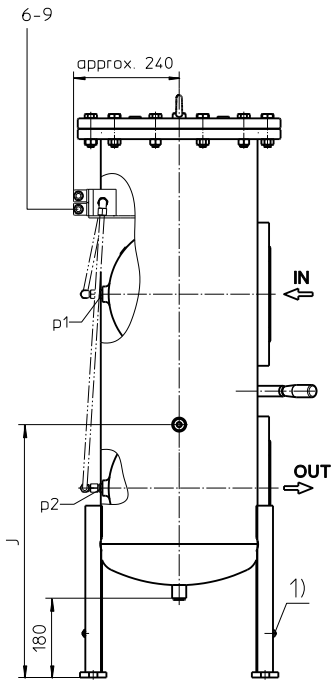
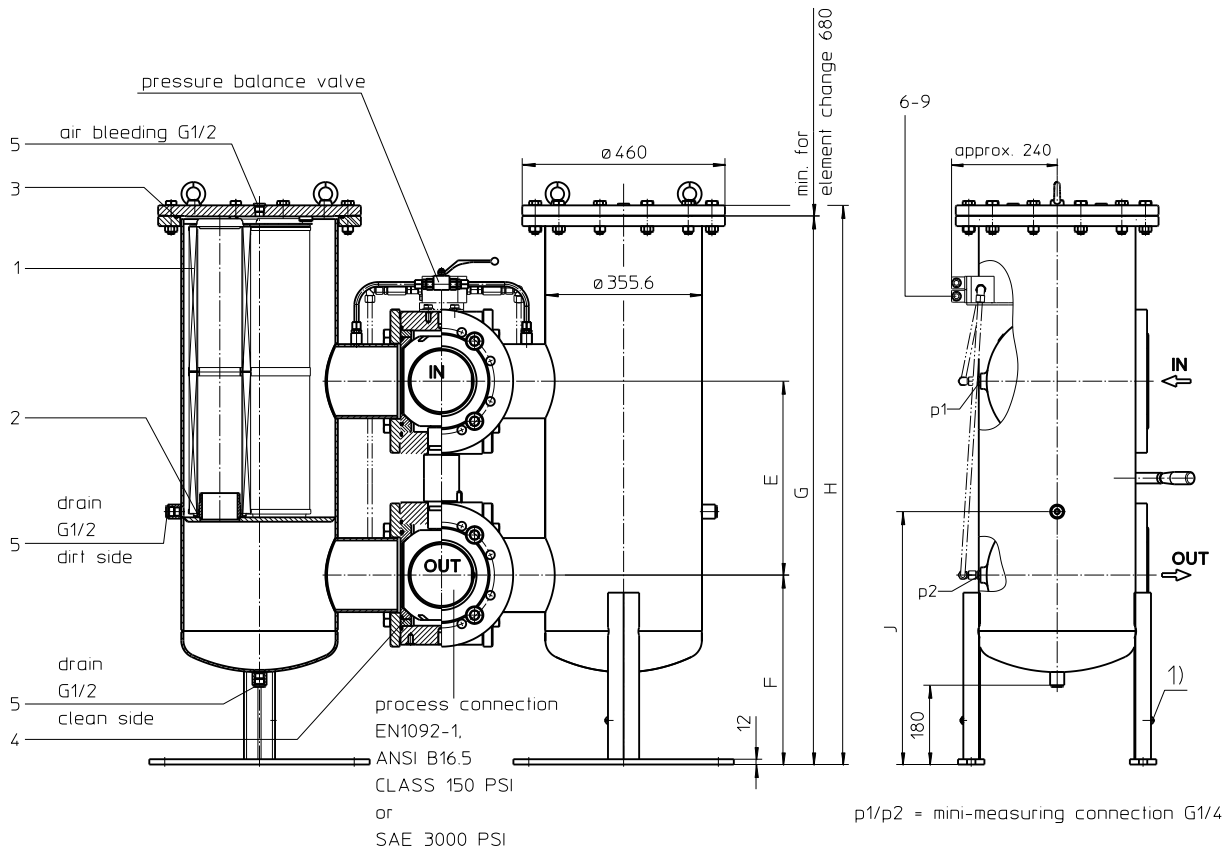
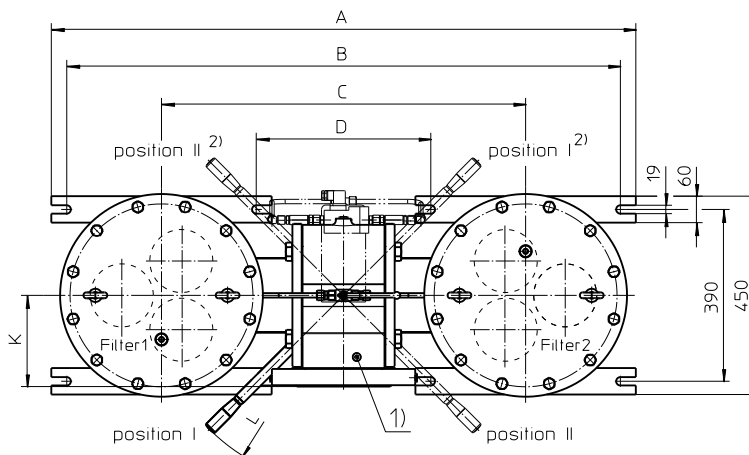


