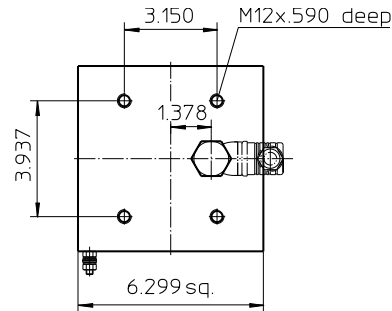


# Series EH 601-1351

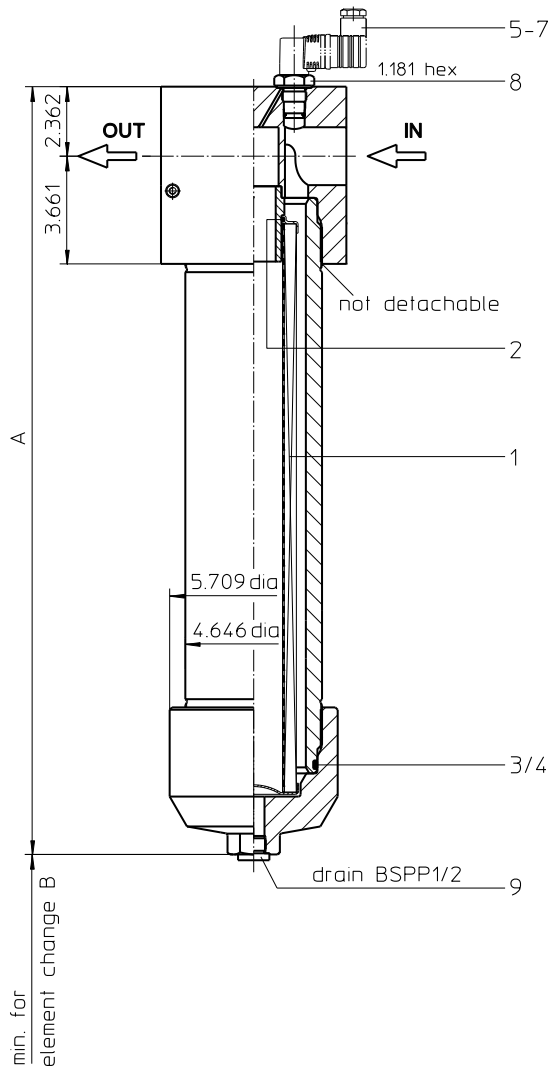
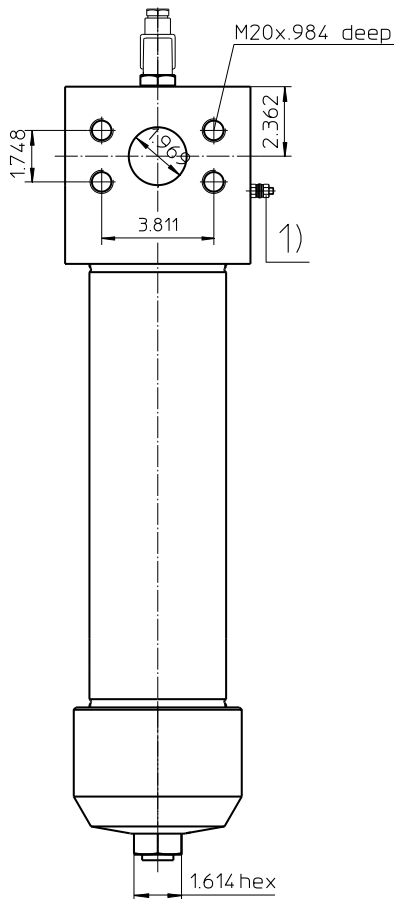
## 4568 PSI

**Dimensions:**

| type        | EH 601   | EH 901   | EH 1351   |
|-------------|----------|----------|-----------|
| connection  | SAE 2"   |          |           |
| A           | 20.19    | 26.10    | 35.86     |
| B           | 12.20    | 18.11    | 27.95     |
| weight lbs. | 108      | 121      | 150       |
| volume tank | .55 Gal. | .82 Gal. | 1.21 Gal. |



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



Dimensions: inches

Designs and performance values are subject to change.

