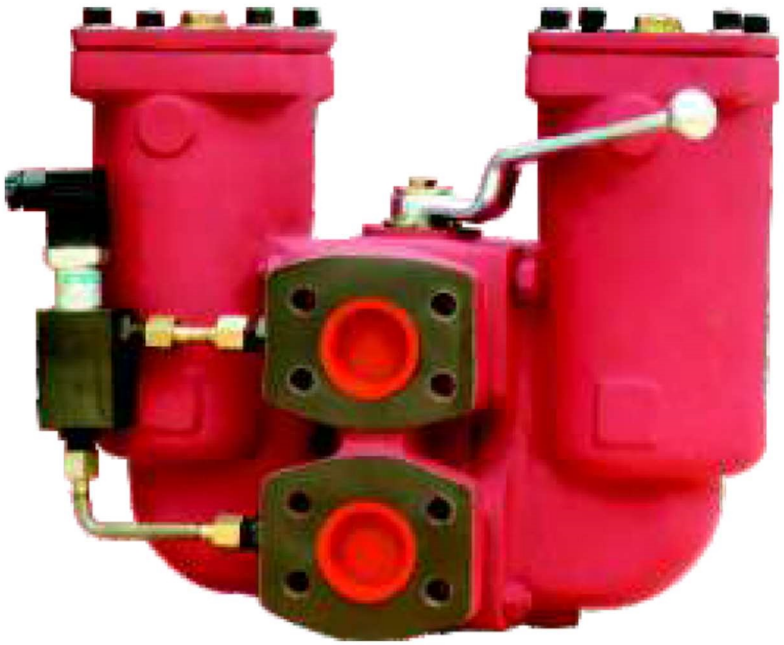
WKRFLD Change-Over Inline Filter Cast Version



1. TECHNICAL SPECIFICATIONS

1.1 FILTER HOUSING

Construction

The filter housings are designed in accordance with international regulations. The two sections of the filter housing, each of which has a bolt-on cover plate, are connected by means of a ball change-over valve.

Standard equipment:

- connections for venting and draining
- connection for a clogging indicator
- for size DN 80 and above, the filters are fitted with a pressure equalisation line and a ball shut-off valve
- with bypass valve

1.2 FILTER ELEMENTS

WK-Hydraulic filter elements are validated and their quality is constantly monitored according to the following standards:

- ISO 2941, ISO 2942, ISO 2943, ISO 3724, ISO 3968, ISO 11170, ISO 16889

Filter elements are available with the following pressure stability values:

Glass fiber (ON):	20 bar
Paper (P/HC) :	10 bar
Stainl. st. wire mesh (W/HC):	20 bar
Stainless steel fibre (V) :	30 bar
Absorbent glass fiber (AM) :	10 bar

1.3 FILTER SPECIFICATIONS

Nominal pressure	25 bar (WKRFLD 331-1321) 40 bar (WKRFLD 111-241, 662-1322) 64 bar (WKRFLD 332-502)
Temperature range	-10 °C to +100 °C
Material of filter housing and cover plate Material code (final digit of filter size)	EN-GJS-400-15: = 1 GP 240 GH+N: = 2
Type of clogging indicator	VM (differential pressure measurement up to 210 bar operating pressure)
Pressure setting of the clogging indicator	2 bar (others on request)
Bypass cracking pressure	3 bar (others on request)

1.4 SEALS

NBR (=Perbunan)

1.5 MOUNTING

Inline filter

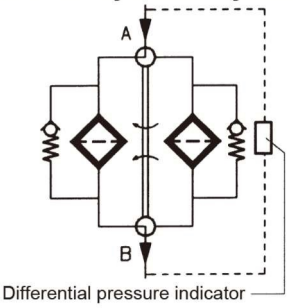
1.6 SPECIAL MODELS AND ACCESSORIES

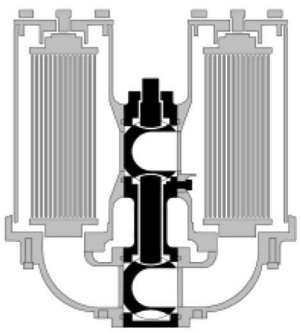
- Orifice in the pressure equalisation line
- Stand
- Drain and vent ports with ball valves or other shut-off valves
- Counter flanges available for all sizes
- Change-over valve lockable
- Venting line with sight gauges
- WKRFLD filter with nominal bore 100 at max. 50 bar operating pressure on request

