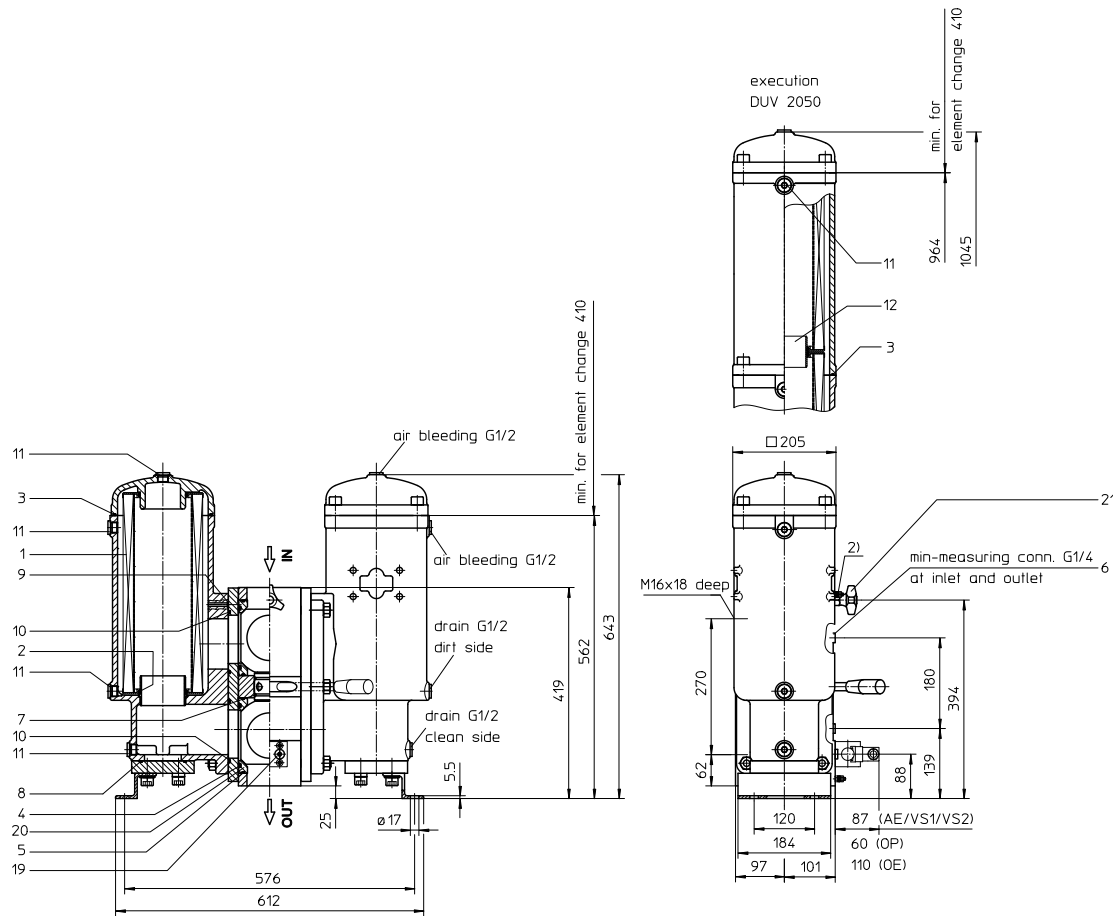


**PRESSURE FILTER, change-over ball valve**  
**Series DUV 1050-2050 DN 80-100 PN 32**

Sheet No.  
**2147 D**



**3. Dimensions:**

type	connection	SAE-connection size	weight kg
DUV 1050	DN 80 <sup>1)</sup>	SAE 4"	150
DUV 1050	DN 100	SAE 4"	150
DUV 2050	DN 80 <sup>1)</sup>	SAE 4"	200
DUV 2050	DN 100	SAE 4"	200

1) by counter flange BFS.B.E.88,9x3,2.St.P.3000  
 Instead of P (Nitrile) also V (Viton) can be chosen.

2) connection for the potential equalisation  
 at inlet and outlet, only for the application  
 in the explosive area

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

**1. Type index:**

**1.1. Complete filter: (ordering example)**

**DUV. 1050. 10VG. 10. B. P. -. FS. B. -. -. AE**

1	2	3	4	5	6	7	8	9	10	11	12
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- 1 series:  
 DUV = pressure filter, change-over with vertical connecting line
- 2 nominal size: 1050, 2050
- 3 filter-material and filter- fineness:  
 80 G = 80 µm, 40 G = 40 µm, 25 G = 25 µm, 10 G = 10 µm stainless steel wire mesh  
 25 VG = 20 µm<sub>(G)</sub>, 16 VG = 15 µm<sub>(G)</sub>, 10 VG = 10 µm<sub>(G)</sub>, 6 VG = 7 µm<sub>(G)</sub>, 3 VG = 5 µm<sub>(G)</sub> 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:  
 10 = Δp 10 bar
- 5 filter element design:  
 B = both sides 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  
 IS07 = see sheet-no. 31602
- 8 connection:  
 FS = SAE-flange connection 3000 PSI
- 9 connection size:  
 B = 4"
- 10 filter housing specification: (see catalog)  
 - = standard  
 IS06 = see sheet-no. 31605  
 IS12 = see sheet-no. 41028
- 11 internal valve:  
 - = without  
 S = with by-pass valve Δp 2 bar  
 S1 = with by-pass valve Δp 3,5 bar
- 12 clogging indicator or clogging sensor:  
 - = without  
 AE = visual-electrical, see sheet-no. 1609  
 OP = visual, see sheet-no. 1628  
 OE = visual-electrical, see sheet-no. 1628  
 VS1 = electronical, see sheet-no. 1607  
 VS2 = electronical, see sheet-no. 1608

