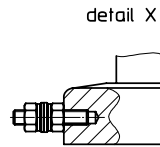
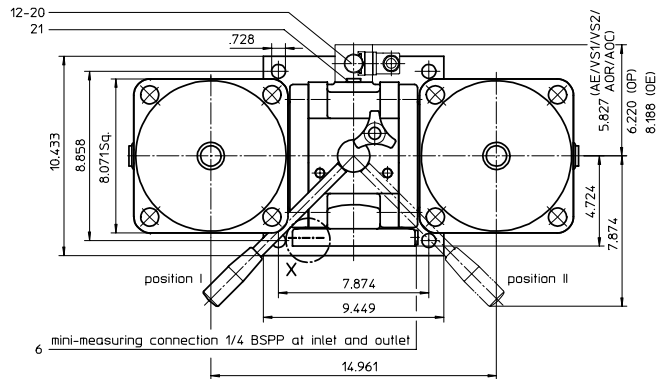


PRESSURE FILTER, change-over ball valve

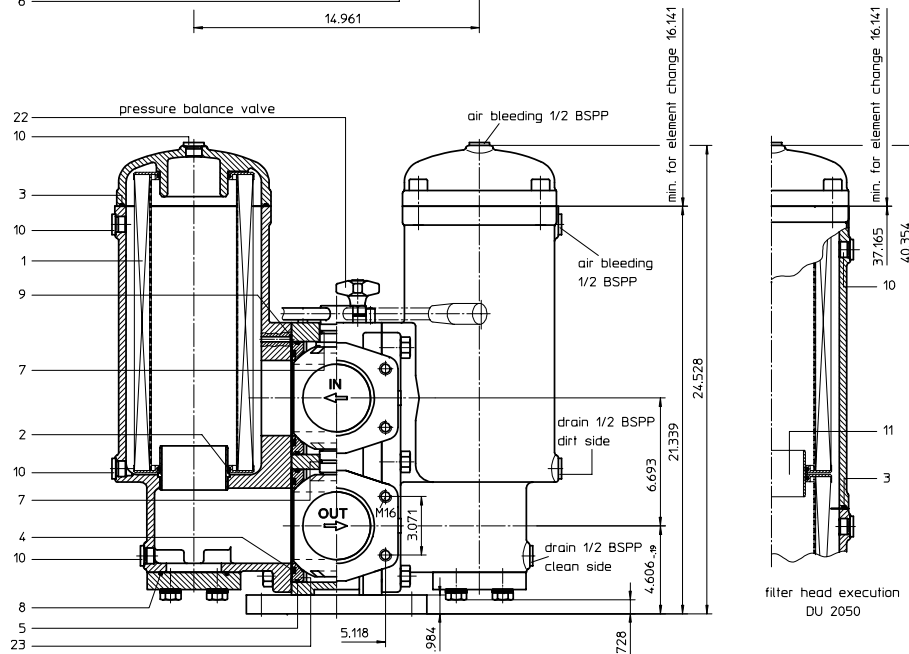
Series DU 1050-2050 464 PSI

Sheet No.
2119 K

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



connection for the potential equalisation at outlet, only for application in the explosive area



filter head execution
DU 2050

3. Dimensions: inch

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

DU. 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:
DU = pressure filter, change-over
- 2 nominal size: 1050, 2050
- 3 filter-material and filter-fineness:
80 G = 80 µm, 40 G = 40 µm, 25 G = 25 µm stainless steel wire mesh
25 VG = 20 µm_(e), 16 VG = 15 µm_(e), 10 VG = 10 µm_(e), 6 VG = 7 µm_(e), 3 VG = 5 µm_(e), Interpor fleece (glass fiber)
25 P = 25 µm, 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, OP = visual, see sheet-no. 1628
AOR = visual, see sheet-no. 1606, OE = visual-electrical, see sheet-no. 1628
AOC = visual, see sheet-no. 1606, VS1 = electrical, see sheet-no. 1607
AE = visual-electrical, see sheet-no. 1609, 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. DU 1050	qty.	dimension and article-no. DU 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	¼ BSPP 305003	2	¼ BSPP 305003
7	O-ring	2	38 x 3 304340 (NBR) 317013 (FPM)	2	38 x 3 304340 (NBR) 317013 (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	4	8 x 2 310004 (NBR) 316530 (FPM)	4	8 x 2 310004 (NBR) 316530 (FPM)
10	screw plug	8	½ BSPP 304678	10	½ BSPP 304678
11	slip coupling	-	-	2	3.543 dia 313233
12	clogging indicator visual	1	AOR or AOC	see sheet-no.	1606
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	1	15 x 1,5 315357 (NBR) 315427 (FPM)	1	15 x 1,5 315357 (NBR) 315427 (FPM)
19	O-ring	1	22 x 2 304708 (NBR) 304721 (FPM)	1	22 x 2 304708 (NBR) 304721 (FPM)
20	O-ring	2	14 x 2 304342 (NBR) 304722 (FPM)	2	14 x 2 304342 (NBR) 304722 (FPM)
21	screw plug	2	¼ BSPP	305003	
22	pressure balance valve	1			
23	gasket	4	DN 90	312275	

item 21 execution only without clogging indicator or clogging sensor

5. Description:

pressure filters, change-over series DU 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 µm_{0.1} 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.

US 2119 K

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

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 DU 1050:

2x 3.6 Gal

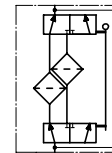
DU 2050:

2x 6.3 Gal

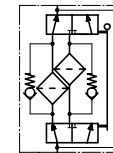
Classification according to the Pressure Equipment Directive 97/23/EC for mineral oil (fluid group 2) -article 3, paragraph 3. Classified under ATEX Directive 94/9/EC according to specific application (see questionnaire sheet-no. 34279-4).

7. Symbols:

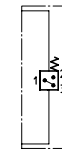
without indicator



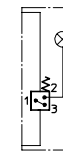
with by-pass valve



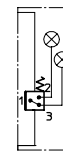
with electrical indicator
AE 30 and AE 40



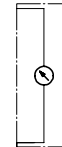
with visual-electrical indicator
AE 50 and AE 62



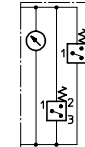
with visual-electrical indicator
AE 70 and AE 80



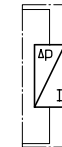
with visual indicator
AOR/AOC/OP



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