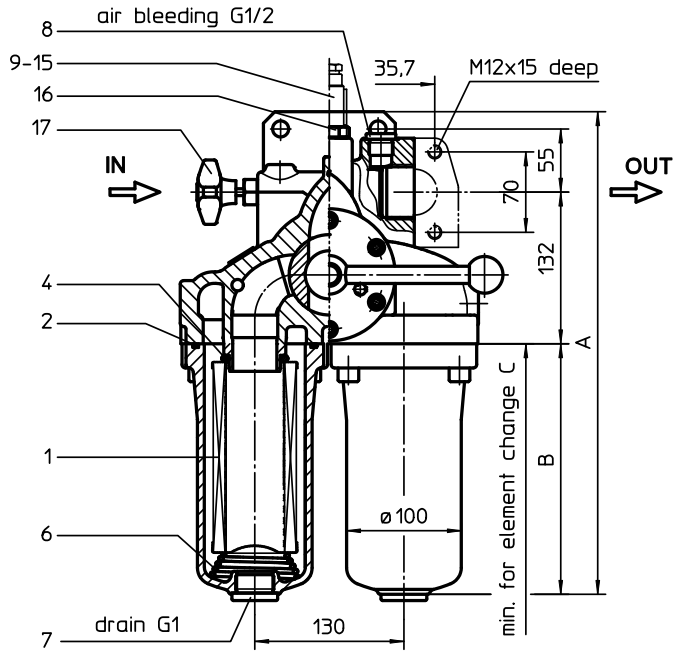
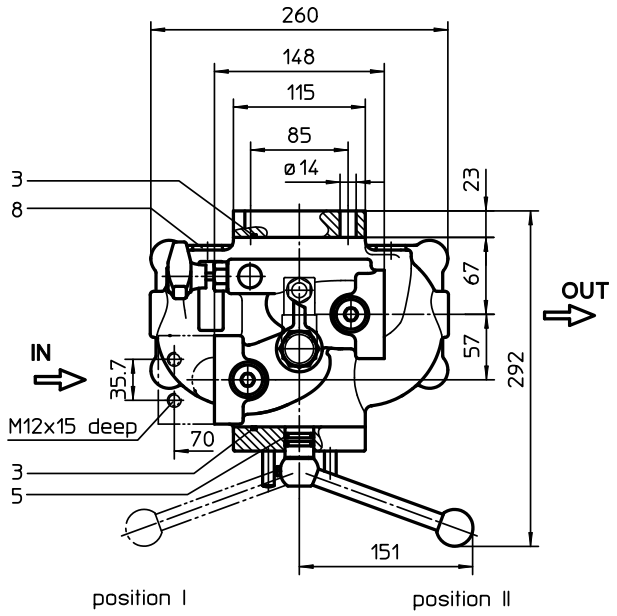
PRESSURE FILTER, change-over
Series DSF 180-340 DN 40 PN 25

Sheet No.
2149 A





Pos. I: left filter-side in operation
Pos. II: right filter-side in operation

Information:
Execution IN right/OUT left
see data sheet-no. 2148 !

1. Type index:

1.1. Complete filter: (ordering example)

DSF. 180. 10VG. 16. E. P. -. FS. 7. -. -. AE

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

1 **series:**
DSF = duplex filter, change-over

2 **nominal size**: 180, 340

3 **filter-material and filter- fineness:**
80 G = 80 µm, 40 G = 40 µm,
25 G = 25µm stainless steel wire mesh
25 VG = 20 $\mu m_{(c)}$, 16 VG = 15 $\mu m_{(c)}$, 10 VG = 10 $\mu m_{(c)}$,
6 VG = 7 $\mu m_{(c)}$, 3 VG = 5 $\mu m_{(c)}$ Interpor fleece (glass fibre)
25 API = 20 µm, 10 API = 10 µm Interpor fleece (glass fibre) according to API
10 P = 10 µm paper

4 **resistance of pressure difference for filter element:**
16 = Δp 16 bar

5 **filter element design:**
E = without by-pass valve

6 **sealing material:**
P = Nitrile (NBR)
V = Viton (FPM)

7 **filter element specification:**
- = standard
VA = stainless steel

8 **connection:**
FS = SAE-flange connection 3000 PSI
G = thread connection according to DIN 3852, T2

9 **connection size:**
7 = 1 ½“

10 **filter housing specification:**
- = standard

11 **internal valve:**
- = without
S1 = with by-pass valve Δp 3,5 bar
S2 = with by-pass valve Δp 7,0 bar

12 **clogging indicator or clogging sensor** :
- = without
AOR = visual, see sheet-no. 1606
AOC = visual, see sheet-no. 1606
AE = visual-electrical, see sheet-no. 1615
VS1 = electronical, see sheet-no. 1617
VS2 = electronical, see sheet-no. 1618

1.2. Filter element: (ordering example)

01E. 175. 10VG. 16. E. P. -

1	2	3	4	5	6	7

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

2 **nominal size:** 175, 330

3 - 7 see type index complete filter

2. Accessories:

- counter flange see sheet-no. 1652

3. Dimensions:

type	A	B	C	weight kg	volume tank
DSF 180	420	218	250	36	2x 1,2 l
DSF 340	555	353	390	38	2x 2,0 l

EDV 08/12

Changes of measures and design are subject to alteration!

