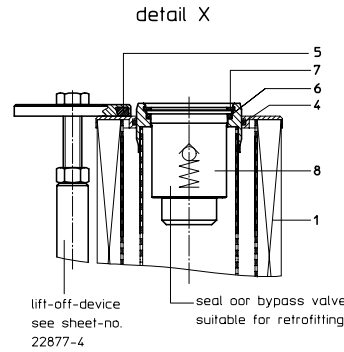
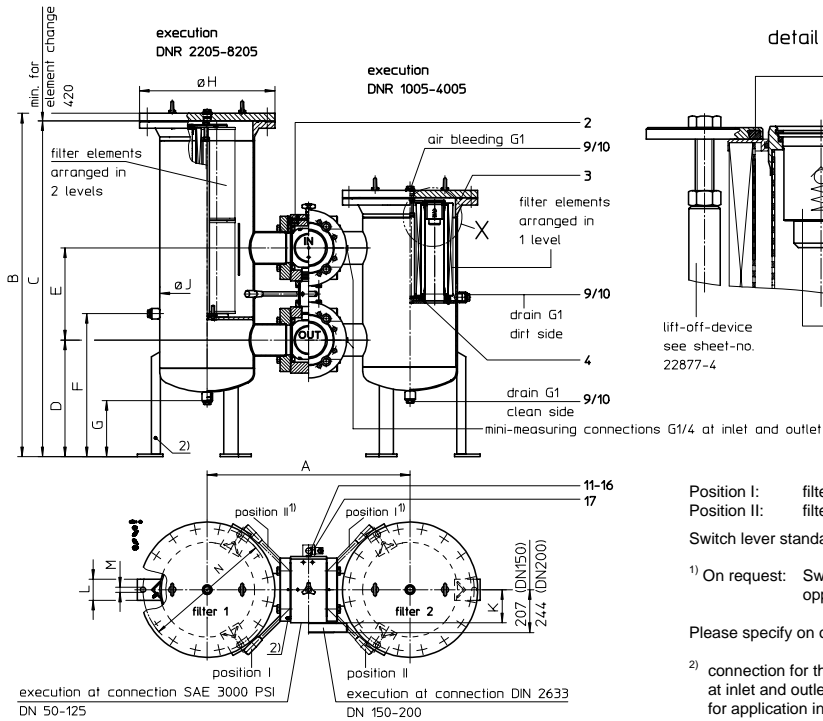


**PRESSURE FILTER, change-over**  
**Series DNR 1005-8205 DN 50-200 PN 16**

Sheet No.  
**2141 F**



Position I: filter 1 in operation  
 Position II: filter 2 in operation  
 Switch lever standard in the front

1) On request: Switch lever backside opposite to inlet and outlet.

Please specify on order!  
 2) connection for the potential equalisation at inlet and outlet resp. filter housing, only for application in the explosive area

**1. Type index:**

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

**DNR. 3005. 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:**  
DNR = duplex filter with standard-return-line filter elements
- 2 | **nominal size:** 1005, 2005, 3005, 4005 (1 level)  
2205, 4205, 6205, 8205 (2 levels)
- 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<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 P = 25 µm, 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 = flange connection SAE 3000 PSI, only for DN 50-125  
FD1 = flange connection DIN 2633, design C DIN 2526, only for DN 150-200  
FD2 = flange connection DIN 2633, design E DIN 2526, only for DN 150-200
- 9 | **connection size:**

filter-nominal size	DNR 1005	DNR 2005	DNR 3005	DNR 4005	DNR 2205	DNR 4205	DNR 6205	DNR 8205
connection size	8-9-A-B	A-B-C-D	B-C-D-E	B-C-D-E	A-B-C-D	A-B-C-D-E	B-C-D-E	B-C-D-E

8 = DN 50; 9 = DN 65; A = DN 80; B = DN 100; C = DN 125; D = DN 150; E = DN 200

10 | **filter housing specification: (see catalog)**

- = standard
- ISO6 = see sheet-no. 31605

11 | **internal valve:**

- = without
- S1 = with by-pass valve 3,5 bar

12 | **clogging indicator or clogging sensor:**

- = without; AE = visual-electrical, see sheet-no. 1609
- OP = visual, see sheet-no. 1628; VS1 = electrical, see sheet-no. 1607
- OE = visual-electrical, see sheet-no. 1628; 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 | **Nenngröße:** 1000
- 3 | - 7 | see type index-complete filter

**2. Accessories:**

- measure -and bleeder-connections, see sheet-no. 1650
- evacuation- and bleeder-connections, see sheet-no. 1651
- shut-off valve, see sheet-no. 1655
- corner flange, see sheet-no. 1652
- adaptor for flange DIN 2633 (DN 50-125) see sheet-no. 1657
- lifting mechanism, see sheet-no. 1661

Changes of measures and design are subject to alteration!

