

Pressure Filter WKDF

Up to 680L/min

Up to 420bar



WKDF

Pressure Filter

1. FILTER HOUSING

Design

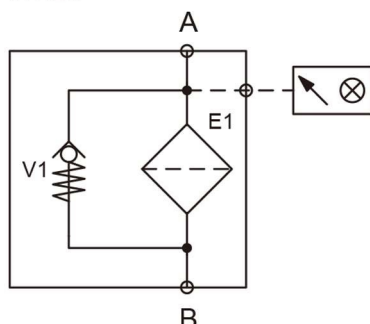
The filter housings are designed in accordance with international regulations. They consist of a filter head and a screw-in filter bowl.

Standard model

- Connection for a clogging indicator in filter head
- Without bypass valve
- Oil drain plug with pressure release (WKDF 330 and above)
- 1 or 2-piece filter bowl available as an option for WKDF 280-660
- 2-piece filter bowl standard for WKDF 990 and above

Symbol for hydraulic systems:

WKDF



2. TECHNICAL DATA

Filter specifications

Nominal pressure	420 bar
Maximum flow rate	960 l/min
Temperature range	-30 °C to + 100 °C (-30 °C to -10°C: max. 210 bar)
Material of filter head	EN-GJS 400-15,
Material of filter bowl	Steel

Clogging indicator

Type	VD
Pressure setting	5.0 bar

Bypass (optional)

Cracking pressure	6.0 bar
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Miscellaneous

Seal	NBR (= Perbunan)
Installation	As inline filter with or without reversible oil flow
Special designs and accessories	• Seals in FKM • With bypass valve • Oil drain plug up to WKDF280 • Element top-removable – type code: 3.X (only WKDF filters 330-1320)
Spare parts	See original spare parts list
Certificates and approvals	On request

3. MODEL CODE

3.1 FILTER ASSEMBLY

Filter type

WKDF

Filter material

ON

BN/HC

W stainless steel wire mesh (not possible with version 2.X)

W/HC stainless steel wire mesh

Size of filter or element

30, 60, 110, 140, 160, 240, 280, 330, 500, 660, 990, 1320

Connection mode

G Threaded

F Flange

Type and size of port

Connection	Filter size											
	30	60	110	140	160	240	280	330	500	660	990	1320
G ½	•											
G ¾		•	•	•								
G 1 ¼					•	•	•					
G 1 ½								•	•	•	•	•
SAE DN 50								•	•		•	•

Filtration rating in µm

ON 3,5,10,20 W 25, 50, 100, 200

BH/HC 3,5,10,20 W/HC 25, 50, 100, 200

Type of clogging indicator

A with screw plug in indicator port

B visual

C electrical

D visual and electrical

Type code

1 one-piece filter bowl (up to WKDF 660)

2 two-piece filter bowl (WKDF 280 and above)

Modification number

X the latest version is always supplied

Supplementary details

V FKM seal, no details = NBR seal

A. Response pressure (e.g.: A2 = 2 bar), no details = 5bar

B. Bypass cracking pressure (e.g.: B6 = 6 bar)

SO184 pressure relief screw/oil drain plug (series WKDF 330 and above)

W suitable for oil-water emulsions HFA, HFC (only required if a clogging indicator is used, or V or W elements)

SFREE Stat-Free

L... lamp with corresponding voltage (24V, 48V, 110V, 220V) (CI design: D)

LED 2 LEDs up to 24-volt voltage (CI design: D)

3.2 REPLACEMENT ELEMENT

Size

0030, 0060, 0110, 0140, 0160, 0240, 0280, 0330, 0500, 0660, 0990, 1320

Version

D

Filtration rating in µm

ON 003, 005, 010, 020

BH4HC 003, 005, 010, 020

W 025, 050, 100, 200

W/HC 025, 050, 100, 200

Filter material

ON, BH4HC, W, W/HC

Supplementary details

V, W

WKDF ON 660 G 10 D 1 . X /-L24

0060 D 010 ON /-V

4. FILTER CALCULATION

The total pressure drop of a filter at a particular **flow rate Q** and **viscosity ν** consists of the sum of the **housing pressure drop $\Delta p_{\text{housing}}$** and the **element differential pressure $\Delta p_{\text{element}}$** and can be calculated as follows:

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

$$\Delta p_{\text{housing}} [\text{bar}] = \text{see performance curves}$$

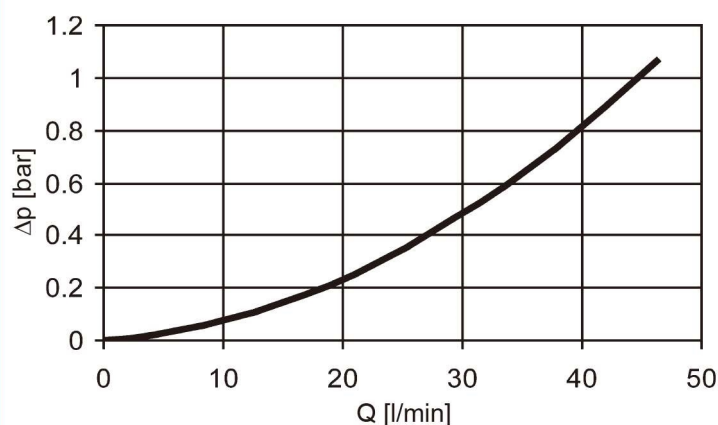
$$\Delta p_{\text{element}} [\text{bar}] = Q [\text{l/min}] \cdot \frac{SK [\text{mbar} / (\text{l/min})]}{1000} \cdot \frac{\nu [\text{mm}^2/\text{s}]}{30}$$

SK = gradient coefficient

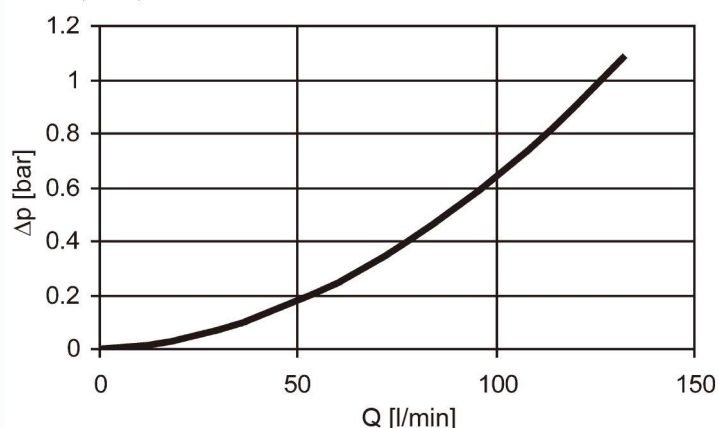
4.1 HOUSING CURVES

The housing curves are 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.