# Pressure Filter

## Series EH 601-1351

### 4568 PSI

#### Description:

Stainless steel-pressure filter series EH 601-1351 have a working pressure up to 4568 PSI. Pressure peaks can be absorbed with a sufficient safety margin. The EH-filter is in-line mounted.

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  $\Delta p$  2320 PSI and a rupture strength of  $\Delta p$  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)

**EH. 901. 10VG. HR. E. P. VA. FS. 8. VA. - . - . AE**

|   |   |   |   |   |   |   |   |   |    |    |    |    |
|---|---|---|---|---|---|---|---|---|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|

- 1 | series:**  
EH = stainless steel-pressure filter
- 2 | nominal size:** 601, 901, 1351
- 3 | filter-material:**  
80G, 40G, 25G stainless steel wire mesh  
25VG, 16VG, 10VG, 6VG, 3VG microglass
- 4 | filter element collapse rating:**  
30 =  $\Delta p$  435 PSI  
HR =  $\Delta p$  2320 PSI (rupture strength  $\Delta p$  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
- 8 | process connection:**  
FS = SAE-flange connection 6000 PSI
- 9 | process connection size:**  
8 = 2"
- 10 | filter housing specification:**  
VA = stainless steel
- 11 | specification pressure vessel:**  
- = standard (PED 2014/68/EU)  
IS20 = ASME VIII Div.1 with ASME equivalent material, see sheet-no. 55217 (max. operating pressure 3625 PSI)
- 12 | internal valve:**  
- = without  
S1 = with bypass valve  $\Delta p$  51 PSI  
S2 = with bypass valve  $\Delta p$  102 PSI  
R = reversing valve,  $Q \leq 122.94$  GPM
- 13 | 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. 600. 10VG. HR. E. P. VA**

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

- 1 | series:**  
01E. = filter element according to company standard
- 2 | nominal size:** 600, 900, 1350
- 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   |
| max. operating pressure at IS20: | 3045 PSI   |
| test pressure at IS20:           | 3960 PSI   |
| process connection:              | SAE-flange 6000 PSI                                      |
| 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  $\Delta p$  and the element  $\Delta p$  and is calculated as follows:

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

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

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

For ease of calculation our Filter Selection tool is available online at [www.eaton.com/hydraulic-filter-evaluation](http://www.eaton.com/hydraulic-filter-evaluation)

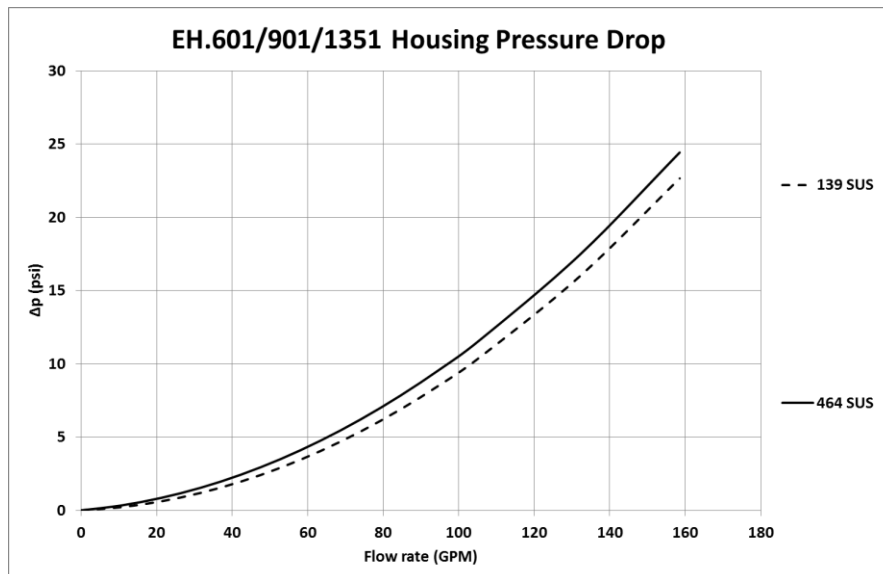
### Material gradient coefficients (MSK) for filter elements

The material gradient coefficients in PSI/GPM apply to mineral oil (HLP) with a density of 0.876 kg/dm<sup>3</sup> and a kinematic viscosity of 139 SUS (30 mm<sup>2</sup>/s). The pressure drop changes proportionally to the change in kinematic viscosity and density.