# Series EDWF 4505 PN 16



p1/p2 = mini-measuring connection G1/4



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

**Switch lever standard in the front.**

2) On request: The switch lever can be moved to backside of the changeover valve, opposite to the inlet and outlet. Please specify this configuration on the order.

Position I: Filter 1 in operation  
Position II: Filter 2 in operation

## Dimensions:

| process connection | A    | B    | C   | D   | E   | F   | G    | H    | J   | SAE | K<br>DIN EN | ANSI | L   | weight kg | volume tank |
|--------------------|------|------|-----|-----|-----|-----|------|------|-----|-----|-------------|------|-----|-----------|-------------|
| 5" (DN125)         | 1294 | 1224 | 794 | 364 | 395 | 430 | 1245 | 1272 | 574 | 135 | 247         | 247  | 370 | 455       | 2x 93 l     |
| 6" (DN150)         | 1326 | 1256 | 826 | 396 | 440 | 430 | 1245 | 1272 | 574 | -   | 207         | 207  | 430 | 520       | 2x 93 l     |
| 8" (DN200)         | 1386 | 1316 | 886 | 456 | 520 | 455 | 1295 | 1322 | 624 | -   | 244         | 244  | 540 | 555       | 2x 98 l     |

# Duplex Pressure filter

## Series EDWF 4505

### PN 16

#### Description:

Stainless steel duplex pressure filter series EDWF 4505 have a working pressure up to 16 bar. Pressure peaks can be absorbed with a sufficient safety margin.

A changeover ball valve between the two filter housings makes it possible to switch from the dirty filter side to the clean filter side without interrupting operation. The filters can be installed as a suction filter, pressure filter or 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 25 µm, use the disposable elements made of microglass. Filter elements as fine as 3 µm are available; finer filter elements are available upon request.

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

Ship classifications available upon request.

#### Type index:

**Complete filter:** (ordering example)

**EDWF. 4505. 10VG. 10. E. P. VA. FD1. D. VA. -.**

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

#### KH. OE

|    |    |
|----|----|
| 12 | 13 |
|----|----|

#### 1 series:

EDWF = stainless steel-double welded filter

#### 2 nominal size: 4505

#### 3 filter material:

80G, 40G, 25G, 10G stainless steel wire mesh  
25VG, 16VG, 10VG, 6VG, 3VG microglass  
25API, 10API microglass according to API

#### 4 filter element collapse rating:

10 =  $\Delta p$  10 bar

#### 5 filter element design:

E = without by-pass  
S = with by-pass valve  $\Delta p$  2,0 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:

FS = SAE-flange 3000 PSI (only with connection 5")  
FD1 = flange EN1092-1, design B1  
FD2 = flange EN1092-1, design B2  
FA11 = flange ANSI CLASS 150 PSI,  
sealing surface Rz = 160 µm (not finer than 40 µm)  
FA12 = flange ANSI CLASS 150 PSI,  
sealing surface Rz = 16 µm

#### 9 process connection size:

C = 5" (DN125)  
D = 6" (DN150) standard  
E = 8" (DN200)