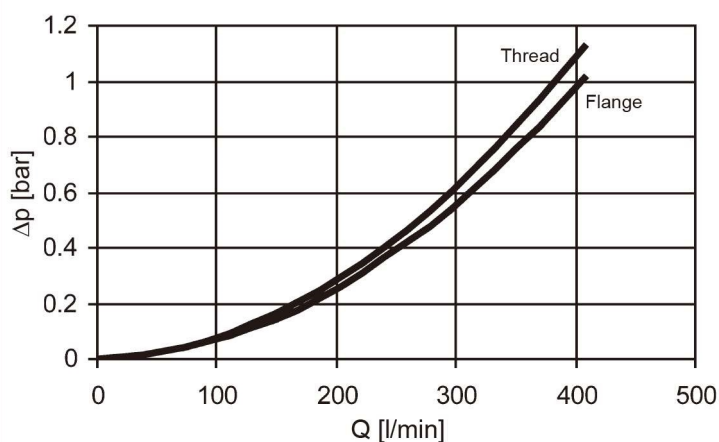
WKDF 30



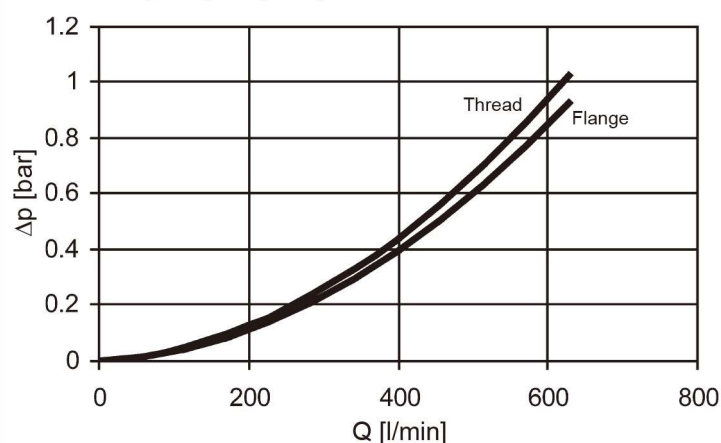
WKDF 60, 110, 140



WKDF 160, 240, 280



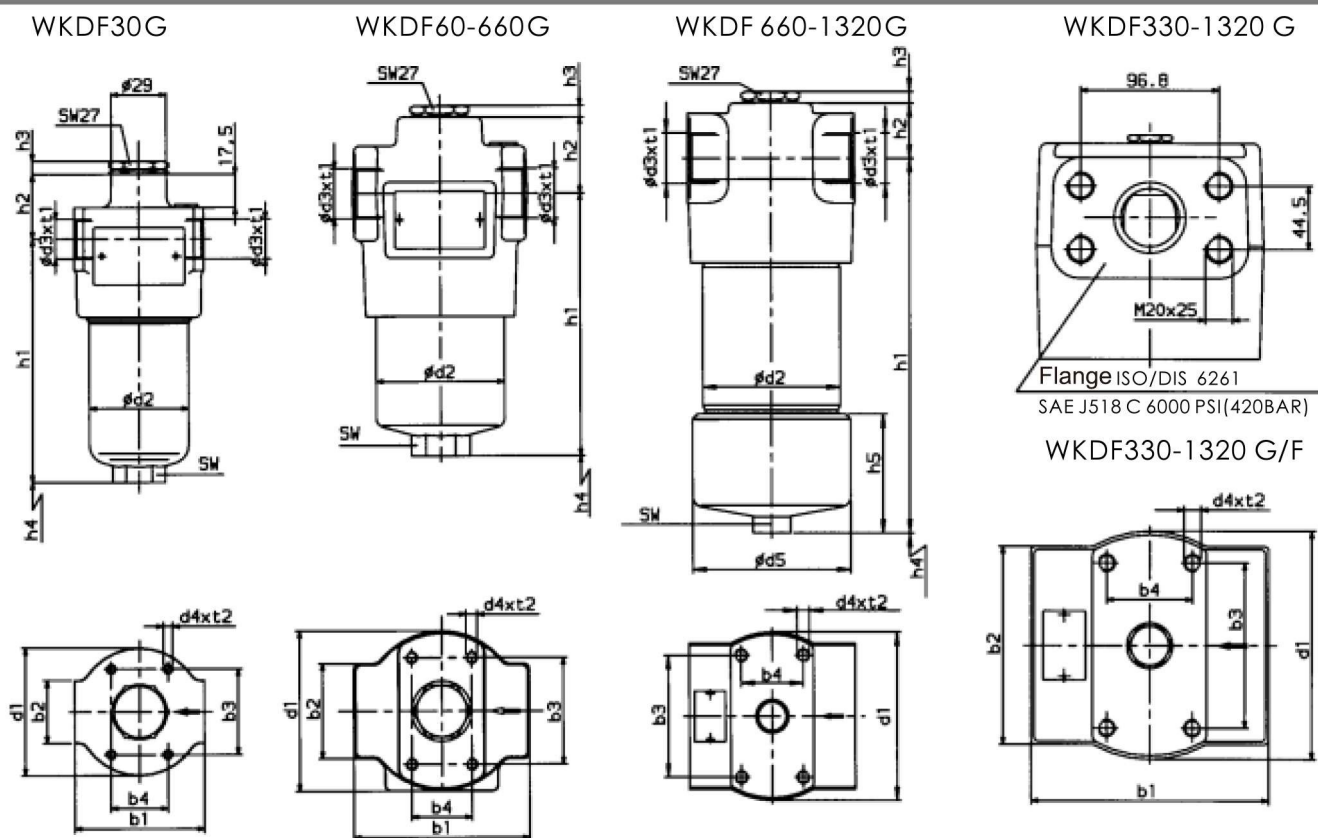
WKDF 330, 500, 660, 990, 1320



4.2 WEIGHT

Size	Including Filter Element(kg)	Without Filter Element(kg)
30	1.9	1.8
60	4.1	3.9
110	6.0	5.7
140	6.6	6.2
160	9.6	9.1
240	11.3	10.6
280	15.9	14.5
330	22.6	21.4
500	26.9	25.2
660	36.2	34.0
990	43.4	40.0
1320	52.4	48.0

5. DIMENSIONS



Thread ISO228

Size	b1	b2	b3	b4	d1	d2	d3	d4	d5	h1	h2	h3	h4	h5	SW	t1"	t2"
WKDF 30G	68	33	45	30	67	52	G1/2	M5		127.5	34	7	75		24	15	6
WKDF 60G										137.5							
WKDF 110G	93	50	56	32	84	68	G3/4	M6		205	40	6	85		27	17	9
WKDF 140G										248.5							
WKDF 160G										193.5							
WKDF 240G	128	65	85	35	117	95	G1 3/4	M10		253.5	47	6	105		32	21	14
WKDF 280G										435.5							
WKDF 330G	167						G1 1/2			255.5							
WKDF 330F	160						SAE DN 50			255.5							17
WKDF 500G	167	138	115	60	159	130	G1 1/2	M12		348.5	52	6	115		36	23	
WKDF 500F	160						SAE DN 50			348.5							
WKDF 660G	167						G1 1/2			426							
WKDF 660F	160						SAE DN 50										
WKDF 660G ¹⁾	167						G1 1/2			420			350				
WKDF 660F ¹⁾	160						SAE DN 50			420			350				
WKDF 990G	167	138	115	60	159	132	G1 1/2	M12	125	576	52	6	500	112	36	23	17
WKDF 990F	160						SAE DN 50			576			500				
WKDF 1320G	167						G1 1/2			742			670				
WKDF 1320F	160						SAE DN 50			742			670				

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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