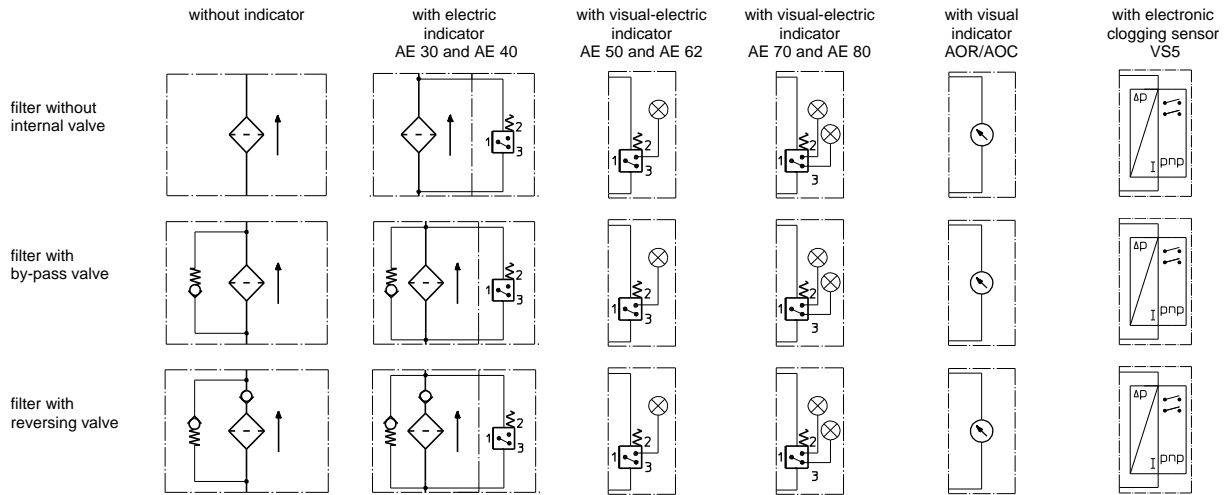
| EH   | VG    |       |       |       |       | G      |        |        |
|------|-------|-------|-------|-------|-------|--------|--------|--------|
|      | 3VG   | 6VG   | 10VG  | 16VG  | 25VG  | 25G    | 40G    | 80G    |
| 601  | 0.963 | 0.669 | 0.428 | 0.368 | 0.251 | 0.0303 | 0.0282 | 0.0193 |
| 901  | 0.668 | 0.464 | 0.297 | 0.225 | 0.174 | 0.0189 | 0.0177 | 0.0121 |
| 1351 | 0.417 | 0.290 | 0.185 | 0.185 | 0.109 | 0.0122 | 0.0114 | 0.0078 |

### $\Delta p = f(Q)$ – characteristics according to ISO 3968

The pressure drop characteristics apply to mineral oil (HLP) with a density of 0,876 kg/dm<sup>3</sup>. The pressure drop changes proportionally to the density.



## Symbols:



## Spare parts:

| item | qty. | designation                        | dimension  |               |             | article-no.          |              |
|------|------|------------------------------------|------------|---------------|-------------|----------------------|--------------|
|      |      |                                    | EH 601     | EH 901        | EH 1351     |                      |              |
| 1    | 1    | filter element                     | 01E.600... | 01E.900...    | 01E.1350... |                      |              |
| 2    | 1    | O-ring                             |            | 48 x 3        |             | 304338 (NBR)         | 304730 (FPM) |
| 3    | 1    | O-ring                             |            | 98 x 4        |             | 305599 (NBR)         | 310291 (FPM) |
| 4    | 1    | support ring                       |            | 110 x 3,5 x 2 |             | 304802               |              |
| 5    | 1    | clogging indicator visual          |            | AOR or AOC    |             | siehe Blatt-Nr. 1606 |              |
| 6    | 1    | clogging indicator visual-electric |            | AE            |             | siehe Blatt-Nr. 1615 |              |
| 7    | 1    | clogging sensor electronic         |            | VS5           |             | siehe Blatt-Nr. 1619 |              |
| 8    | 1    | screw plug                         |            | 20913-4       |             | 314442               |              |
| 9    | 1    | screw plug                         |            | BSPP 1/2"     |             | 306966               |              |

item 8 execution only without clogging indicator or clogging sensor

## 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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