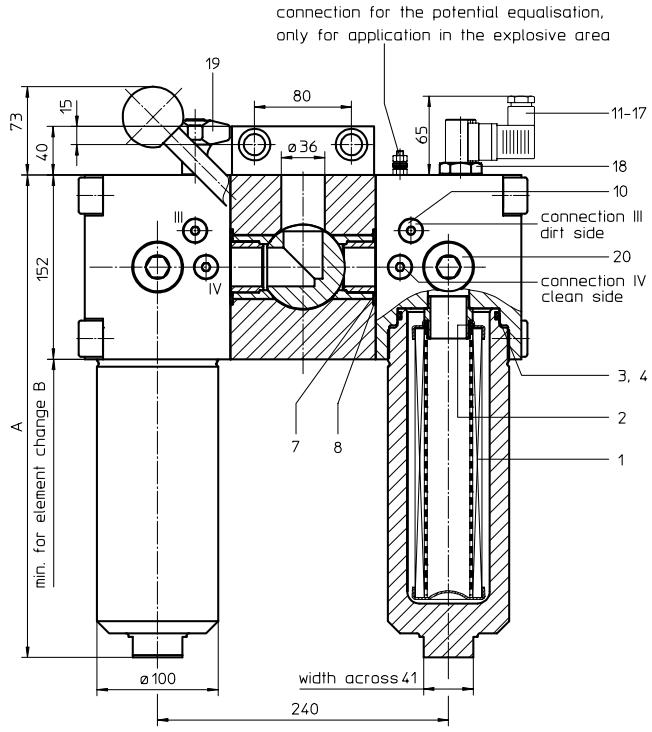
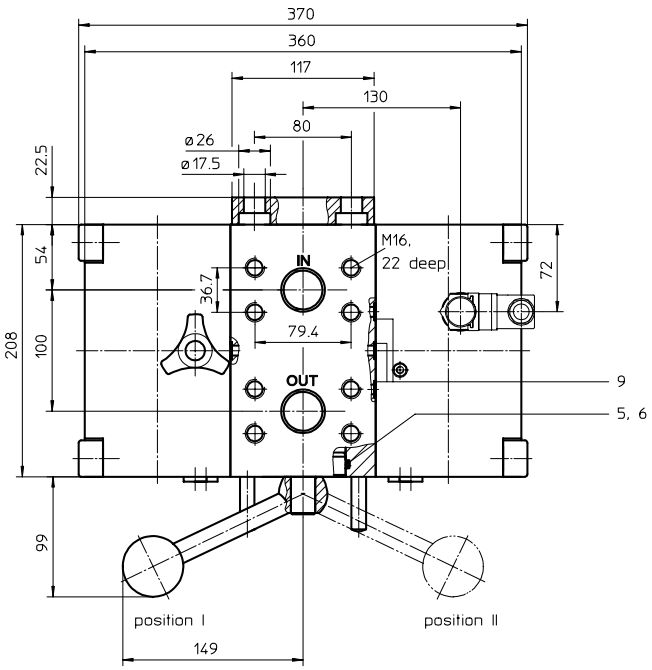
STAINLESS STEEL- PRESSURE FILTER, change-over
Series EHD 241 - 451 DN 40 PN 315

Sheet No.
2533 D





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

Connection III and IV to be used to bleed filter or to relieve pressure.

1. Type index:

1.1. Complete filter: (ordering example)

EHD. 241. 10VG. HR. E. P. VA. FS. 7. VA. -. AE

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

1 **series:**
EHD = stainless steel-pressure filter, change-over

2 **nominal size:** 241, 451

3 **filter-material and filter-fineness:**
80G = 80 µm, 40G = 40 µm,
25G = 25 µm 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)

4 **resistance of pressure difference for filter element:**
30 = Δp 30 bar
HR = Δp 160 bar (rupture strength Δp 250 bar)

5 **filter element design:**
E = single-end open

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

7 **filter element specification:** (see catalog)
- = standard
VA = stainless steel
IS06 = see sheet-no. 31601

8 **connection:**
FS = SAE-flange connection 6000 PSI

9 **connection size:**
7 = 1 ½"

10 **filter housing specification:**
VA = stainless steel

11 **internal valve:**
- = without
S1 = with by-pass valve Δp 3,5 bar
S2 = with by-pass valve Δp 7,0 bar
R = reversing valve, Q ≤ 211,008 l/min

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. 240. 10VG. HR. E. P. VA

1	2	3	4	5	6	7

1 **series:**
01E. = filter element according to INTERNORMEN factory specification

2 **nominal size:** 240, 450

3 - 7 see type index-complete filter

2. Accessories:

- measure- and bleeder connection, see sheet-no. 1650

3. Dimensions:

type	connection	A	B	weight kg	volume tank
EHD 241	SAE	398	340	102	2x 0,85 l
EHD 451	1 ½"	583	525	116	2x 1,55 l

Changes of measures and design are subject to alteration!