**1.2. Filter element: (ordering example)**

**01NR. 1000. 10VG. 10. B. P. -**

1	2	3	4	5	6	7
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- 1 series:  
 01NR. = standard-return-line filter element according to DIN 24550, T4
- 2 nominal size: 1000
- 3 - 7 | see type index complete filter

**2. Accessories:**

- measure-and bleeder -connection, see sheet-no. 1650
- evacuation- and bleeder-connection, see sheet-no. 1651
- counter flange, see sheet-no. 1652
- shut-off valve, see sheet-no. 1655

Changes of measures and design are subject to alteration!

#### 4. Spare parts:

item	designation	qty.	dimension and article-no. DUV 1050	qty.	dimension and article-no. DUV 2050
1	filter element	2	01NR. 1000	4	01NR. 1000
2	O-ring	4	90 x 4 306941 (NBR) 307031 (FPM)	8	90 x 4 306941 (NBR) 307031 (FPM)
3	O-ring	2	185 x 4 305593 (NBR) 306309 (FPM)	4	185 x 4 305593 (NBR) 306309 (FPM)
4	O-ring	4	114 x 6 314419 (NBR) 316531 (FPM)	4	114 x 6 314419 (NBR) 316531 (FPM)
5	O-ring	4	140 x 4 305145 (NBR) 305201 (FPM)	4	140 x 4 305145 (NBR) 305201 (FPM)
6	screw plug	2	G ¼ 305003	2	G ¼ 305003
7	O-ring	2	54 x 3 304657 (NBR) 304720 (FPM)	2	54 x 3 304657 (NBR) 304720 (FPM)
8	O-ring	2	85,32 x 3,53 305590 (NBR) 306308 (FPM)	2	85,32 x 3,53 305590 (NBR) 306308 (FPM)
9	O-ring	8	8 x 2 310004 (NBR) 316530 (FPM)	8	8 x 2 310004 (NBR) 316530 (FPM)
10	O-ring	4	115 x 5 306640 (NBR) 310287 (FPM)	4	115 x 5 306640 (NBR) 310287 (FPM)
11	screw plug	8	G ½ 304678	10	G ½ 304678
12	slip coupling	-	∅90	2	∅90 313233
13	clogging indicator visual	1	OP	see sheet-no. 1628	
14	clogging indicator visual-electrical	1	OE	see sheet-no. 1628	
15	clogging indicator visual-electrical	1	AE	see sheet-no. 1609	
16	clogging sensor electrical	1	VS1	see sheet-no. 1607	
17	clogging sensor electrical	1	VS2	see sheet-no. 1608	
18	O-ring	2	14 x 2	304342 (NBR) 304722 (FPM)	
19	screw plug	2	G ¼	305003	
20	gasket	4	DN 90	312275	
21	pressure balance valve	1			

item 19 execution only without clogging indicator or clogging sensor

#### 5. Description:

Pressure filters, change-over series DUV 1050-2050 are suitable for operating pressure up to 32 bar.

Pressure peaks can be absorbed with a sufficient margin of safety.

Change-over ball valve which, 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 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 the inside. These filters can be installed as suction filters.

For cleaning (see special leaflet 21070-4 and 34448-4) the mesh element respectively to change the glass fibre element remove the cover and take out the element.

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>(0)</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 „Shipyards Classification Societies“ D.N.V.; B.V.; G.L.; L.R.S.; R.I.N.A.; A.B.S. and others are possible.

The internal valve is integrated in the filter cover. After reaching the opening pressure the by-pass valve causes that an unfiltered partial flow passes the filter.

#### 6. Technical data:

temperature range:

operating medium:

max. operating pressure:

test pressure:

connection system:

housing material:

switching housing-material:

sealing material:

installation position:

mini-measuring connections:

evacuation-or bleeder connections:

volume tank DUV 1050:

DUV 2050:

- 10°C to + 80°C (for a short time + 100°C)

mineral oil, other media on request

32 bar

64 bar

SAE-flange connection 3000 PSI

EN-GJS-400-18-LT

S355J2G3

Nitrile (NBR) or Viton (FPM), other materials on request

vertical

G ¼

G ½

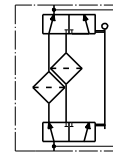
2x 13,7 l

2x 23,9 l

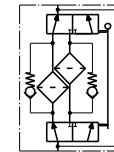
Classification according to the Pressure Equipment Directive 97/23/EC for mineral oil (fluid group 2) -article 3, paragraph 3  
Classified under ATEX Directive 94/9/EC according to specific application (see questionnaire sheet-no. 34279-4)

#### 7. Symbols:

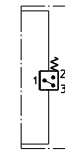
without indicator



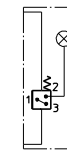
with by-pass valve



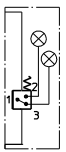
with electrical indicator  
AE 30 and AE 40



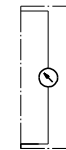
with visual-electrical indicator  
AE 50 and AE 62



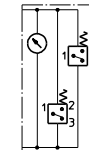
with visual-electrical indicator  
AE 70 and AE 80



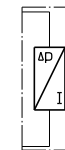
with visual indicator  
OP



with visual-electrical indicator  
OE



with electrical clogging sensor  
VS1



with electrical clogging sensor  
VS2



#### 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