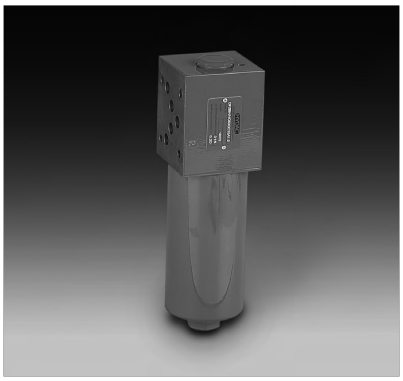
HYDAC INTERNATIONAL



Pressure Filter for Sandwich Stacking DFZ

up to 80 l/min, up to 315 bar

1. TECHNICAL SPECIFICATIONS

1.1 FILTER HOUSING

Construction

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

Standard equipment:

- Service access on the right
- Without clogging indicator connection

1.2 FILTER ELEMENTS

HYDAC 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: Optimicron® (ON): 20 bar Betamicron® (BN/BP): 210 bar Optimicron® Pulse (ON/PS): 20 bar Optimicron® Pulse (QH/PS): 210 bar Metal fibre (V): 210 bar **1.3 FILTER SPECIFICATIONS**

Nominal pressure	315 bar
Fatigue strength	At nominal pressure 10_6 cycles from 0 to nominal pressure
Temperature range	-30 °C to +100 °C (-30 °C to -10 °C: p_{max}= 157.5 bar)
Material of filter head	Steel
Material of filter bowl	Steel
Type of clogging indicator	VD (differential pressure measurement up to 420 bar operating pressure)
Pressure setting of the clogging indicator	8 bar (others on request)

1.4 SEALS

NBR (=Perbunan)

1.5 INSTALLATION

Pressure filter for sandwich stacking

1.6 SPECIAL MODELS AND ACCESSORIES

Port for clogging indicator

1.7 SPARE PARTS

See Original Spare Parts List DFZ 30 DFZ 110 DFZ 60

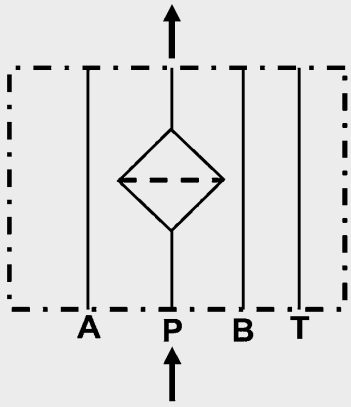
1.8 CERTIFICATES AND APPROVALS

on request

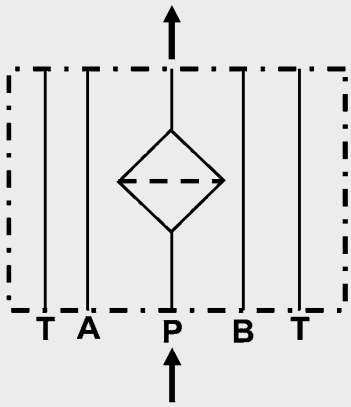
1.9 COMPATIBILITY WITH HYDRAULIC FLUIDS ISO 2943

- Hydraulic oils H to HLPD DIN 51524
- Lubrication oils DIN 51517, API, ACEA, DIN 51515, ISO 6743
- Compressor oils DIN 51506
- Biodegradable operating fluids VDMA 24568 HETG, HEES, HEPG
- Fire-resistant fluids HFA, HFB, HFC and HFD
- Operating fluids with high water content (>50% water content) on request

Symbol for hydraulic systems
DFZ 30



DFZ 60/110



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2. MODEL CODE (also order example)

DFZ ON 60 Q C 10 D 1 . X /-L24

2.1 COMPLETE FILTER

Filter type
DFZ

Filter material
ON Optimicron® BH/HC
Betamicron® (BH4HC)
ON/PS Optimicron® Pulse
OH/PS Optimicron® Pulse
V Metal fibre

Size of filter or element
DFZ: 30, 60, 110

Operating pressure
Q = 315 bar

Type and size of connection

Type	Port	Filter size 30	60	110
B	4 ports A 6 DIN 24340/ Cetop R 35 H	●		
C	5 ports A 10 DIN 24340/ Cetop R 35 H		●	●

Filtration rating in µm
ON: 1, 3, 5, 10, 15, 20
BH/HC, ON/PS, OH/PS, V: 3, 5, 10, 20

Type of clogging indicator
Y plastic blanking plug in indicator port
A steel blanking plug in indicator port
BM visual
C electrical
D visual and electrical
] for other clogging indicators, see brochure no. 7.050../..

