



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 with a screw-in filter bowl.

Standard equipment:

- Service access on the right
- Without clogging indicator

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

Contamination retention capacities in g

DFZ	Betamicon® (BN4HC)			
	3 µm	5 µm	10 µm	20 µm
30	4.6	5.1	5.4	5.6
60	6.5	7.3	7.8	8.0
110	13.8	15.5	16.4	16.9

DFZ	Betamicon® (BH4HC)			
	3 µm	5 µm	10 µm	20 µm
30	3.0	2.9	3.2	3.7
60	4.6	4.5	5.0	5.7
110	10.1	9.9	10.9	12.4

Filter elements are available with the following pressure stability values:

Betamicon® (BN4HC):	20 bar
Betamicon® (BH4HC):	210 bar
Stainless steel fibre (V):	210 bar

1.3 FILTER SPECIFICATIONS

Nominal pressure	315 bar
Fatigue strength	at nominal pressure 10 ⁶ load cycles from 0 to nominal pressure
Temperature range	-30 °C up to +100 °C (-30 °C up 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 indication up to 420 bar operating pressure)
Setting pressure of clogging indicator	8 bar (others on request)

1.4 SEALS

NBR (= Perbunan)

1.5 MOUNTING

As pressure filter for sandwich stacking

1.6 SPECIAL MODELS AND ACCESSORIES

On request

1.7 SPARE PARTS

See Original Spare Parts List

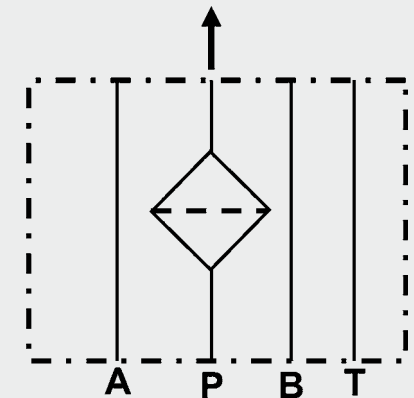
1.8 CERTIFICATES AND APPROVALS

On request

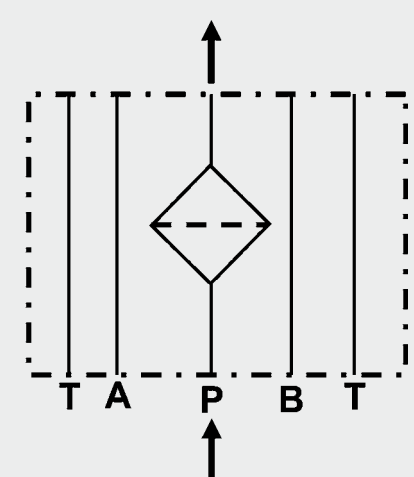
1.9 COMPATIBILITY WITH HYDRAULIC FLUIDS ISO 2943

- 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
- Non-flam operating 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



2. MODEL CODE (ALSO ORDER EXAMPLE)

2.1 COMPLETE FILTER

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

Filter type _____

DFZ

Filter material of element _____

BN/HC Betamicron® (BN4HC)

BH/HC Betamicron® (BH4HC)

V Stainless steel fibre

Size of filter of element _____

DFZ: 30, 60, 110

Operating pressure _____

Q = 315 bar

Type and size of port _____

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 rate in µm _____

BN4HC, BH4HC, 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. E 7.050../..

Type code _____

1

Modification number _____

X the latest version is always supplied

Supplementary details _____

L... light with appropriate voltage (24V, 48V, 110V, 220V)] only for clogging

LED 2 light emitting diodes up to 24 Volt] indicators Type D

V FPM seals

W suitable for HFA and HFC emulsions

1 service access on the left

2.2 REPLACEMENT ELEMENT

0060 D 010 BN4HC /-V

Size _____

0030, 0060, 0110

Type _____

D

Filtration rate in µm _____

BN4HC, BH4HC, V: 003, 005, 010, 020

Filter material _____

BN4HC, BH4HC, 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 8 bar standard, 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 element Δp and is calculated as follows:

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

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

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

(*see point 3.2)

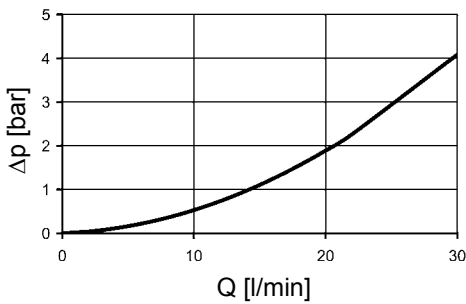
For ease of calculation, our Filter Sizing Program is available on request free of charge.

