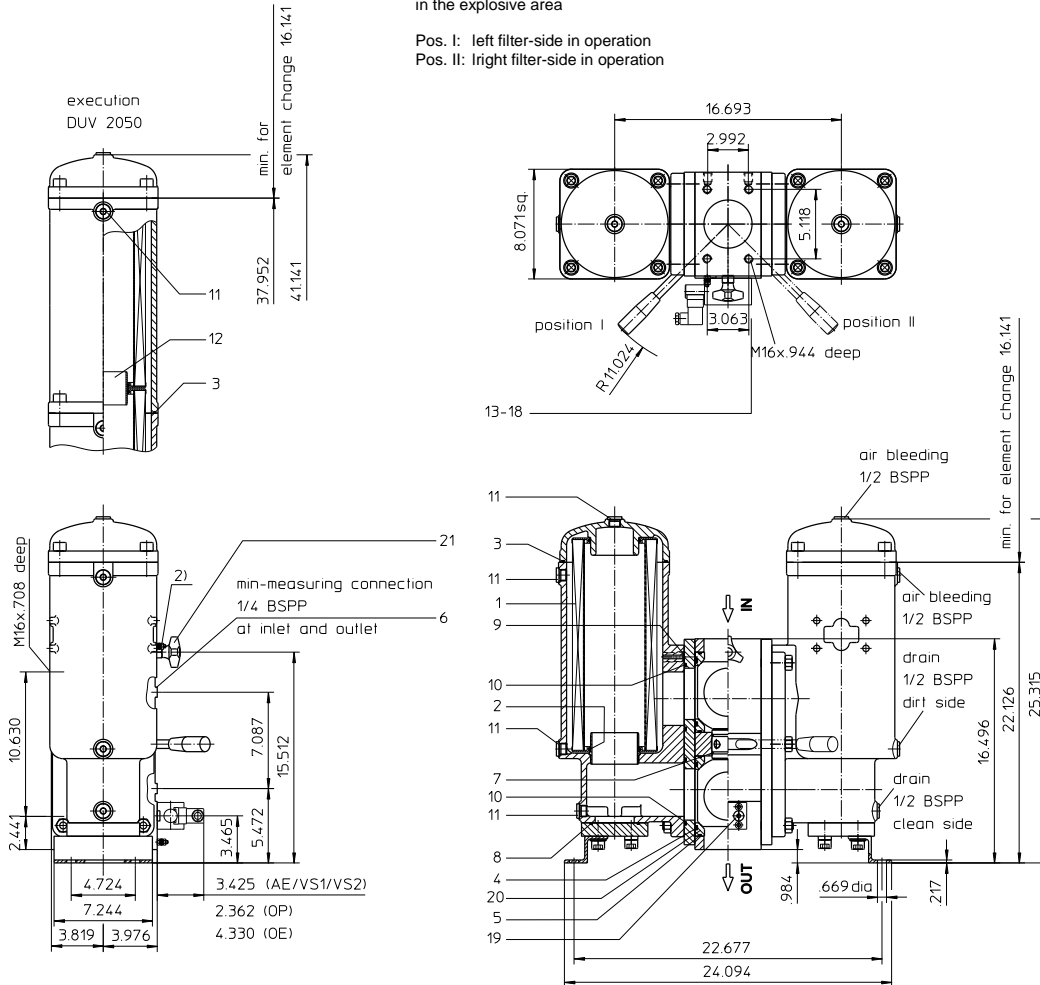


PRESSURE FILTER, change-over ball valve
Series DUV 1050-2050 464 PSI

Sheet No.
2147 D

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



3. Dimensions: inch

type	connection	SAE-connection size	weight lbs.
DUV 1050	SAE 3" ¹⁾	SAE 4" 3000 PSI	330
DUV 1050	SAE 4"	SAE 4" 3000 PSI	330
DUV 2050	SAE 3" ¹⁾	SAE 4" 3000 PSI	440
DUV 2050	SAE 4"	SAE 4" 3000 PSI	440

¹⁾ with reducing flange BFS.B.E.88.9x3,2.St.P.3000
 Instead of P (Nitrile) also V (Viton) can be chosen.

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_(G), 16 VG = 15 µm_(G), 10 VG = 10 µm_(G), 6 VG = 7 µm_(G), 3 VG = 5 µm_(G)
25 API = 20 µm, 10 API = 10 µm Interpor fleece (glass fiber) according to API
10 P = 10 µm paper
- 4 resistance of pressure difference for filter element:
10 = Δp 145 PSI
- 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 29 PSI
S1 = with by-pass valve Δp 51 PSI
- 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 = electrical, see sheet-no. 1607
VS2 = electrical, 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	½ BSPP 305003	2	½ BSPP 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	½ BSPP 304678	10	½ BSPP 304678
12	slip coupling	-	-	2	3,543 dia 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 electronical	1		VS1	see sheet-no. 1607
17	clogging sensor electronical	1		VS2	see sheet-no. 1608
18	O-ring	2		14 x 2	304342 (NBR) 304722 (FPM)
19	screw plug	2		½ BSPP	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 464 PSI.

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 fiber). Filter elements as fine as

5 µm₀ 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.

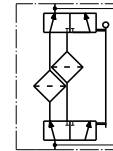
6. Technical data:

temperature range: +14°F to + 176°F (for a short time + 212°F)
operating medium: mineral oil, other media on request
max. operating pressure: 464 PSI
test pressure: 900 PSI
connection system: SAE-flange connection 3000 PSI
housing material: EN-GJS-400-18-LT
switching housing-material: S355J2G3
sealing material: Nitrile (NBR) or Viton (FPM), other materials on request
installation position: vertical
mini-measuring connections: ¼ BSPP
evacuation-or bleeder connections: ½ BSPP
volume tank DUV 1050: 2x 3.6 Gal
DUV 2050: 2x 6.3 Gal

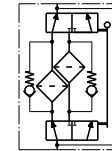
Classification according to the Pressure Equipment Directive 97/23/EC for mineral oil (fluid group 2) - article 3, paragraph 3.
Classified under ATEX Directive 94/9/EC according to specific application (see questionnaire sheet-no. 34279-4).

7. Symbols:

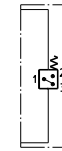
without indicator



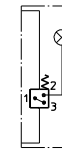
with by-pass valve



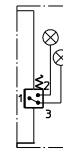
with electrical indicator
AE 30 and AE 40



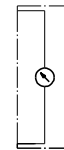
with visual-electrical indicator
AE 50 and AE 62



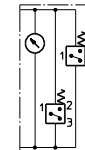
with visual-electrical indicator
AE 70 and AE 80



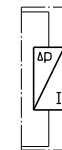
with visual indicator
OP



with visual-electrical indicator
OE



with electronical clogging sensor
VS1



with electronical 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