**3. Dimensions:**

type	DN	A	B	C	D	E	F	G	H	J	K	L	M	N	weight kg	volume tank
DNR 1005	50	610	915	890	365	175	463	180	340	219	74	70	18	330	180	2x 22,5 l
	65	560	915	890	365	270	463				90				200	2x 22,5 l
	80	585	925	900	375	290	473				100				210	2x 23,0 l
	100	620	955	930	390	365	503				127				230	2x 24,0 l
DNR 2005	80	780	1105	1070	500	290	643	240	580	406	100	90	22	550	510	2x 94,0 l
	100	810	1105	1070	500	365	643				127				520	2x 94,0 l
	125	870	1145	1110	500	395	683				142				540	2x 99,0 l
	150	900	1195	1160	500	440	733				-				560	2x 105,0 l
DNR 3005	100	810	1105	1070	500	365	643	240	580	406	127	90	22	550	520	2x 94,0 l
	125	870	1145	1110	500	395	683				142				540	2x 99,0 l
	150	900	1195	1160	500	440	733				-				560	2x 105,0 l
	200	990	1345	1310	535	520	883				-				590	2x 121,0 l
DNR 4005	100	910	1165	1130	520	365	703	240	715	508	127	90	22	650	540	2x 152,0 l
	125	970	1165	1130	520	395	703				142				560	2x 152,0 l
	150	1040	1235	1200	530	440	773				-				1020	2x 167,0 l
	200	1090	1375	1340	560	520	913				-				1290	2x 193,0 l
DNR 2205	80	585	1325	1300	375	290	473	180	340	219	100	70	18	330	250	2x 36,0 l
	100	620	1355	1330	390	365	503				127				270	2x 37,0 l
	125	680	1375	1350	400	395	523				142				280	2x 38,0 l
	150	710	1405	1380	415	440	553				-				300	2x 40,0 l
DNR 4205	80	780	1475	1440	500	290	613	240	580	406	100	90	22	550	540	2x 137,0 l
	100	810	1475	1440	500	365	613				127				550	2x 137,0 l
	125	870	1475	1440	500	395	613				142				570	2x 137,0 l
	150	900	1505	1470	510	440	643				-				590	2x 141,0 l
DNR 6205	200	990	1535	1500	530	520	673	240	580	406	127	90	22	550	620	2x 145,0 l
	100	810	1475	1440	500	365	613				142				580	2x 137,0 l
	125	870	1475	1440	500	395	613				-				600	2x 137,0 l
	150	900	1475	1440	500	440	613				-				620	2x 137,0 l
DNR 8205	200	990	1535	1500	530	520	673	240	715	508	127	90	22	650	650	2x 145,0 l
	100	910	1495	1460	520	365	633				142				830	2x 218,0 l
	125	970	1495	1460	520	395	633				-				850	2x 218,0 l
	150	1040	1515	1480	530	440	653				-				870	2x 222,0 l
	200	1090	1575	1540	560	520	713				-			900	2x 233,0 l	

