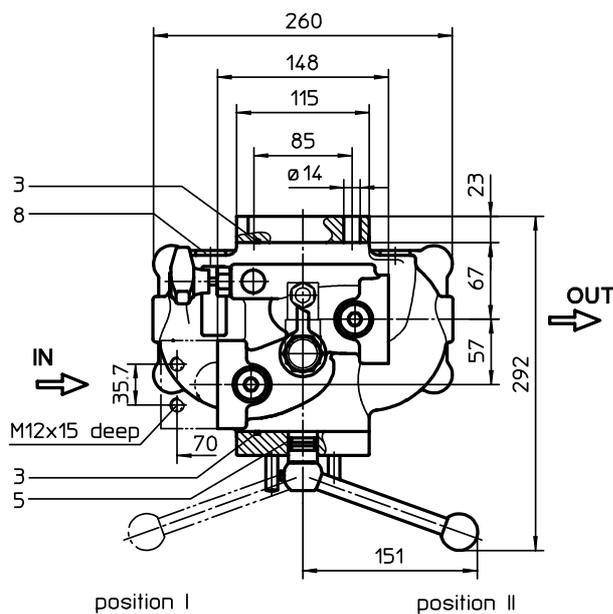
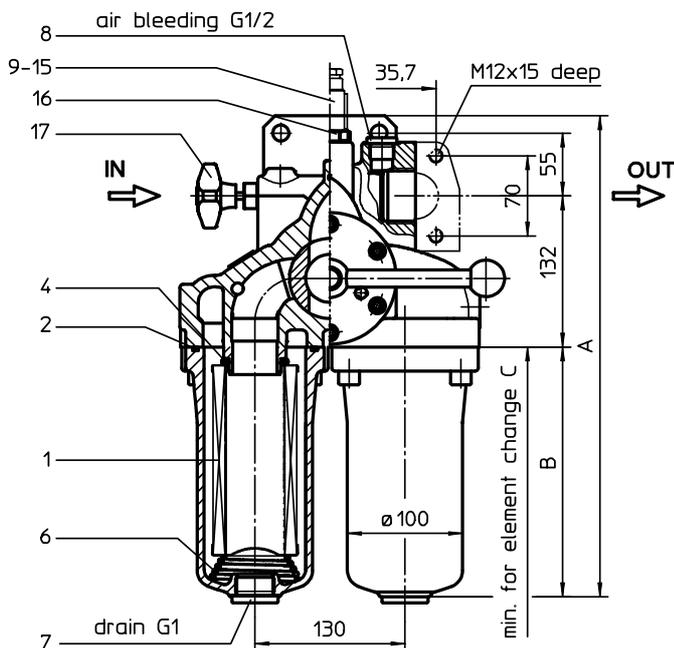


# PRESSURE FILTER, change-over

Series DSF 180-340 DN 40 PN 25

Sheet No.  
2149



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
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- 1 **series:**  
DSF = duplex filter, change-over
- 2 **nominal size:** 180, 340
- 3 **filter-material and filter- fineness:**  
80 G = 80  $\mu\text{m}$ , 40 G = 40  $\mu\text{m}$ ,  
25 G = 25 $\mu\text{m}$  stainless steel wire mesh  
25 VG = 20  $\mu\text{m}_{(c)}$ , 16 VG = 15  $\mu\text{m}_{(c)}$ , 10 VG = 10  $\mu\text{m}_{(c)}$ ,  
6 VG = 7  $\mu\text{m}_{(c)}$ , 3 VG = 5  $\mu\text{m}_{(c)}$  Interpor fleece (glass fibre)  
25 P = 25  $\mu\text{m}$ , 10 P = 10  $\mu\text{m}$  paper
- 4 **resistance of pressure difference for filter element:**  
16 =  $\Delta p$  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 1/2"
- 10 **filter housing specification:**  
- = standard
- 11 **internal valve:**  
- = without  
S1 = with by-pass valve  $\Delta p$  3,5 bar  
S2 = with by-pass valve  $\Delta p$  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
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- 1 **series:**  
01E. = filter element according to INTERNORMEN factory specification
- 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

Changes of measures and design are subject to alteration!

EDV 04/09

**internormen**  
technology

Friedensstrasse 41, 68804 Altlusheim, Germany

phone +49 - (0)6205 - 2094-0  
fax +49 - (0)6205 - 2094-40

e-mail sales@internormen.com  
url www.internormen.com



## 4. Spare parts:

item	qty.	designation	dimension		article-no.	
			DSF 180 01E. 175	DSF 340 01E. 330		
1	2	filter element				
2	2	O-ring	98 x 4		301914 (NBR)	304765 (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, electrical	VS1		see sheet-no.1617	
12	1	clogging sensor, electrical	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 interrupting 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 µm<sub>(c)</sub> are available; finer filter elements on request.

INTERNORMEN-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-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.

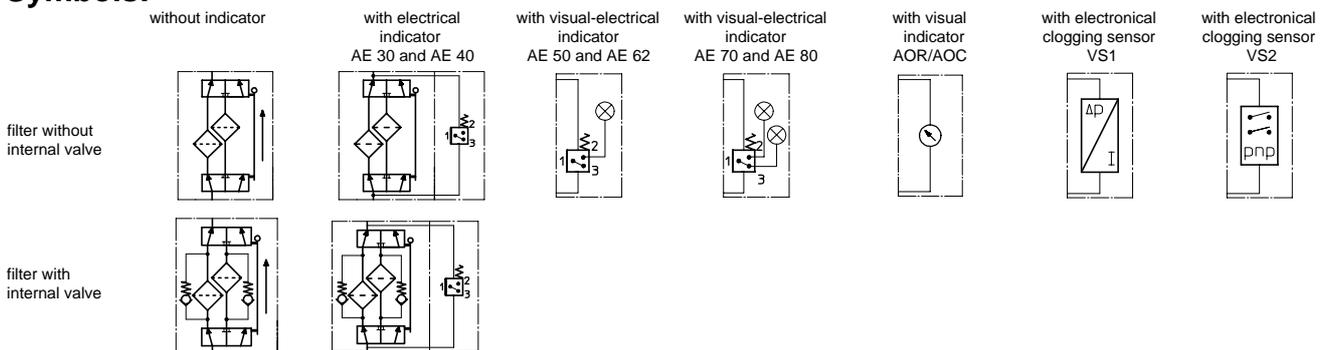
## 6. Technical data:

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 'INT-Expert-System Filter' respectively  $\Delta p$ -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