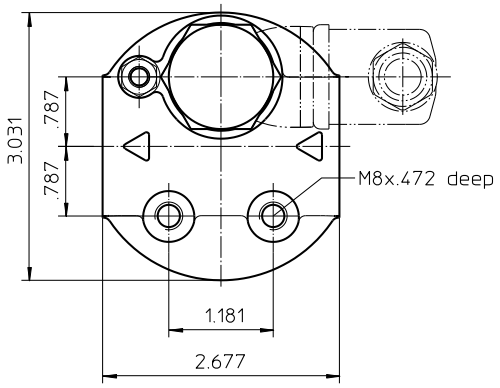
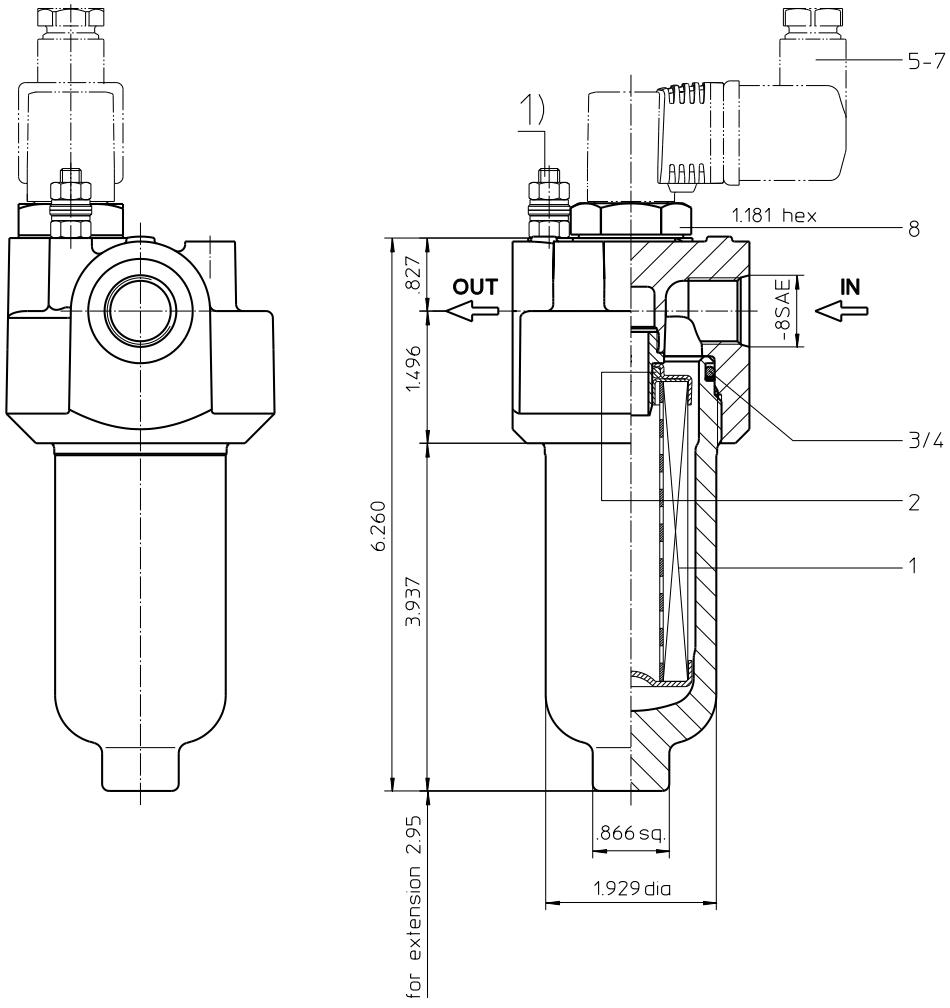
Series HP3.30
6000 PSI

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





Weight: approx. 6.5 lbs.

Dimensions: inches

Designs and performance values are subject to change.

Pressure Filter
Series HP3.30
6000 PSI

Description:

Pressure filter series HP3.30 have a working pressure up to 6000 PSI. Pressure peaks can be absorbed with a sufficient safety margin. The HP3-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 $\mu m_{(c)}$. Finer filtration is available upon request.

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

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

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

The internal valves are integrated into the centering pivot for the filter element. After reaching the opening pressure the by-pass valve causes that an unfiltered partial flow passes the filter.

1. Type index:

1.1. Complete filter: (ordering example)

HP3.	30.	10VG.	HR.	E.	P.	-.	UG.	3.	-.	-.	AE
1	2	3	4	5	6	7	8	9	10	11	12

1 **series:**
HP3 = pressure filter

2 **nominal size:** 30

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:**
UG = thread according

9 **process connection size:**
3 = -8 SAE

10 **filter housing specification:**
- = standard
IS06 = for HFC applications, see sheet-no. 31605

11 **internal valve:**
- = without
S1 = with by-pass valve Δp 51 PSI
S2 = with by-pass valve Δp 102 PSI

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.	30.	10VG.	HR.	E.	P.	-
1	2	3	4	5	6	7

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

2 **nominal size:** 30

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:	6000 PSI
test pressure:	8700 PSI
process connection:	thread
housing material:	EN-GJS-400-18-LT, C-steel (filter bowl)
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical
volume tank:	.03 Gal.