#### 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

#### 12 shut-off :

- = without  
KH = with shut-off ball valve

#### 13 clogging indicator or clogging sensor:

- = without  
AE = visual-electrical, see sheet-no. 1609  
OP = visual, see sheet-no. 1614  
OE = visual-electrical, see sheet-no. 1614  
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)

**01E. 1501. 10VG. 10. E. P. VA**

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

#### 1 series:

01E = filter element according to company standard

#### 2 nominal size: 1501

#### 3 - 7 see type index-complete filter

#### Accessories:

- drain- and bleeder connection, see sheet-no. 1651
- lifting mechanism, see sheet-no. 1662

## Technical data:

|                                 |   |
|---------------------------------|---|
| operating temperature:          | -10 °C to +100 °C   |
| operating medium:               | mineral oil, other media on request                         |
| max. operating pressure:        | 16 bar  |
| test pressure:                  | 23 bar  |
| standard process connection:    | flange EN 1092-1, 16 bar or flange ANSI B16.5 CLASS 150 PSI |
| housing material:               | stainless steel   |
| sealing material:               | Nitrile (NBR) or Viton (FPM), other materials on request    |
| installation position:          | vertical  |
| drain- and bleeder connections: | G ½   |
| measure connections:            | G ¼   |

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).

## 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:

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

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

$$\Delta p_{element} (mbar) = Q \left( \frac{l}{min} \right) \times \frac{MSK (mbar)}{10 (l/min)} \times v \left( \frac{mm^2}{s} \right) \times \frac{\rho (kg)}{0,876 (dm^3)}$$

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)

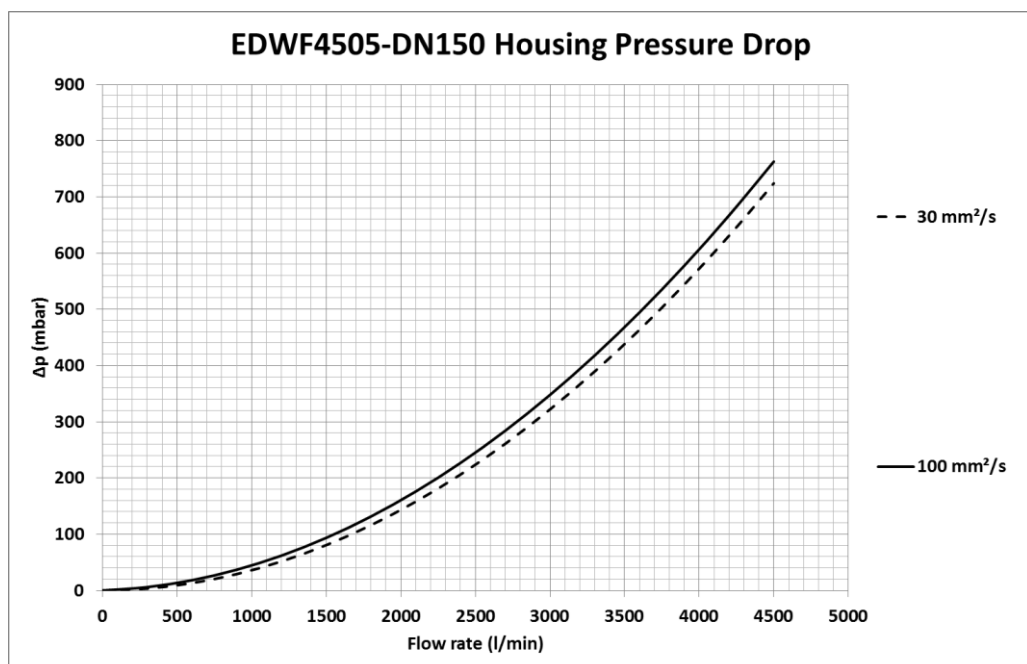
### Material gradient coefficients (MSK) for filter elements

The material gradient coefficients in mbar/(l/min) apply to mineral oil (HLP) with a density of 0,876 kg/dm<sup>3</sup> and a kinematic viscosity of 30 mm<sup>2</sup>/s (139 SUS). The pressure drop changes proportionally to the change in kinematic viscosity and density.