NEW: Sizing online at www.hydac.com

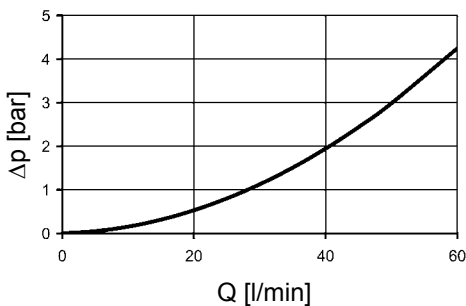
3.1 Δp -Q HOUSING GRAPHS BASED ON ISO 3968

The housing graphs 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

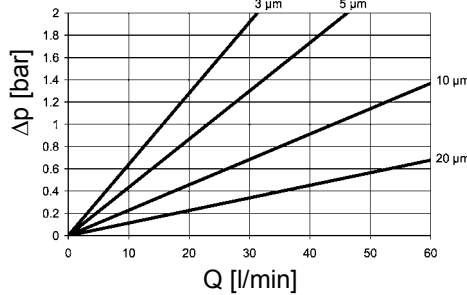


3.2 GRADIENT COEFFICIENTS (SK) FOR FILTER ELEMENTS

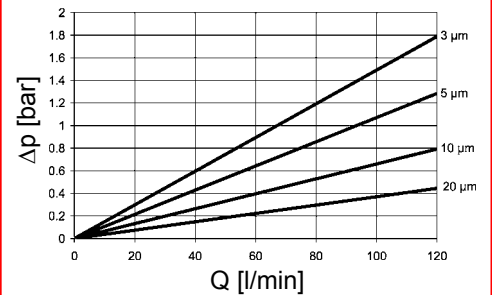
The gradient coefficients in mbar/(l/min) apply to mineral oils with a kinematic viscosity of 30 mm²/s. The pressure drop changes proportionally to the change in viscosity.

