Series EDA 106
NPS 1“ CLASS 150-300 PSI

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

Switch lever standard in the front.

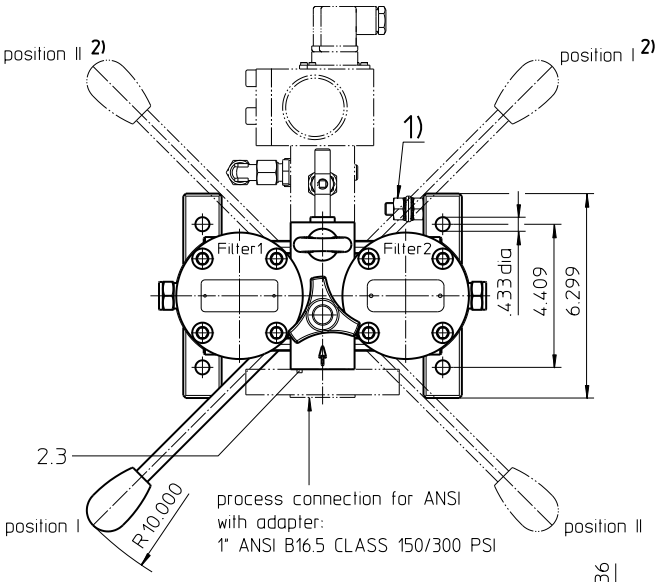
2) On request:
The switch lever ca be moved to backside of the changeover valve, opposite to the inlet and outlet.

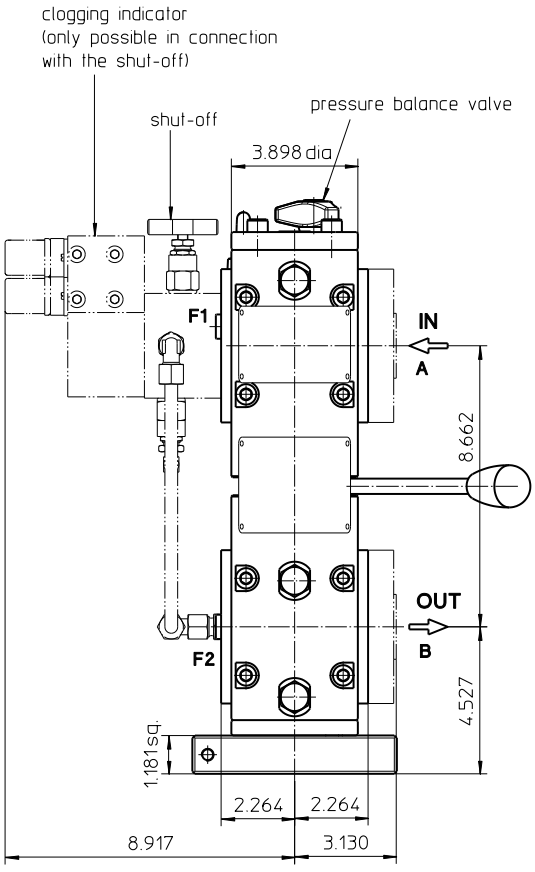
Please specify this configuration on the order.

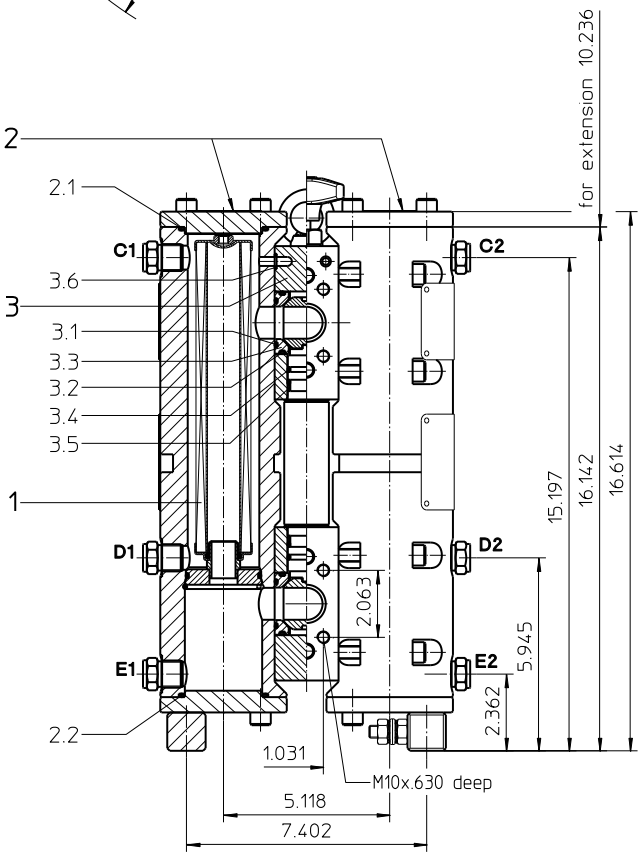
Assignment of connections and functions:

A: process inlet SAE 1” 3000 PSI
B: process outlet SAE 1” 3000 PS
C1/C2: air bleeding NPT ½”
D1/D2: drain, dirt side NPT ½”
E1/E2: drain, clean side NPT ½”
F1: measuring connection BSPP ¼ dirt side
F2: measuring connection BSPP ¼ clean side

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







Weight: approx. 115 lbs.

Dimensions: inches

Designs and performance values are subject to change.

Pressure Filter, change over
Series EDA 106
NPS 1" CLASS 150-300 PSI

Description:

Stainless steel-pressure filter series EDA 106 have a working pressure up to 580 PSI. 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 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 mesh element or changing the microglass 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 40 µm use disposable elements made of microglass. Filter elements as fine as 5 µm(c) are available; finer filter elements are available upon request.

Eaton filter elements are known for a 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)

EDA.	106.	10VG.	30.	E.	P.	VA.	FS.	5.	-.	VA.
1	2	3	4	5	6	7	8	9	10	11

IS21.	AB.	OE
12	13	14

1 **series:**
EDA = stainless steel-pressure filter change over, acc. to ASME-Code

2 **nominal size:** 106

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:**
30 = Δp 435 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 = flange SAE 3000 PSI
FA1 = flange ANSI CLASS 300 PSI [1)]
FA2 = flange ANSI CLASS 300 PSI [2)]
FA11 = flange ANSI CLASS 150 PSI [1)]
FA12 = flange ANSI CLASS 150 PSI [2)]

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

10 **air bleeding/drain dirt side:**
- = standard (NPT ½")

11 **filter housing specification:**
VA = stainless steel, see sheet-no. 69578

12 **specification pressure vessel:**
IS21 = ASME VIII Div.1 with U-stamp, see sheet-no. 43415
IS23 = ASME VIII Div.1 without U-stamp, see sheet-no. 55218

13 **shut-off:**
- = without
AB = with shut-off block

14 **clogging indicator or clogging sensor:**
- = without
AE = visual-electric, see sheet-no. 1609
OP = visual, see sheet-no. 1628
OE = visual-electric, see sheet-no. 1628
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.

[1)] sealing surface rough grind 1600-3600 µin
[2)] sealing surface rough grind < 640 µin

Filter element: (ordering example)

01NLM.	106.	10VG.	30.	E.	P.	VA
1	2	3	4	5	6	7

1 **series:**
01NLM = standard filter element according to DIN 24550, T3 with hex nut

2 **nominal size:** 106

3 - 7 see type index-complete filter

Accessories:

- SAE-counter flanges, see sheet-no. 1652
- drain- and bleeder connection, see sheet-no. 1659

Technical data:

operating temperature:	+14°F to +212°F
operating medium:	mineral oil, other media on request
max. operating pressure (pressure vessel):	580 PSI
test pressure acc. to ASME VIII Div. 1:	1,3 x operating pressure = 754 PSI
test pressure acc. to API 614, Chapter 1:	1,5 x operating pressure = 870 PSI
process connection system:	SAE-flange 3000 PSI or ANSI-flange B16.5 CLASS 150/300 PSI
housing material:	stainless steel, see sheet-no. 69578
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical
bleeder connection:	NPT ½“
drain connection dirt side:	NPT ½“
drain connection clean side:	NPT ½“
volume tank:	2x 0.24 Gal.
operating pressure adapter flanges:	according to B16.5 CLASS 150 PSI (FA11/FA12 max. 232 PSI) according to B16.5 CLASS 300 PSI (FA1/FA2 max. 580 PSI)

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:

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

$\Delta p_{housing}$ = *(see Δp = 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.eaton.com/hydraulic-filter-evaluation