Type code
1

Modification number
X the latest version is always supplied

Supplementary details
L... light with appropriate voltage (24, 48, 110, 220 Volt)
LED 2 light-emitting diodes up to 24 Volt
V FPM seals
W suitable for HFA and HFC emulsions
1 service access on the left ("A" side)
] only for clogging indicators type "D"

2.2 REPLACEMENT ELEMENT

0060 D 010 ON /-V

Size
0030, 0060, 0110

Type
D

Filtration rating in µm
ON: 001, 003, 005, 010, 015, 020
BH/HC, ON/PS, OH/PS, V:003, 005, 010, 020

Filter material
ON, BH4HC, ON/PS, OH/PS, V

Supplementary details
V, W (for descriptions, see Point 2.1)

2.3 REPLACEMENT CLOGGING INDICATOR

VD 8 D . X /-L24

Type
VD differential pressure indicator up to 420 bar operating pressure

Pressure setting
8 standard 8 bar, others on request

Type of clogging indicator
D (see Point 2.1)

Modification number
X the latest version is always supplied

Supplementary details
L..., LED, V, W (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:

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

$$\Delta p_{housing} = (\text{see Point 3.1}) \; \Delta p = Q \cdot \frac{SK^*}{1000} \cdot \frac{\text{viscosity}}{30}$$

(*see Point 3.2)

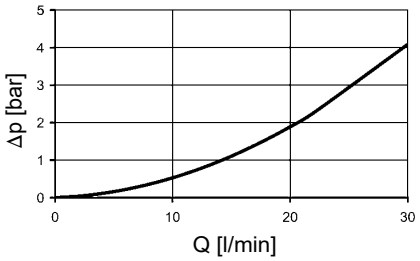
For ease of calculation, our Filter Sizing Program is available on request free of charge.

NEW: Sizing online at www.hydac.com

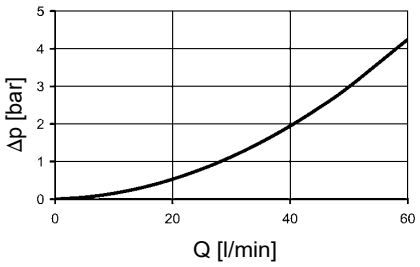
3.1 Δp-Q HOUSING CURVES BASED ON ISO 3968

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.

DFZ 30



DFZ 60/110



3.2 GRADIENT COEFFICIENTS (SK) FOR FILTER ELEMENTS

The gradient coefficients in mbar/(l/min) apply to mineral oils with a kinematic viscosity of 30 mm²/s. The pressure drop changes proportionally to the change in viscosity.

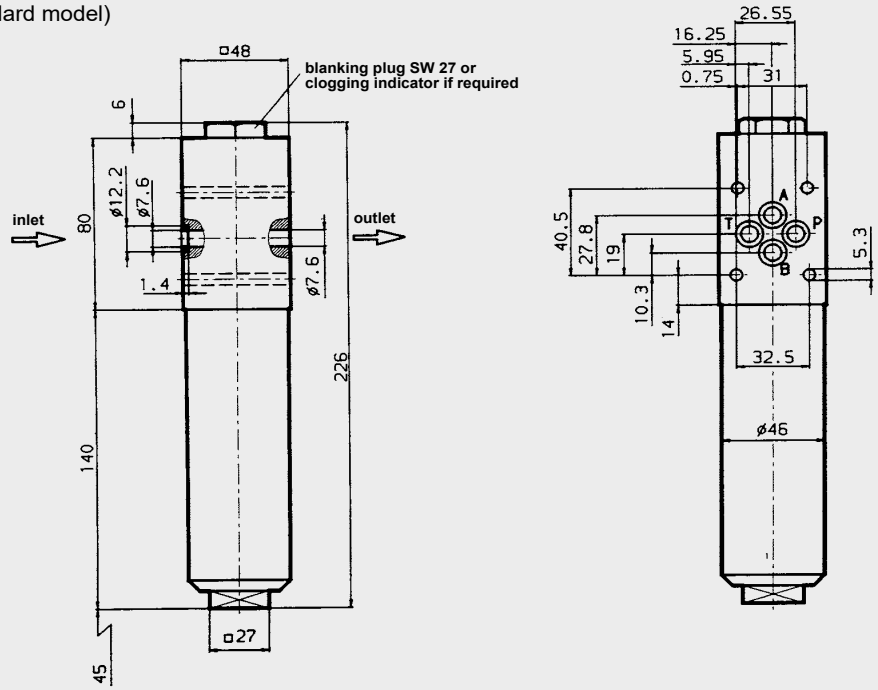
DFZ	ON					
	1 µm	3 µm	5 µm	10 µm	15 µm	20 µm
30	77.8	63.9	43.3	22.8	14.0	11.3
60	53.5	26.0	18.3	12.1	9.78	6.32
110	25.8	13.4	9.61	6.06	4.63	2.99