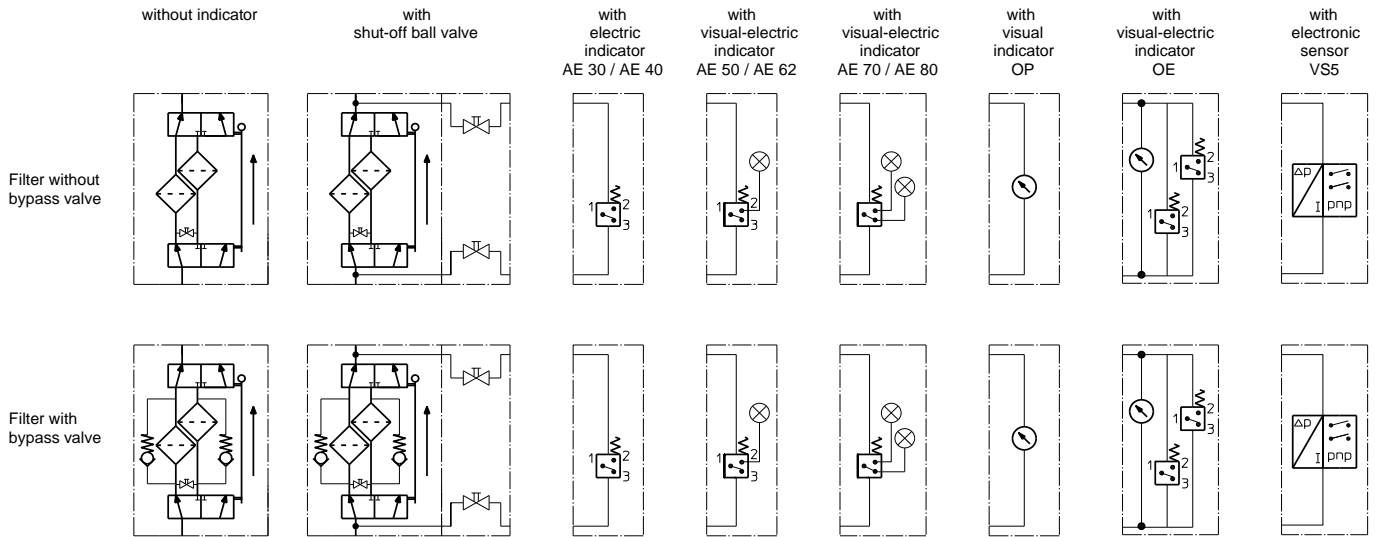
| EDWF | VG    |       |       |       |       | G      |        |        |        | API    |        |
|------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
|      | 3VG   | 6VG   | 10VG  | 16VG  | 25VG  | 10G    | 25G    | 40G    | 80G    | 10 API | 25 API |
| 4505 | 0,053 | 0,037 | 0,024 | 0,021 | 0,014 | 0,0019 | 0,0014 | 0,0013 | 0,0009 | 0,013  | 0,006  |

### $\Delta p=f(Q)$ – characteristic according 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. The flow curves for DN125 and DN200 available on request.



## Symbols:



## Spare parts:

| item | qty. | designation                         | dimension   | article-no.        |              |
|------|------|-------------------------------------|-------------|--------------------|--------------|
| 1    | 6    | filter element                      | 01E.1501... |                    |              |
| 2    | 6    | O-ring                              | 93 x 5      | 307588 (NBR)       | 307589 (FPM) |
| 3    | 2    | O-ring                              | 372 x 5     | 350273 (NBR)       | 347195 (FPM) |
| 4    | 4    | gasket kit of changeover UKK        | 5" (DN125)  |                    |              |
|      | 4    | gasket kit of changeover UKK        | 6" (DN150)  |                    |              |
|      | 4    | gasket kit of changeover UKK        | 8" (DN200)  |                    |              |
| 5    | 6    | screw plug                          | G 1/2       | 306966             |              |
| 6    | 1    | clogging indicator, visual-electric | AE          | see sheet-no. 1609 |              |
| 7    | 1    | clogging indicator, visual          | OP          | see sheet-no. 1614 |              |
| 8    | 1    | clogging indicator, visual-electric | OE          | see sheet-no. 1614 |              |
| 9    | 1    | clogging sensor, electronic         | VS5         | 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 |

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