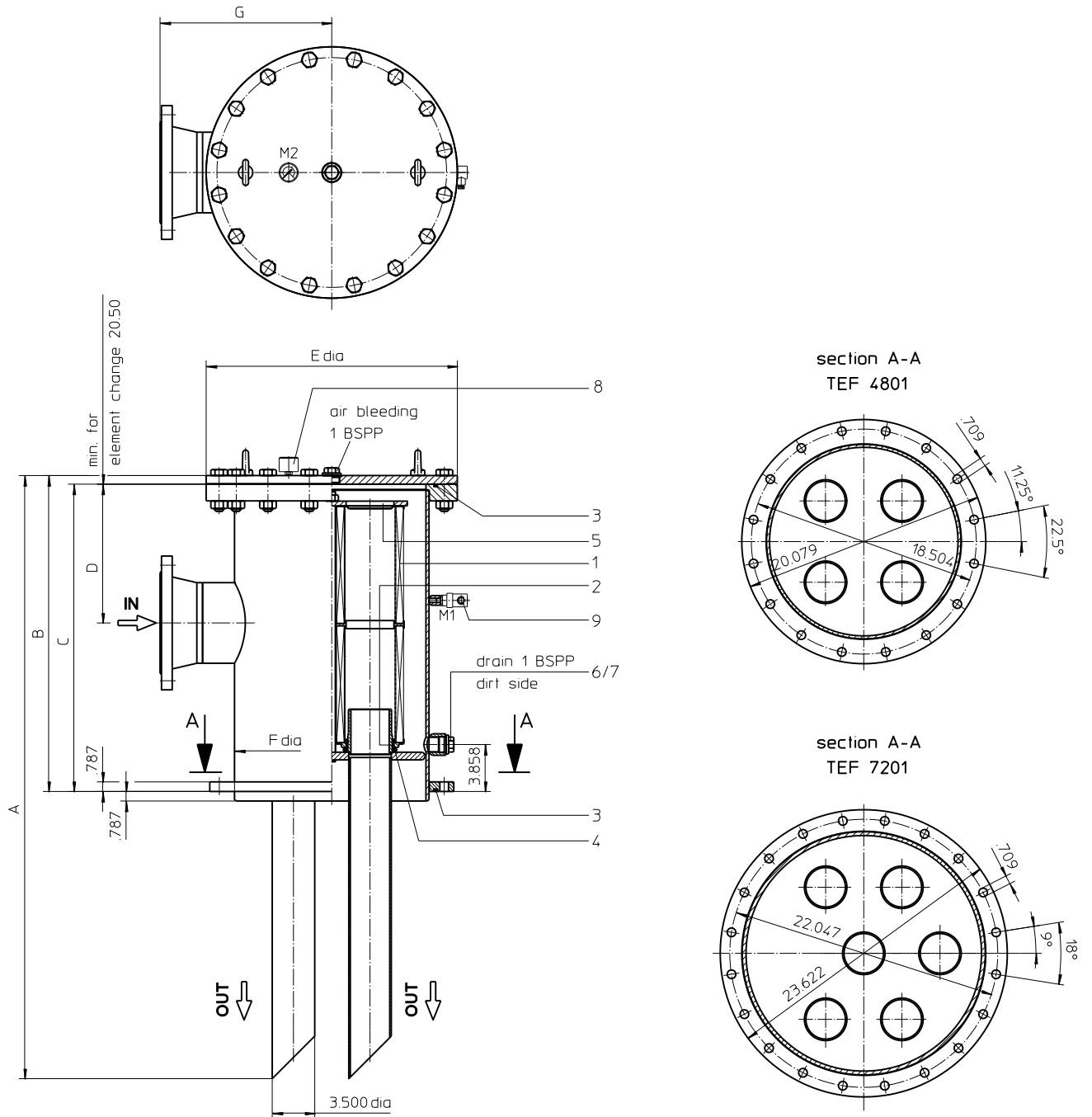


# Series TEF 4801-7201

## 145 PSI



### 2. Dimensions:

type	connection	A	B	C	D	E	F	G	weight lbs.	Volume tank
TEF 4801	6"	49.60	26.00	25.27	11.41	20.67	15.98	14.00	385	19.8 Gal.
TEF 7201	8"	49.80	26.14	25.27	11.02	24.21	20.00	17.24	555	31.0 Gal.

# Return Line Filter

## Series TEF 4801-7201

### 145 PSI

#### Description:

Return-line filter series TEF 4801-7201 have a working pressure up to 145 PSI. Pressure peaks will be absorbed by a sufficient margin of safety.

The TEF-filters are directly mounted to the reservoir and connected to the return-line.

The filter element consists of a 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 is from outside to inside.

For cleaning the stainless steel mesh element 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.

Filters finer than 40 µm use the disposable elements made of paper or microglass. Filter elements as fine as 5 µm(c) are available; finer filter elements on request.

Eaton filter elements are known as stable elements which have excellent filtration capabilities and a high dirt retaining capacity, therefore having a long service life. Due to its practical design, the return-line filter is easy to service.

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.

When changing the filter element, a detachable connection between the filter head and the filter bowl prevents dirty oil from flowing into the tank.