DFZ	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

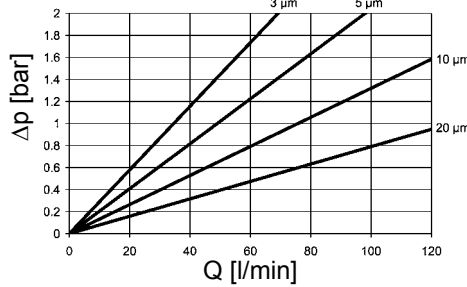
BN4HC: DFZ 30



BN4HC: DFZ 110

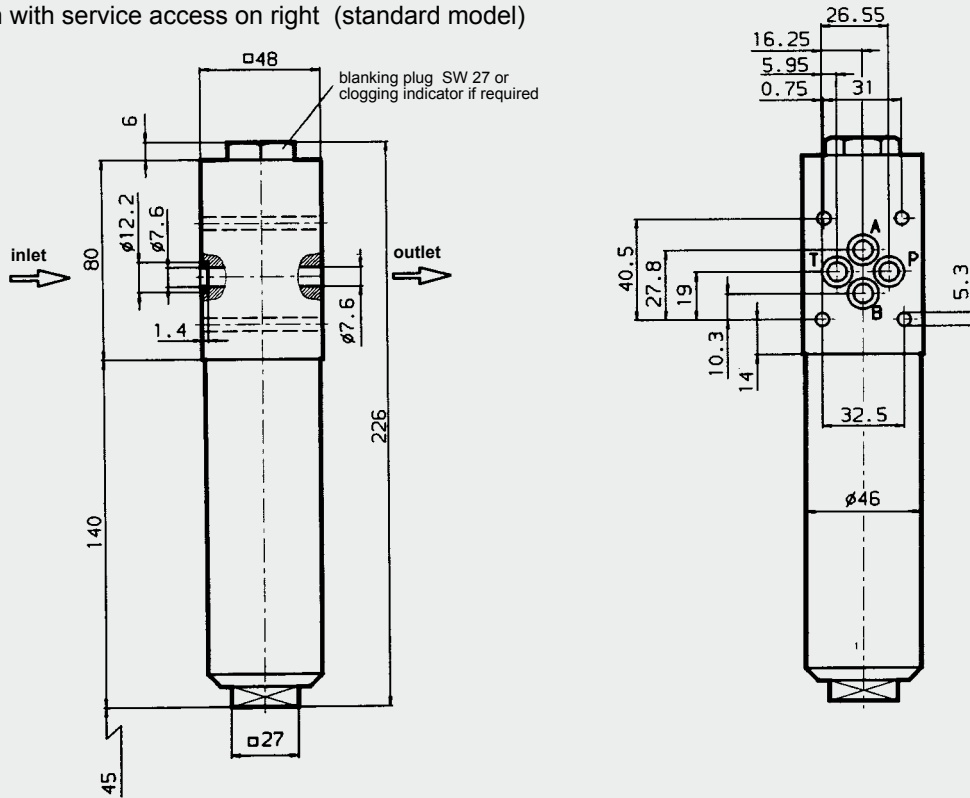


BN4HC: DFZ 60

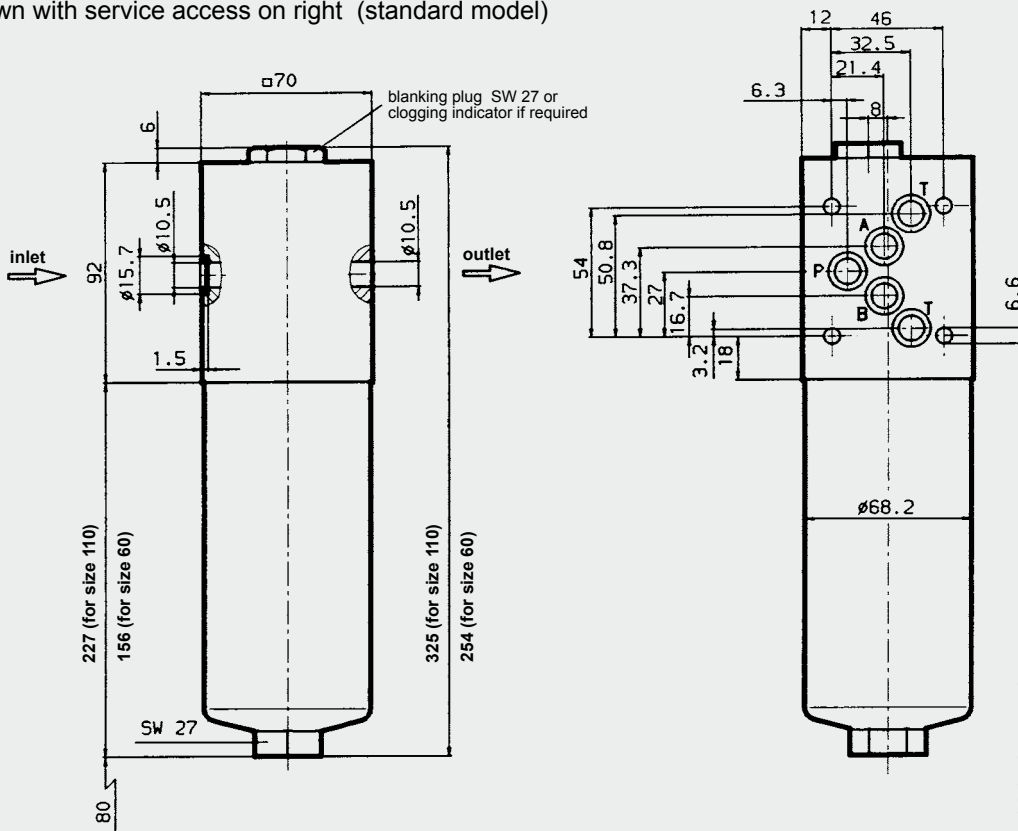


4. DIMENSIONS

DFZ 30
shown with service access on right (standard model)



DFZ 60/110
shown with service access on right (standard model)



DFZ	Weight incl. elem. [kg]	Vol. of 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.

HYDAC Filtrertechnik GmbH
Industriegebiet
D-66280 Sulzbach/Saar
Tel.: 0 68 97 / 509-01
Fax: 0 68 97 / 509-300
Internet: www.hydac.com
E-Mail: filter@hydac.com