1.7 SPARE PARTS

See Original Spare Parts List

Symbol for hydraulic systems





2. MODEL CODE (also order example)

WKRFLD ON 851 D A L 10 D 1 . X /-L24

2.1 COMPLETE FILTER

Filter type
WKRFLD

Filter material

ON	Glass fiber	V	Stainless steel fibre	P/HC	Paper
AM	Absorbent glass fiber	W/HC	Stainl. st. wire mesh		

Size of filter or element

EN-GJS-400-15: 111, 241, 331, 501, 661, 851, 951, 1301, 1321
GP 240 GH+N: 332, 502, 662, 852, 952, 1302, 1322

Operating pressure

D = 25 bar RFLD 331-1301
E = 40 bar RFLD 111-241, 662-1322
F = 64 bar RFLD 332-502

Type of change-over
A = Ball

Type and size of port
EN-GJS-400-15
GP 240 GH+N (X)

Type	Port	Filter size 111	241	331 332	501 502	661 662	851 852	951 952	1301 1302
D	G 1	●							
F	G 1½		●						
I	SAE DN 25	●							
K	SAE DN 40		●	●	●				
L	SAE DN 50			●X	●X	●	●		
M	SAE DN 65					●	●		
Q	DIN DN 80					X	X		
R	DIN DN 100							X	X
S	SAE/DIN DN 80					●	●	●	●
T	SAE/DIN DN 100							●	●
V	DIN DN 150								

Other nominal bores, and ANSI flange version on request

Filtration rating in µm

ON: 1, 3, 5, 10, 15, 20 W/HC: 25, 50, 100, 200
V: 3, 5, 10, 20 P/HC : 10, 20 AM : 40

Type of clogging indicator

A stainless steel blanking plug in indicator port
B visual
C electrical
D visual and electrical

Type code
1

Modification number
X the latest version is always supplied

Supplementary details

B. special cracking pressure of bypass (e.g. B1 = 1 bar)
DE differential pressure measurement across element
KB without bypass valve
L... light with appropriate voltage (24V, 48V, 110V, 220V)] only for clogging indicators
LED 2 light emitting diodes up to 24 Volt] type "D"
SAK contamination retainer
SB pressure equalisation line (SB2 = with 2mm orifice)
STV stand
V FPM seals

2.2 REPLACEMENT ELEMENT

0850 R 010 ON /-V

Size
0110, 0240, 0260, 0330, 0500, 0660, 0850, 0950, 1300, 2600

Type
R

Filtration rating in µm

ON: 001, 003, 005, 010, 015, 020 W/HC: 025, 050, 100, 200
AM: 040 P/HC: 010, 020

Filter material
ON, V , W/HC, P/HC , AM

Supplementary details
V (for descriptions, see point 2.1)

3. FILTER CALCULATION / SIZING

The total pressure drop of a filter at a certain flow rate Q is the sum of the housing Δp and the element Δp and is calculated as follows:

$\Delta p_{total} = \Delta p_{housing} + \Delta p_{element}$

$\Delta p_{housing}$ = (see Point 3.1)

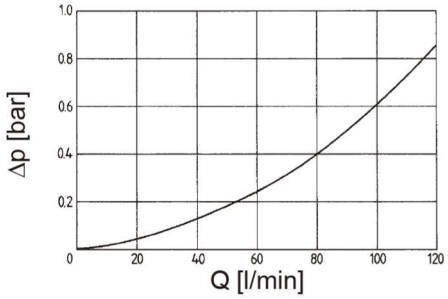
$$\Delta p_{element} = Q \cdot \frac{SK^*}{1000} \cdot \frac{viscosity}{30}$$

For ease of calculation, our Filter Sizing Program is available on request free of charge.