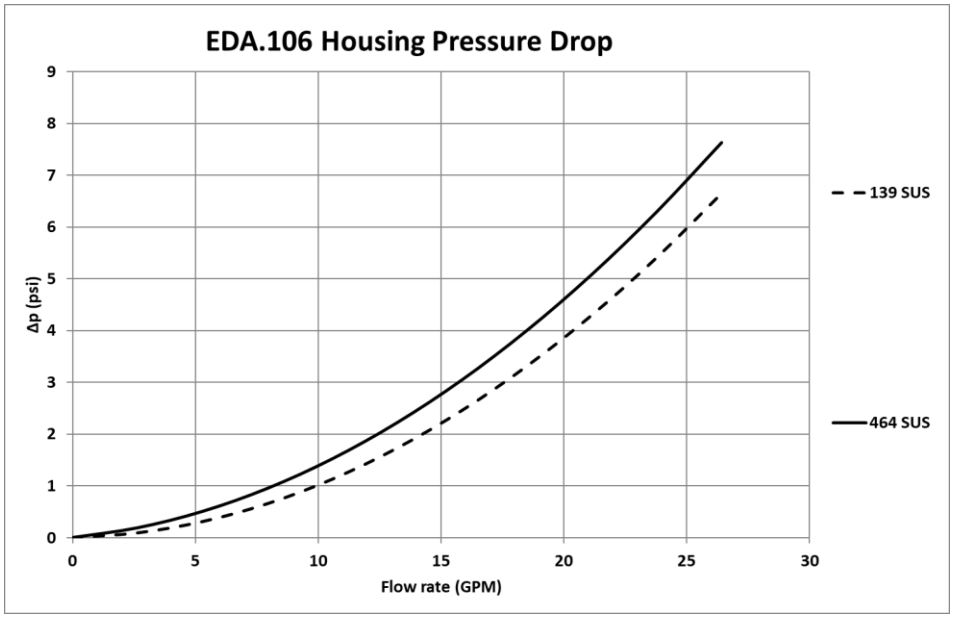
Material gradient coefficients (MSK) for filter elements

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

EDA	VG					G				API	
	3VG	6VG	10VG	16VG	25VG	10G	25G	40G	80G	10 API	25 API
106	2.640	1.833	1.173	1.021	0.698	0.0942	0.0699	0.0652	0.0447	0.625	0.286

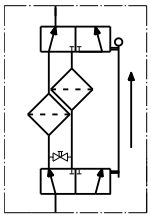
Δp=f(Q) – characteristic according ISO 3968

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.

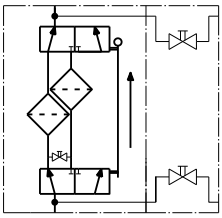


Symbols:

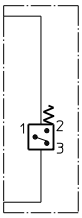
without accessories



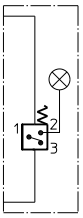
with shut-off block



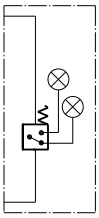
with electric indicator AE30/AE40



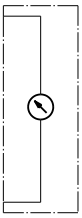
with visual-electric indicator AE50/AE62



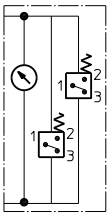
with visual-electric indicator AE70/AE80/AE90



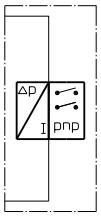
with visual indicator OP



with visual-electric indicator OE



with electronic sensor VS5



Spare parts:

item	qty.	designation	dimension	article-no.	
1	2	filter element	01.NLM106…		
2	**1**	**gasket kit filter housing:**			
2.1	2	O-ring	60 x 3,5	304377 (NBR)	304398 (FPM)
2.2	2	O-ring	60 x 3,5	304377 (NBR)	304398 (FPM)
2.3	2	O-ring	32,9 x 3,53	318850 (NBR)	338231 (FPM)
3	1	**gasket kit of switching over consisting of:**	DN25 (1“)	354244 (NBR)	354247 (FPM)
3.1	4	O-ring	32 x 3		
3.2	4	O-ring	42 x 3,5		
3.3	4	gasket ring	1“		
3.4	4	O-ring	24 x 3		
3.5	2	support ring	30 x 25,4 x 5		
3.6	2	O-ring	7 x 2		

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

North America
18684 Lake Drive East
Chanhassen, MN 55317
Toll Free: +1 800-656-3344
(North America only)
Tel: +1 732-212-4700

Europe/Africa/Middle East
Auf der Heide 2
53947 Nettersheim, Germany
Tel: +49 2486 809-0

Friedensstraße 41
68804 Altlußheim, Germany
Tel: +49 6205 2094-0

An den Nahewiesen 24
55450 Langenlonsheim, Germany
Tel: +49 6704 204-0

Greater China
No. 7, Lane 280,
Linhong Road
Changning District, 200335
Shanghai, P.R. China
Tel: +86 21 2899-3687

Asia-Pacific
100G Pasir Panjang Road
#07-08 Interlocal Centre
Singapore 118523
Tel: +65 6825-1620

For more information, please email us at *filtration@eaton.com* or visit *www.eaton.com/filtration*

Powering Business Worldwide