DFZ	ON/PS				OH/PS			
	3 µm	5 µm	10 µm	20 µm	3 µm	5 µm	10 µm	20 µm
30	63.90	43.30	25.08	11.30	87.54	59.32	34.36	15.48
60	28.90	20.40	7.90 14.52		39.59	27.95	19.89	10.82
110	14.90	10.70	7.26 3.70		20.41	14.66	9.95	5.07

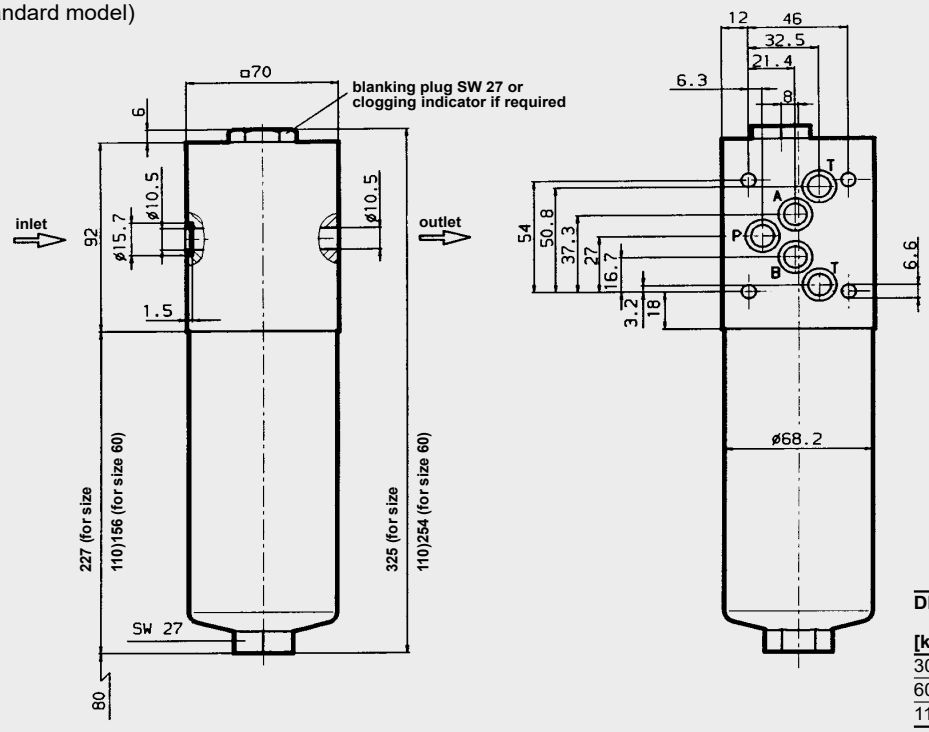
DFZ	V				BH4HC			
	3 µm	5 µm	10 µm	20 µm	3 µm	5 µm	10 µm	20 µm
30	18.4	13.5	7.5	3.6	91.2	50.7	36.3	19.0
60	16.0	9.3	5.4	3.3	58.6	32.6	18.1	12.2
110	8.2	5.6	3.3	2.2	25.4	14.9	8.9	5.6

4. DIMENSIONS

DFZ 30 shown with bowl access on "B" side
(standard model)



DFZ 60/110 shown with bowl access on "B" side
(standard model)



DFZ	Weight [kg]	Volume of incl. element pressure chamber [l]
30	2.4	0.13
60	5.9	0.20
110	6.8	0.33

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.