## 4. Spare parts:

### 4.1. Depending on different series:

item	designation	qty.	dimension and article-no. DNR 1005	qty.	dimension and article-no. DNR 2005	qty.	dimension and article-no. DNR 3005	qty.	dimension and article-no. DNR 4005	qty.	dimension and article-no. DNR 2205	qty.	dimension and article-no. DNR 4205	qty.	dimension and article-no. DNR 6205	qty.	dimension and article-no. DNR 8205		
1	filter element	2	01NR. 1000	4	01NR. 1000	6	01NR. 1000	8	01NR. 1000	4	01NR. 1000	8	01NR. 1000	12	01NR. 1000	16	01NR. 1000		
2	change over UKK	1	DN 50-100	1	DN 80-150	1	DN 100-200	1	DN 100-200	1	DN 80-150	1	DN 80-200	1	DN 100-200	1	DN 100-200		
3	O-ring	2	225 x 5 308652 (NBR) 311473 (FPM)	2	429 x 6 308659 (NBR) 310273 (FPM)	2	429 x 6 308659 (NBR) 310273 (FPM)	2	516 x 6 301962 (NBR) 311474 (FPM)	2	225 x 5 308652 (NBR) 311473 (FPM)	2	429 x 6 308659 (NBR) 310273 (FPM)	2	429 x 6 308659 (NBR) 310273 (FPM)	2	516 x 6 301962 (NBR) 311474 (FPM)		
4	O-ring	6	90 x 4 306941 (NBR) 307031 (FPM)	12	90 x 4 306941 (NBR) 307031 (FPM)	18	90 x 4 306941 (NBR) 307031 (FPM)	24	90 x 4 306941 (NBR) 307031 (FPM)	10	90 x 4 306941 (NBR) 307031 (FPM)	20	90 x 4 306941 (NBR) 307031 (FPM)	30	90 x 4 306941 (NBR) 307031 (FPM)	40	90 x 4 306941 (NBR) 307031 (FPM)		
5	O-ring	-	-	2	78 x 10 305017 (NBR) 305552 (FPM)	2	78 x 10 305017 (NBR) 305552 (FPM)	2	78 x 10 305017 (NBR) 305552 (FPM)	2	78 x 10 305017 (NBR) 305552 (FPM)	2	78 x 10 305017 (NBR) 305552 (FPM)	2	78 x 10 305017 (NBR) 305552 (FPM)	2	170 x 10 308662 (NBR) 317149 (FPM)		
6	O-ring	2	62 x 4 308045 (NBR) 311472 (FPM)	4	62 x 4 308045 (NBR) 311472 (FPM)	6	62 x 4 308045 (NBR) 311472 (FPM)	8	62 x 4 308045 (NBR) 311472 (FPM)	2	62 x 4 308045 (NBR) 311472 (FPM)	4	62 x 4 308045 (NBR) 311472 (FPM)	6	62 x 4 308045 (NBR) 311472 (FPM)	8	62 x 4 308045 (NBR) 311472 (FPM)	8	62 x 4 308045 (NBR) 311472 (FPM)
7	circlip	2	DIN 472-75x2,5 311471	4	DIN 472-75x2,5 311471	6	DIN 472-75x2,5 311471	8	DIN 472-75x2,5 311471	2	DIN 472-75x2,5 311471	4	DIN 472-75x2,5 311471	6	DIN 472-75x2,5 311471	8	DIN 472-75x2,5 311471		
8	bypass valve	2	DN 50 311974	4	DN 50 311974	6	DN 50 311974	8	DN 50 311974	2	DN 50 311974	4	DN 50 311974	6	DN 50 311974	8	DN 50 311974		
9	screw plug	6	G1 309732																
10	gasket	6	A 33 x 39 308257																

### 4.2. Depending on the series:

item	qty.	designation	dimension	article-no.
11	1	clogging indicator, visual	OP	see sheet-no. 1628
12	1	clogging indicator, visual-electrical	OE	see sheet-no. 1628
13	1	clogging indicator, visual-electrical	AE	see sheet-no. 1609
14	1	clogging sensor, electronical	VS1	see sheet-no. 1607
15	1	clogging sensor, electronical	VS2	see sheet-no. 1608
16	2	O-ring	14 x 2	304342 (NBR)   304722 (FPM)
17	2	screw plug	G ¼	305003

## 5. Description:

Duplex filters of the series DNR 1005-8205 are suitable for a working pressure up to 16 bar.

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

Change-over ball valve between the two filter housings makes it possible to switch from the dirty filter-side to the clean filter-side without interrupting operation.

The filters can be installed as suction filter, pressure filter or return-line filter.

The filter element consist 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. Filter finer than 40 microns should use throw-away elements made of Interpor fleece (glass fibre). Filter elements as fine as 5 microns 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 mayor „Shipyard Classification Societies“ D.N.V.; B.V.; G.L.; L.R.S.; R.I.N.A.; A.B.S.; P.R.S.;USS.R.S. and others are possible.

## 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:	16 bar
test pressure:	23 bar
connection system:	SAE-flange connection 3000 PSI or flange connection DIN 2633, 16 bar
housing material:	C-steel
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical
mini-measuring connection:	G ¼

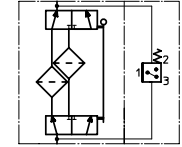
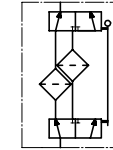
Classified under the Pressure Equipment Directive 97/23/EC for mineral oil (fluid group 2), Article 3, Para. 3.

Classified under ATEX Directive 94/9/EC according to specific application (see questionnaire sheet-no. 34279-4).

## 7. Symbols:

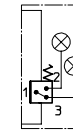
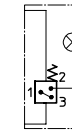
without indicator

with electrical indicator  
AE 30 and AE 40



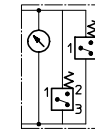
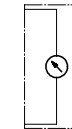
with visual -  
electrical indicator  
AE 50 and AE 62

with visual -  
electrical indicator  
AE 70 and AE 80



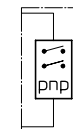
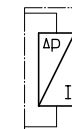
with visual  
indicator  
OP

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  $\Delta p$ -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