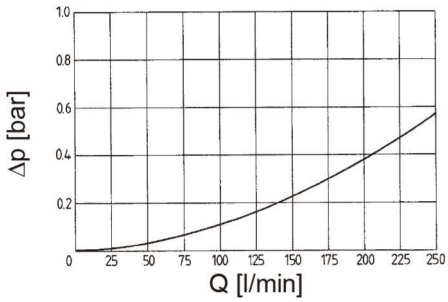
3.1 Δp-Q HOUSING CURVES BASED ON ISO 3968

The housing curves apply to mineral oil with a density of 0.86 kg/dm³ and a kinematic viscosity of 30 mm²/s. In this case, the differential pressure changes proportionally to the density.

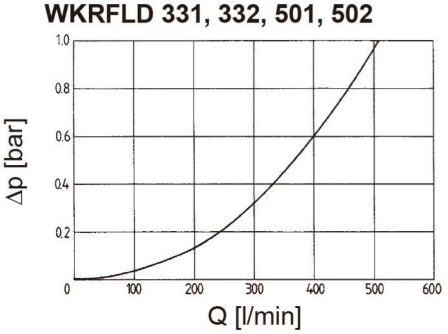
WKRFLD 111



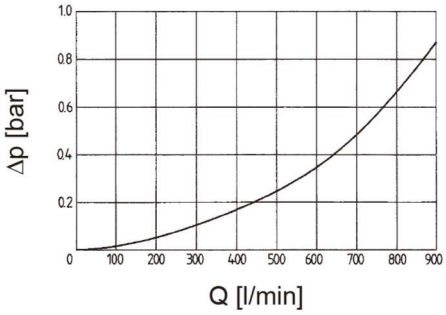
WKRFLD 241



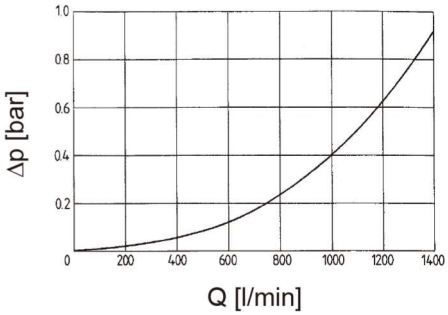
WKRFLD 331, 332, 501, 502



WKRFLD 661, 662, 851, 852



WKRFLD 951, 952, 1301, 1302

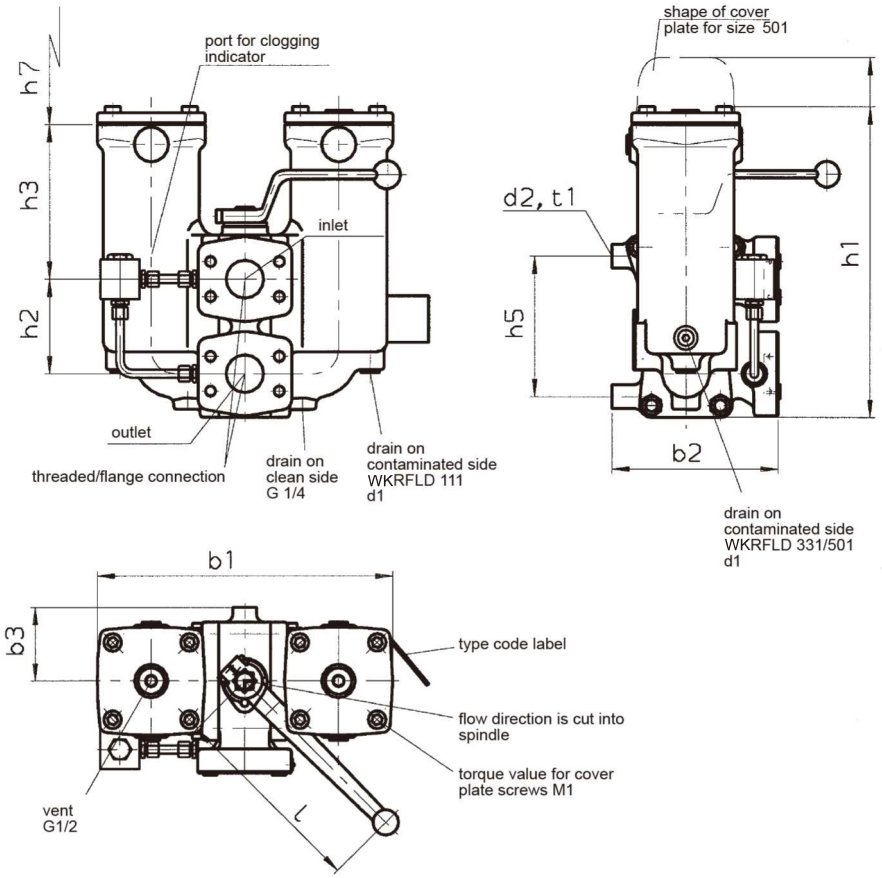


3.2 SIZING RECOMMENDATION

Filter type	Connection	Q_{max} when using W/HC and P/HC elements
WKRFLD 111	G1	70 l/min
	SAE DN 25	70 l/min
WKRFLD 241	G 1½	170 l/min
	SAE DN 40	170 l/min
WKRFLD 331	SAE DN 40	170 l/min
WKRFLD 331/332	SAE DN 50	260 l/min
WKRFLD 332	DIN DN 50	260 l/min
WKRFLD 501	SAE DN 40	170 l/min
WKRFLD 501/502	SAE DN 50	260 l/min
WKRFLD 502	DIN DN 50	260 l/min
WKRFLD 661	SAE DN 50	260 l/min
	SAE DN 65	260 l/min
	SAE /DIN DN 80	480 l/min
WKRFLD 662	DIN DN 80	480 l/min
WKRFLD 851	SAE DN 50	260 l/min
	SAE DN 65	260 l/min
WKRFLD 851	SAE/DIN DN 80	480 l/min
WKRFLD 852	DIN DN 80	480 l/min
WKRFLD 951	SAE/DIN DN 80	480 l/min
	SAE/DIN DN 100	900 l/min
WKRFLD 952	DIN DN 100	900 l/min
WKRFLD 1301/1321	SAE/DIN DN 80	480 l/min
	SAE/DIN DN 100	900 l/min

