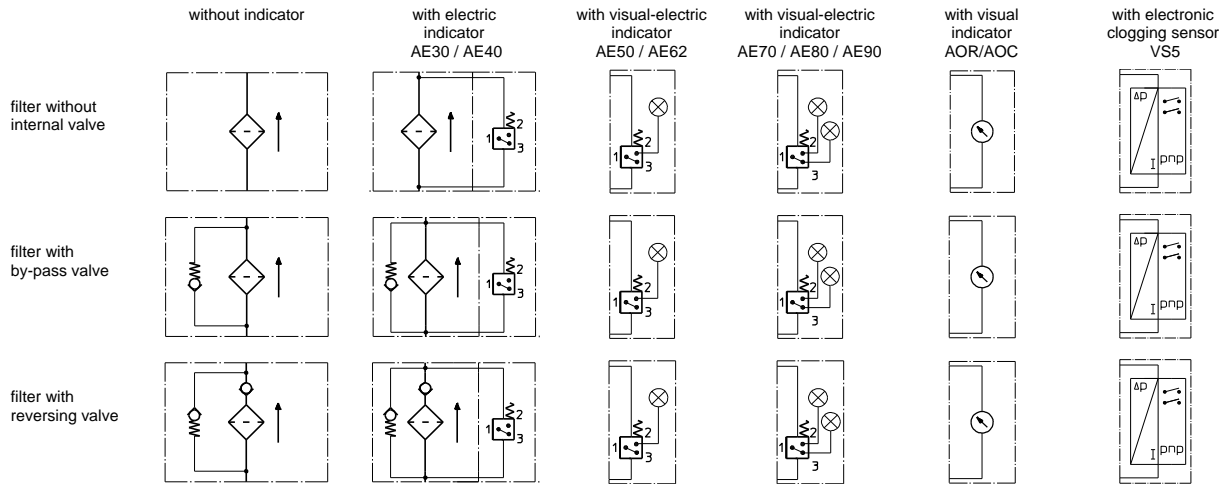
| EHPF | VG | | | | | G | | |
|------|-------|-------|-------|-------|-------|--------|--------|--------|
| | 3VG | 6VG | 10VG | 16VG | 25VG | 25G | 40G | 80G |
| 170 | 2.714 | 1.884 | 1.206 | 1.036 | 0.708 | 0.0839 | 0.0783 | 0.0537 |
| 240 | 2.092 | 1.452 | 0.930 | 0.799 | 0.546 | 0.0651 | 0.0607 | 0.0416 |
| 360 | 1.530 | 1.062 | 0.680 | 0.584 | 0.399 | 0.0475 | 0.0444 | 0.0304 |
| 450 | 1.126 | 0.782 | 0.500 | 0.430 | 0.294 | 0.0349 | 0.0326 | 0.0223 |

$\Delta p = f(Q)$ – 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.



Symbols:



Spare parts:

| item | qty. | designation | dimension | | | | article-no. | |
|------|------|----------------|----------------|------------|------------|------------|--------------|--------------|
| | | | EHPF 170 | EHPF 240 | EHPF 360 | EHPF 450 | | |
| 1 | 1 | filter element | 01E.170... | 01E.240... | 01E.360... | 01E.450... | | |
| 2 | 1 | O-ring | 76 x 4 | | | | 305599 (NBR) | 310291 (FPM) |
| 3 | 1 | support ring | 84 x 3,6 x 1,5 | | | | 312307 | |
| 4 | 2 | O-ring | 32 x 3 | | | | 304368 (NBR) | 311020 (FPM) |

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 |

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