EDV 11/07

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4. Spare parts:

item	qty.	designation	dimension EHD 241	dimension EHD 451	article-no.	
1	2	filter element	01E. 240	01E. 450		
2	2	O-ring	34 x 3,5		304338 (NBR)	304730 (FPM)
3	2	O-ring	76 x 4		305599 (NBR)	310291 (FPM)
4	2	support ring	84 x 3,2 x 1,5		312307	
5	3	O-ring	70 x 4		306253 (NBR)	310280 (FPM)
6	2	sliding ring	076 x70 x 45°		318070	
7	4	O-ring	56 x 3		305072 (NBR)	305322 (FPM)
8	4	O-ring	42,52 x 2,62		304352 (NBR)	304393 (FPM)
9	4	O-ring	10 x 2		309998 (NBR)	310272 (FPM)
10	4	screw plug	G ¼		306968	
11	1	clogging indicator visual	AOR or AOC		see sheet-no. 1606	
12	1	clogging indicator visual-electrical	AE		see sheet-no. 1615	
13	1	clogging sensor electronical	VS1		see sheet-no. 1617	
14	1	clogging sensor electronical	VS2		see sheet-no. 1618	
15	1	O-ring	15 x 1,5		315357 (NBR)	315427 (FPM)
16	1	O-ring	22 x 2		304708 (NBR)	304721 (FPM)
17	1	O-ring	14 x 2		304342 (NBR)	304722 (FPM)
18	1	screw plug	20913-4		314442	
19	1	pressure balance valve	nominal size 10		310316	
20	4	screw plug	G1		308498	

item 18 execution only without clogging indicator or clogging sensor

5. Description:

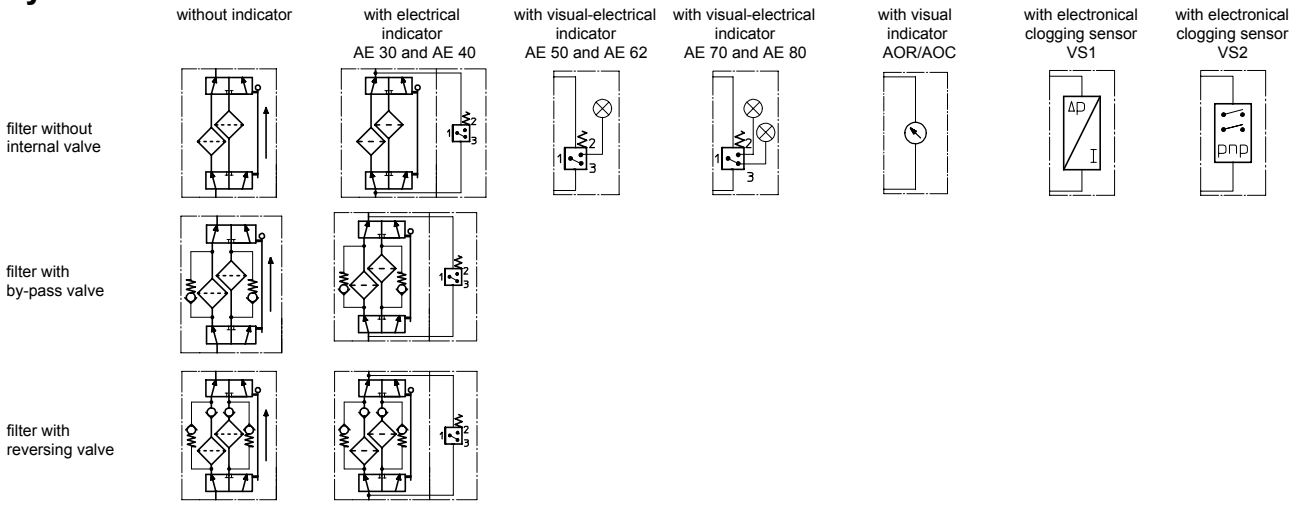
Duplex pressure filters with change-over valve type EHD are suitable for a working pressure up to 315 bar.
The pressure peaks are absorbed by a sufficient margin of safety. Duplex filters can be serviced without interruption of operation. The upper part has a three-way-change-over valve which allows to change-over the flow from the dirty filter-side to the clean filter-side without interrupting the operation. The change-over procedure does not lead to a cross sectional contraction. Prior to the change-over procedure a built-in pressure balance valve equalizes the housing pressure. After change-over the pressure balance valve has to to be closed again. The closed filter-side has to be air-bled by vent III respectively by vent IV. Then change filter element. After screw in the filter bowl the pressure balance has to be opened shortly and the just serviced filter-side has to be air-bled.
Filter elements are available down to a filter fineness of 4 $\mu m_{(c)}$. 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.
INTERNORMEN-Filter elements are available with a pressure difference resistance up to Δp 160 bar and a rupture strength up to Δp 250 bar.
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. With the reverse valve a protection of the filter element is given when having a reverse flow inside the filter. The reverse flow will not be filtered.

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:	315 bar
test pressure:	450 bar
connection system:	SAE-flange connection 6000 PSI
housing material:	EN10088 - 1.4571 (320 S 18, 320 S 31 according to B.S.)
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical
air bleeding and mini-measuring connection:	G ¼

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 Δp-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