4. DIMENSIONS

WKRFLD 111-501

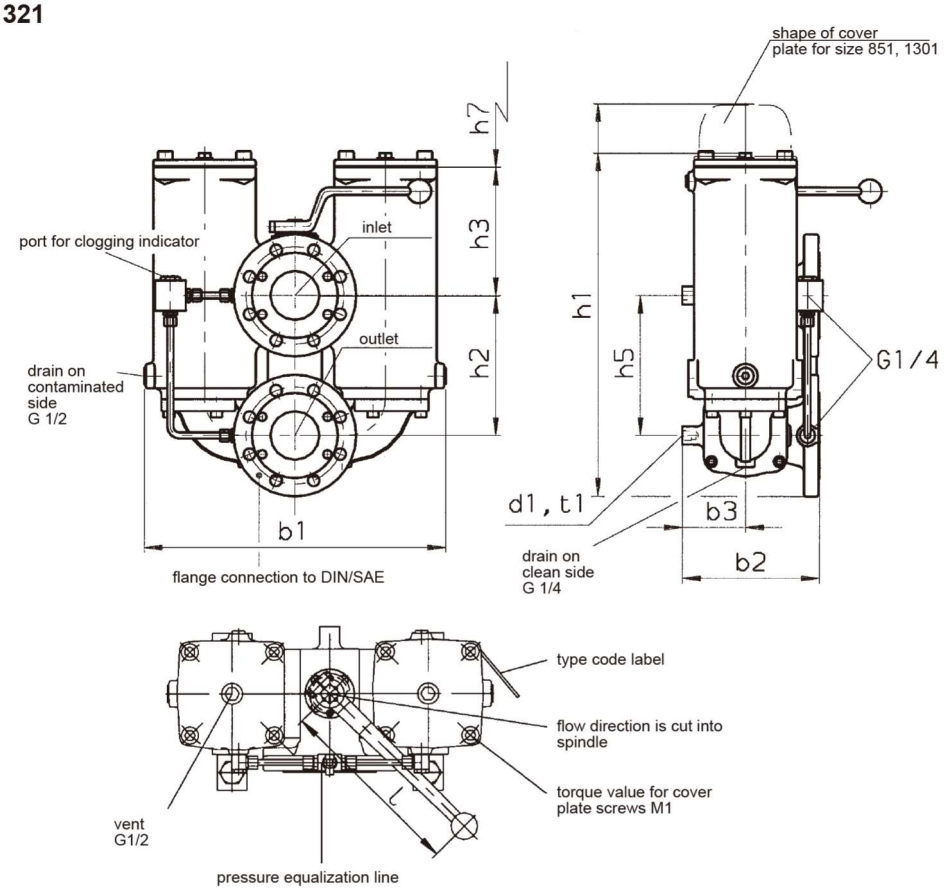


WK-RFLD	Flange connection [1]	Threaded connection [2]	b1	b2	b3	d1	d2	h1	h2	h3	h5	h7	l	M1 (Nm)	t1	Weight including element [kg]	Volume of pressure chamber [l]
111	DN 25 (1")	G 1	233	157	63	G ¼	M12	263	80	132	80	175	173	24	25	17	2 x 0.60
241	DN 40 (1½")	G 1½	302	167	75	G ¼	M12	312	95	155	140	210	216	40	18	27	2 x 1.40
331	DN 40 (1½")	-	396	167	75	G ½	M12	302	95	145	140	200	216	40	18	33	2 x 2.30
331	DN 50 (2")	-	380	187	85	G ½	M12	323	110	140	165	200	216	45	18	37	2 x 2.40
501	DN 40 (1½")	-	396	167	75	G ½	M12	382	95	145	140	280	216	45	18	35	2 x 3.00
501	DN 50 (2")	-	380	187	85	G ½	M12	400	110	140	165	280	216	45	18	39	2 x 3.10

[1] Flange connection to SAE J 518 C (standard pressure range 3000 psi)

