

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) connection for the potential equalisation, only for the application in the explosive area.

1. Type index:

1.1. Complete filter: (ordering example)

HDD. 901. 10VG. HR. E. P. -. FS. 8. -. -. AE

1	2	3	4	5	6	7	8	9	10	11	12
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- 1 **series:**
HDD = pressure filter, change-over
- 2 **nominal size:** 601, 901, 1351
- 3 **filter-material and filter- fineness:**
25 VG = 20 µm_(c), 16 VG = 15 µm_(c), 10 VG = 10 µm_(c),
6 VG = 7 µm_(c), 3 VG = 5 µm_(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:**
- = standard
VA = stainless steel
- 8 **connection:**
FS = SAE-flange connection 6000 PSI (standard)
FV = AVIT-flange connection 320 bar (special design)
- 9 **connection size:**
8 = 2"
- 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
R = reversing valve, Q ≤ 465,348 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. 900. 10VG. HR. 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:** 600, 900, 1350
- 3 - 7 | see type index-complete filter

2. Accessories:

- measure- and bleeder connection, see sheet-no. 1650
- SAE-counter flange, see sheet-no. 1652
- AVIT-counter flange, see sheet-no. 1654

3. Dimensions:

type	connection	A	B	C	weight kg	volume tank
HDD 601	2"	567	372	790	143	2x 2,1 l
HDD 901	2"	717	522	940	150	2x 3,1 l
HDD 1351	2"	965	770	1440	162	2x 4,6 l

4. Spare parts:

item	qty.	designation	dimension			article-no.	
			HDD 601	HDD 901	HDD 1351		
1	2	filter element	01E.600	01E.900	01E.1350		
2	2	O-ring		48 x 3		304357(NBR)	304404(FPM)
3	2	O-ring		98 x 4		301914(NBR)	304765(FPM)
4	2	support ring		110 x 3,5 x 2			304802
5	2	O-ring		18 x 3		304359(NBR)	304399(FPM)
6	2	support ring		25 x 2,5 x 0,5			311311
7	2	O-ring		71 x 3		306451(NBR)	306897(FPM)
8	2	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		315457(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	4	screw plug		G ¼			305003
18	1	pressure balance valve		nominal size 10			305000
19	1	O-ring (only with counter flange SAE)		56,75 x 3,53		306035(NBR)	310264(FPM)
20	1	O-ring (only with counter flange AVIT)		61 x 5			
21	8	screw plug		G 1½			311475

item 16 execution only without clogging indicator or clogging sensor

5. Description:

Duplex pressure filters with change-over valve type HDD are suitable for a working pressure up to 315 bar.

Pressure peaks can be absorbed with a sufficient margin of safety. Duplex filters can be maintained without interruption. 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 reduction of area.

The change-over can be done easily by opening of the change-over valve.

The mini-measuring connections on each filter-side allow the measuring of the pressure drop through the filter element, as well as at the pressure discharge of the tube plug during the maintenance.

Filter elements are available down to a filter fineness of 4 µm_(c). INTERNORMEN-Filter elements consist of filter materials with a high intrinsic stability, an excellent particle retention, respectively a high dirt holding capacity and provide a long service life.

INTERNORMEN-Filters can be used for mineral oil based fluids, HW-emulsions, water glycols, most synthetic hydraulic fluids and lubrication fluids.

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.

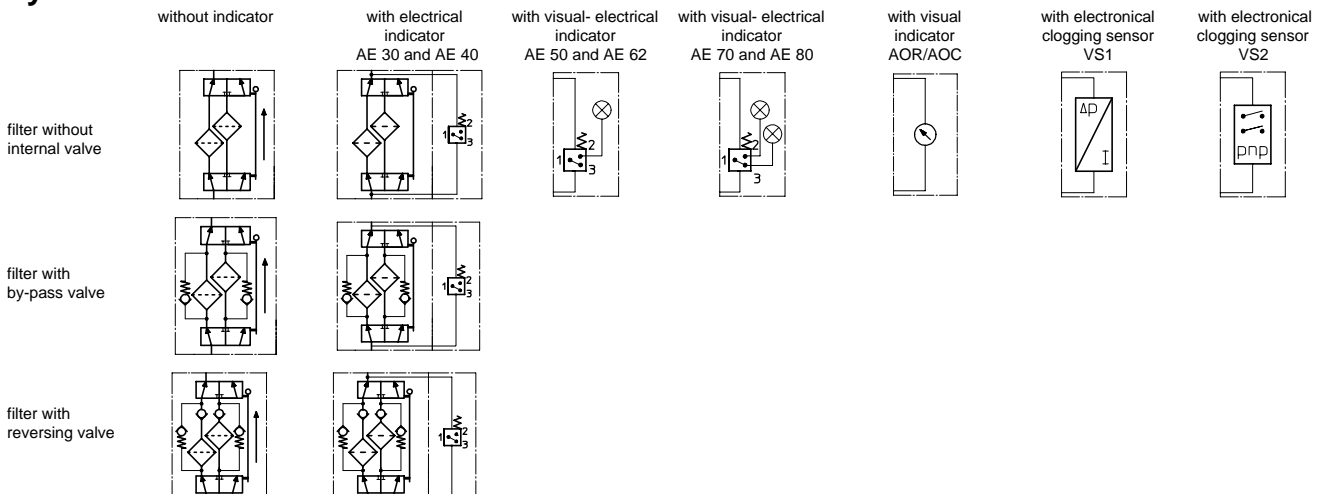
6. Technical data:

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:	410 bar
connection system:	SAE-flange 6000 PSI (standard) AVIT-flange 320 bar (special design)
housing material:	EN-GJS-400-18-LT; C-steel
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 2942	Verification of fabrication integrity
ISO 2941	Verification of collapse/burst resistance
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