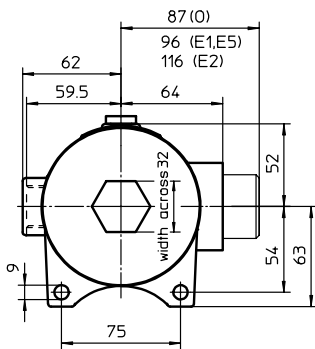
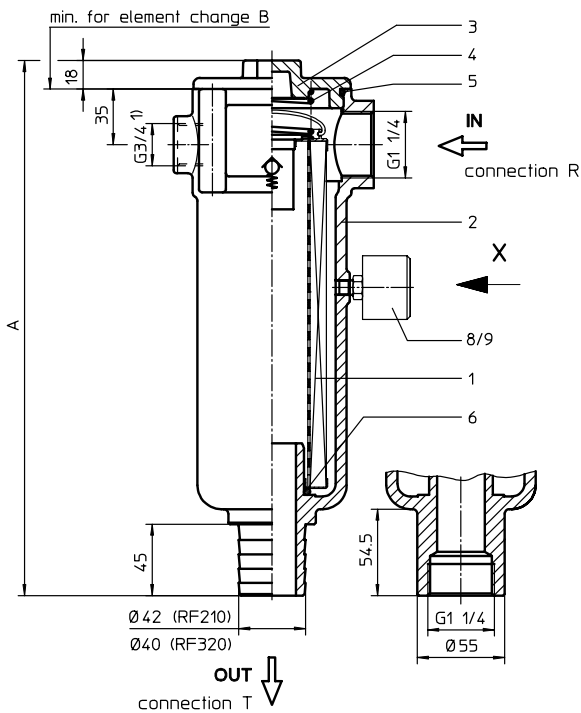


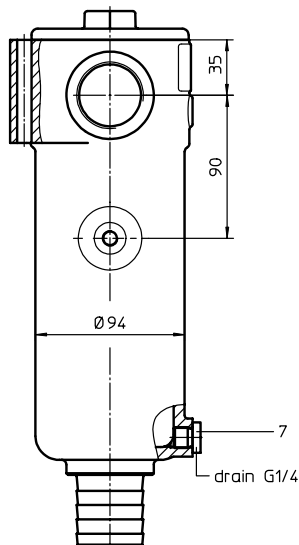
RETURN LINE FILTER

Series RF 210-320 DN 32 PN 10

Sheet No.
1102 G



view X



1. Type index:

1.1. Complete filter: (ordering example)

RF. 210. 10VG. 16. S. P. -. G. 4. -. O

1	2	3	4	5	6	7	8	9	10	11
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- 1 **series:**
RF = return-line filter
- 2 **nominal size:** 210, 320
- 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 $\mu\text{m}_{(e)}$, 16 VG = 15 $\mu\text{m}_{(e)}$, 10 VG = 10 $\mu\text{m}_{(e)}$,
6 VG = 7 $\mu\text{m}_{(e)}$, 3 VG = 5 $\mu\text{m}_{(e)}$ Interpor fleece (glass fibre)
25 P = 25 μm , 10 P = 10 μm paper
- 4 **resistance of pressure difference for filter element:**
16 = Δp 16 bar
- 5 **filter element design:**
S = with by-pass valve, Δp 2,0 bar
E = without by-pass valve
- 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:**
G = thread connection according to DIN 3852, T2
- 9 **no. of version:**

version	3	4
connection R type	G	G
size	6	6
connection T type	G	SA
size	6	42 or 40

type: G = thread
SA = hose nozzle

size: 6 = G 1 1/4
42 = \varnothing 42 (RF 210)
40 = \varnothing 40 (RF 320)
- 10 **filter housing specification:** (see catalog)
- = standard
IS06 = see sheet-no. 31605
- 11 **clogging indicator:**
- = without
O = visual, see sheet-no. 1616
E1 = pressure switch, see sheet-no. 1616
E2 = pressure switch, see sheet-no. 1616
E5 = pressure switch, see sheet-no. 1616

1.2. Filter element: (ordering example)

01E. 210. 10VG. 16. S. P. -. D

1	2	3	4	5	6	7	8
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- 1 **series:**
01E. = filter element according to INTERNORMEN factory specification
- 2 **nominal size:** 210, 320
- 3 - 7 see type index-complete filter
- 8 **accessories:**
D = with wire strap

2. Dimensions:

type	A	B	weight kg	volume tank
RF 210	337	205	2,7	1,2 l
RF 320	422	290	3,5	1,7 l

¹⁾ additional connection „IN“ max. G 3/4, by agreement

Changes of measures and design are subject to alteration!

EDV 04/05

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3. Spare parts:

item	qty.	designation	dimension		article-no.
			RF 210	RF 320	
1	1	filter element	01E. 210	01E. 320	
2	1	filter housing	NG 210	NG 320	
3	1	screw plug	M90 x 2		301910
4	1	spring			302144
5	1	O-ring	82 x 3		305191 (NBR) 305298 (FPM)
6	1	O-ring	40 x 3		304389 (NBR) 304391 (FPM)
7	1	screw plug	G ¼		305003
8	1	clogging indicator, visual	O		301721
9	1	pressure switch, electrical	E1, E2 or E5		see sheet-no. 1616

4. Description:

Return-line filters RF 210-320 are designed for connection in return pipes. The feed pressure at „IN“ connections can be pressurized to 10 bar.

The return pipes at the „OUT“ connection must be < 1m long. The pressure in the return pipe is added to the differential pressure over the filter element and must be considered when consulting the contamination indicator.

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 paper or Interpor fleece (glass fibre). Filter elements as fine as 5 microns_(c) 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 can be used with mineral oils, bio-oils, emulsions and most synthetic hydraulic fluids and lubricating oils.

During changing of the filter element care should be taken to ensure that the contaminated side of the filter is emptied before the filter is removed, to ensure that no contaminated liquid enters the discharge pipes. After depressurizing the filter or emptying the contaminated side of the filter and removing the filter cover, the element should be removed by the wire strap and a new element fitted.

Disposal of the contaminated fluid removed from the filter must be carried out in accordance with national regulations.

5. Technical data:

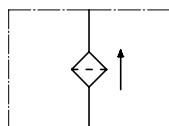
temperature range:	-10°C bis +80°C (for a short time +100°C)
operating medium:	mineral oil, other media on request
max. operating pressure:	10 bar
opening pressure by-pass valve:	2,0 bar
connection system:	thread connection according to DIN 3852, T2
output:	hose nozzle or thread connection
housing material:	Al-cast; glass fiber reinforced polyamide (filter cover)
sealing material:	Nitrile (NBR) or Viton (FPM), other materials on request
installation position:	vertical

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

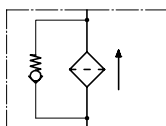
Classified under ATEX Directive 94/9/EC according to specific application (see questionnaire sheet-no. 34279-4).

6. Symbols:

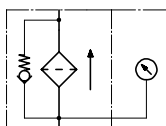
without accessories



with by-pass valve



visual
O



electrical
contact maker E1



electrical
contact breaker E5



electrical
contact maker/breaker E2



7. Pressure drop flow curves:

Precise flow rates see 'INT-Expert-System Filter', respectively Δp -curves ; depending on filter fineness and viscosity.

8. 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