[2] Threaded connection to ISO 228

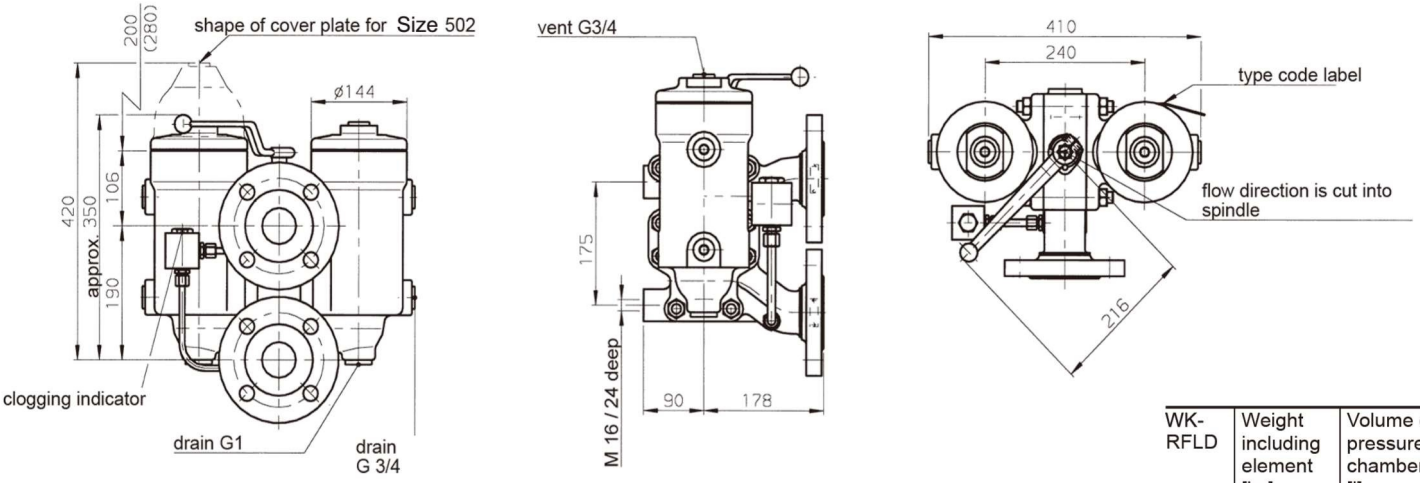
WKRFLD 661-1321



WK-RFLD	Flange connection [1]	b1	b2	b3	d1	h1	h2	h3	h5	h7	l	M1 (Nm)	t1	Weight including element [kg]	Volume of pressure chamber [l]
661	DN 50 (2")	496	187	85	M12	460	110	282	165	340	216	150	18	56	2 x 6.80
661	DN 65 (2½")	496	252	85	M12	472	110	282	165	340	216	150	18	74	2 x 6.80
661	DN 80 (3")	490	222	102	M12	566	230	210	230	340	301	150	23	82	2 x 8.20
851	DN 50 (2")	496	187	85	M12	544	110	282	165	420	216	150	18	62	2 x 8.10
851	DN 65 (2½")	496	252	85	M12	556	110	282	165	420	216	150	18	80	2 x 8.10
851	DN 80 (3")	490	222	102	M12	650	230	210	230	420	301	150	23	88	2 x 9.50
951	DN 80 (3")	548	222	102	M12	595	230	243	230	370	301	250	23	105	2 x 10.80
951	DN 100 (4")	555	248	118	M16	640	250	238	250	370	301	250	23	120	2 x 13.00
1301	DN 80 (3")	548	222	102	M12	701	230	243	230	490	301	250	23	110	2 x 13.80
1301	DN 100 (4")	555	248	118	M16	746	250	238	250	490	301	250	23	125	2 x 16.00
1321	DN 80 (3")	548	222	102	M12	1190	230	804	230	950	301	250	23	167	2 x 28.80
1321	DN 100 (4")	555	248	118	M16	1307	250	799	250	950	301	250	23	167	2 x 31.00

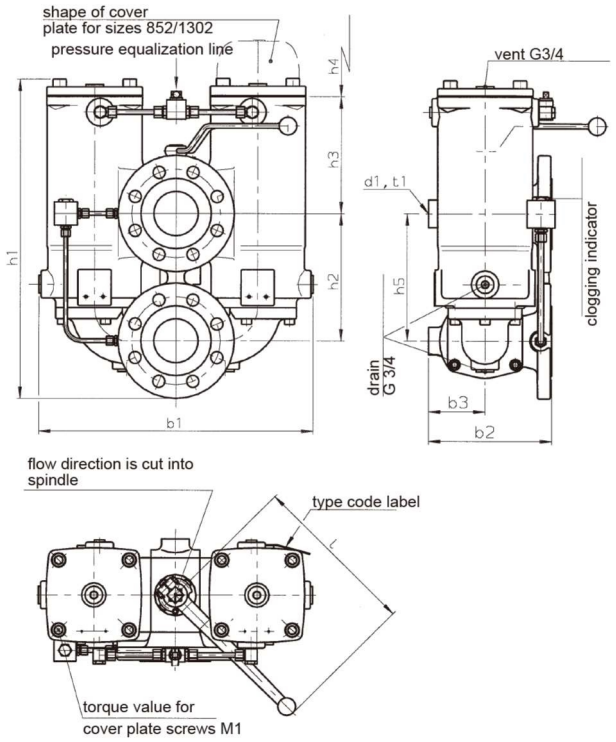