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 ∆p and the element ∆p and is calculated as follows:

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

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

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

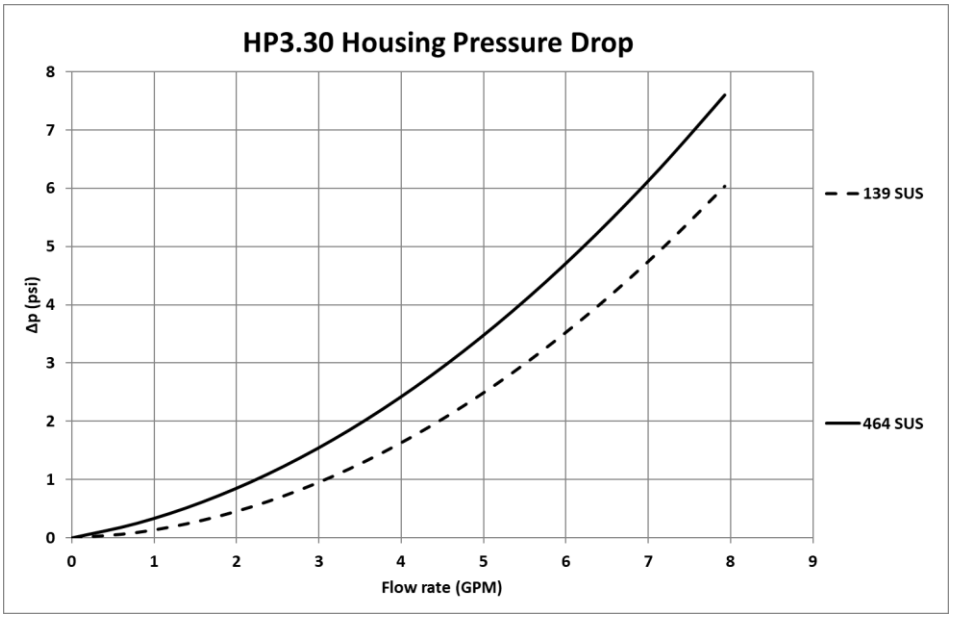
Material gradient coefficients (MSK) for filter elements

The material gradient coefficients in 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.

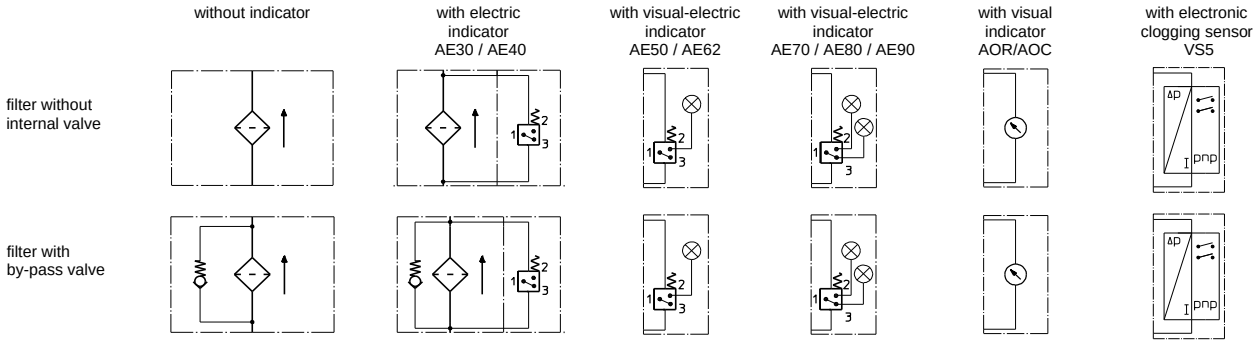
HP3	VG					G		
	3VG	6VG	10VG	16VG	25VG	25G	40G	80G
30	12.554	8.716	5.580	4.794	3.275	0.2369	0.2369	0.1623

∆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.	
1	1	filter element	01E.30…		
2	1	O-ring	11 x 3	312603 (NBR)	312727 (FPM)
3	1	O-ring	40 x 3	304389 (NBR)	304391 (FPM)
4	1	support ring	48 x 2,6 x 1	305391	
5	1	clogging indicator visual	AOR or AOC	see sheet-no. 1606	
6	1	clogging indicator visual-electric	AE	see sheet-no. 1615	
7	1	clogging sensor electronic	VS5	see sheet-no. 1619	
8	1	screw plug	20913-4	309817	

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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