Friedensstrasse 41, 68804 Altlussheim, Germany
phone +49 - (0)6205 - 2094-0 e-mail info-internormen@eaton.com
fax +49 - (0)6205 - 2094-40 url www.eaton.com/filtration

4. Spare parts:

item	qty.	designation	dimension DSF 180	dimension DSF 340	article-no.	
1	2	filter element	01E. 175	01E. 330		
2	2	O-ring	100 x 4		320540 (NBR)	332742 (FPM)
3	2	O-ring	75 x 3		302215 (NBR)	304729 (FPM)
4	2	O-ring	44 x 6		302222 (NBR)	304384 (FPM)
5	2	O-ring	18 x 3		304359 (NBR)	304399 (FPM)
6	2	spring	Da = 52		304989	
7	2	screw plug	G 1		305303	
8	4	screw plug	G ½		304678	
9	1	clogging indicator, visual	AOR or AOC		see sheet-no.1606	
10	1	clogging indicator, visual-electrical	AE		see sheet-no.1615	
11	1	clogging sensor, electronical	VS1		see sheet-no.1617	
12	1	clogging sensor, electronical	VS2		see sheet-no.1618	
13	1	O-ring	15 x 1,5		315357 (NBR)	315427 (FPM)
14	1	O-ring	22 x 2		304708 (NBR)	304721 (FPM)
15	1	O-ring	14 x 2		304342 (NBR)	304722 (FPM)
16	1	screw plug	20913-4		309817	
17	1	pressure balance valve				

item 16 execution only without clogging indicator or clogging sensor

5. Description:

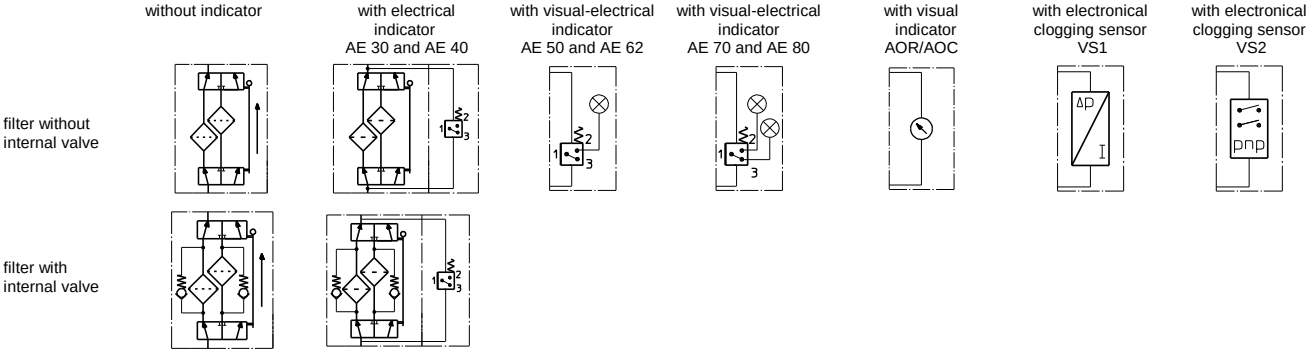
Duplex filters of the series DSF 180-340 are suitable for a working pressure up to 25 bar.
Pressure peaks can be absorbed with a sufficient margin of safety.
A three-way-change-over valve which is integrated in the middle of the housing makes it possible to switch from the dirty filter-side to the clean filter-side without interruting operation.
The filters can be installed as suction filter, pressure filter or return-line filter.
The filter element consist 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 the inside. Filter finer than 40 µm should use throw-away elements made of paper or Interpor fleece (glass fibre). Filter elements as fine as 5 $\mu m_{(c)}$ are available; finer filter elements on request.
Internormen Product Line filter elements are known as elements with a high intrinsic stability and an excellent filtration capability, a high dirt-retaining capacity and a long service life.
Internormen Product Line filter are suitable for all petroleum based fluids, HW-emulsions, most synthetic hydraulic fluids and lubrication oils.
Approvals according to TÜV, and the major „Shipyard Classification Societies“ D.N.V.; B.V.; G.L.; L.R.S.; R.I.N.A.; A.B.S.; P.R.S.;USS.R.S. and others are possible.
The internal valve is integrated in the filter. After reaching the opening pressure the by-pass valve causes that an unfiltered partial flow passes the filter.

6. Technical data:

temperature range:	-10°C to +80°C (for a short time +100°C)
operating medium:	mineral oil, other media on request
max. operating pressure:	25 bar
test pressure:	50 bar
connection system:	SAE-flange 3000 PSI or thread according to DIN 3852, T2
housing material:	EN-GJS-400-18-LT
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical

Classified under the Pressure Equipment Directive 97/23/EC for mineral oil (fluid group 2), Article 3, Para. 3.
Classified under ATEX Directive 94/9/EC according to specific application (see questionnaire sheet-no. 34279-4).

7. Symbols:



8. Pressure drop flow curves:

Precise flow rates see ‘Interactive Product Specifier’, respectively ∆p-curves ; depending on filter fineness and viscosity.

9. 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