1) Flange connection to SAE J 518 C (standard pressure series 3000 psi); DIN flange connection to DIN EN ISO 1092, PN 25/40 up to DN 100 (with sealing strip, flange shape B)

WKRFLD 332, 502



WK-RFLD	Weight including element [kg]	Volume of pressure chamber [l]
332	37	2 x 2.40
502	39	2 x 3.10

WKRFLD 662-1322



WK-RFLD	Flange connection [1]	b1	b2	b3	d1	h1	h2	h3	h4	h5	l	M1 (Nm)	t1	Weight including element [kg]	Volume of pressure chamber [l]
662	DN 80 (3")	495	222	102	M12	574	230	210	340	230	301	150	23	82	2 x 8.20
852	DN 80 (3")	495	222	102	M12	665	230	210	420	230	301	150	23	88	2 x 9.50
952	DN 100 (4")	573	248	118	M16	672	250	238	380	250	301	250	17	120	2 x 13.00
1302	DN 100 (4")	573	248	118	M16	745	250	238	490	250	301	250	17	125	2 x 16.00
1322	DN 100 (4")	573	248	118	M16	1307	250	238	950	250	301	250	17	167	2 x 31.00

1) Flange connection to SAE J 518 C (standard pressure series 3000 psi); DIN flange connection to DIN EN ISO 1092, PN 25/40 up to DN 100 (with sealing strip, flange shape B)

NOTE

The information in this brochure relates to the operating conditions and applications described.
For applications or operating conditions not described, please contact the relevant technical department.
Subject to technical modifications.

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