#### Type index:

**Complete filter:** (ordering example)

**TEF. 4801. 10VG. 10. S. P. -. FA11. D. -. E1. O**

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

- |    |   |
|----|---|
| 1  | <b>series:</b><br>TEF = tank-mounted return-line-filter   |
| 2  | <b>nominal size:</b> 4801, 7201   |
| 3  | <b>filter-material:</b><br>80G, 40G, 25G stainless steel wire mesh<br>25VG, 16VG, 10VG, 6VG, 3VG microglass<br>10P paper  |
| 4  | <b>filter element collapse rating:</b><br>10 = Δp 145 PSI   |
| 5  | <b>filter element design:</b><br>E = without by-pass valve<br>S = with by-pass valve Δp 29 PSI  |
| 6  | <b>sealing material:</b><br>P = Nitrile (NBR)<br>V = Viton (FPM)  |
| 7  | <b>filter element specification:</b><br>- = standard<br>IS06 = for HFC application, see sheet-no. 31601   |
| 8  | <b>process connection:</b><br>FA11 = ANSI-flange CLASS 150PSI<br>sealing surface rough grind 1600-3600 µin (TEF 4801)<br>FA12 = ANSI-flange CLASS 150PSI<br>sealing surface rough grind < 640 µin (TEF 7201)          |
| 9  | <b>process connection size:</b><br>D = 6" (TEF 4801)<br>E = 8" (TEF 7201)   |
| 10 | <b>filter housing specification:</b><br>- = standard<br>IS06 = for HFC application, see sheet-no. 31605   |
| 11 | <b>clogging indicator at M1:</b><br>- = without<br>O = visual, see sheet-no. 1616<br>E1 = pressure switch, see sheet-no. 1616<br>E2 = pressure switch, see sheet-no. 1616<br>E5 = pressure switch, see sheet-no. 1616 |
| 12 | <b>clogging indicator at M2:</b><br>possible indicators see position 11 of the type index   |

To add an indicator 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. 1201. 10VG. 10. S. P. -**

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

- |   |   |
|---|---|
| 1 | <b>series:</b><br>01E. = filter element according to company standard |
| 2 | <b>nominal size:</b> 1201   |
| 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:	145 PSI
opening pressure by-pass valve:	29 PSI
process connection:	ANSI-flange CLASS 150 PSI
housing material:	carbon steel
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)

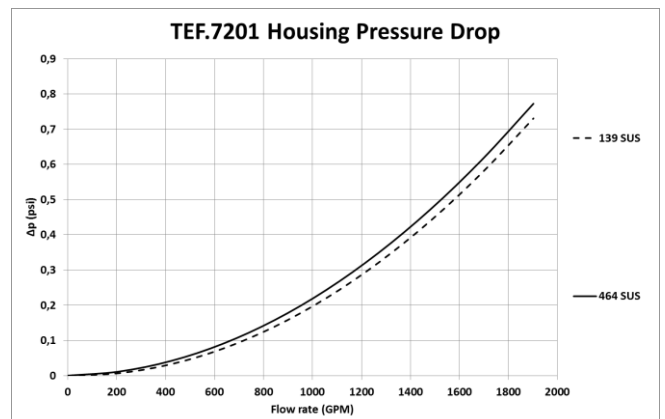
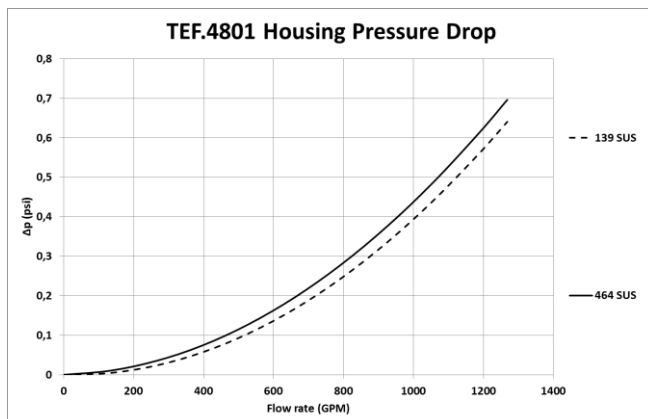
### Material gradient coefficients (MSK) for filter elements

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.

TEF	VG					G			P
	3VG	6VG	10VG	16VG	25VG	25G	40G	80G	10P
4801	0.074	0.051	0.033	0.029	0.02	0.0023	0.0022	0.0015	0.016
7201	0.049	0.034	0.022	0.019	0.013	0.0016	0.0015	0.001	0.01

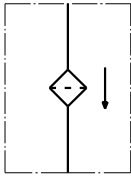
### $\Delta p = f(Q)$ – characteristics according to ISO 3968

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.

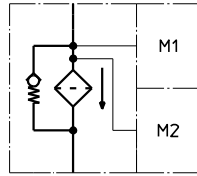


## Symbols:

without indicator



with by-pass valve



visual O



electric contact maker  
E1



electric contact breaker  
E5



electric contact maker/breaker  
E2



## Spare parts:

item	designation	qty.	dimension and article no.	qty.	dimension and article no.
1	filter element	4	TEF 4801 01E.1201...	6	TEF 7201 01E.1201...
2	O-ring	4	93 x 5 307588 (NBR) 307589 (FPM)	6	93 x 5 307588 (NBR) 307589 (FPM)
3	O-ring	2	429 x 6 308659 (NBR) 310273 (FPM)	2	516 x 6 301962 (NBR) 311474 (FPM)
4	O-ring	4	85 x 10 304386 (NBR) 304541 (FPM)	6	85 x 10 304386 (NBR) 304541 (FPM)
5	pressure plate	1	319677	1	327718
6	screw plug	2		1 BSPP 309732	
7	gasket	2		A 33 x 39 308257	
8	clogging indicator visual	1		O see sheet no.. 1616	
9	clogging indicator electric	1		E1, E2 or E5 see sheet no.. 1616	

## 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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