

RE 50 081/01.03

Replaces: 07.99

**Return line filter
for direct tank mounting
Type ABZFR**

Series 1X

Maximum operating pressure 25 bar

Maximum flow 450 l/min



H6191+6192.tif

Return line filter type ABZFR
Variant A

Variant B

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Features

Return line filters of type ABZFR... are designed for mounting onto fluid reservoirs. They are used to separate solid matter from the hydraulic fluid that is flowing back into the tank.

They have the following features:

- Filter elements based on inorganic fibre
- Excellent separation characteristics (*b*-values) over a wide differential pressure range
- High contamination retention capacity due to large specific filter surface area
- Good chemical resistance of the filter elements due to the use of epoxy resins for impregnation and bonding
- High bursting pressure resistance of the filter elements (e.g. during cold start)
- Water and water traces in the hydraulic fluid do not cause a reduction in the filtration capacity
- 10 µm filter rating absolute



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Ordering code

Return line filter

ABZ F R - -10-1X/ -

Rexroth plant construction accessories

Filter

Return line filter

Return line filter, single

= S

Return line filter, duplex

= D

Size (flow at $\Delta p = 0.4 \text{ bar} / 29 \text{ mm}^2/\text{s}$)

Series 50

= 0050

Series 140

= 0140

Series 450

= 0450

A =

Variant A

B =

Variant B

Hydraulic fluid

See table (page 4)

See table (page 4)

Series 1X

Series 10 to 19

1X =

(10 to 19; unchanged installation and connection dimensions)

10 =

Filter element (rating in micron absolute)

Variant A (return line filter)

Material no.

ABZFR-S0050-10-1X/M-A

R900229554

ABZFR-S0140-10-1X/M-A

R900229555

ABZFR-S0450-10-1X/M-A

R900229556

Variant B (return line filter)

Material no.

ABZFR-S0050-10-1X/M-B

R900229572

ABZFR-S0140-10-1X/M-B

R900229573

ABZFR-S0450-10-1X/M-B

R900229574



Only use filter with the clogging indicator fitted !

Clogging indicator

ABZ F V - -1X/ -

Rexroth plant construction accessories

Filter

Clogging indicator

Visual backpressure indicator

with cracking pressure $\Delta p = 2$ to 3 bar

= RV2

Electrical backpressure switch

with cracking pressure $\Delta p = 2$ to 3 bar

= RE2

A =

Variant A

B =

Variant B

Hydraulic fluid

All hydraulic fluids

See table (page 4)

See table (page 4)

See table (page 4)

Series 1X

Series 10 to 19

1X =

(10 to 19; unchanged installation and connection dimensions)

Variant A (clogging indicator)

Material no.

ABZFV-RV2-1X/M-A (optisch)

R900229741

ABZFV-RE2-1X/M-A (elektrisch)

R900229635

Variant B (clogging indicator)

Material no.

ABZFV-RV2-1X/B (optisch)

R900229636

ABZFV-RE2-1X/M-B (elektrisch)

R900229637

Order example: Return line filter for a flow of 50 l/min with 10 μm filter element for hydraulic fluid, mineral oil HLP to DIN 51524 Variant A and clogging indicator variant A.

1: ABZFR-S0050-10-1X/M-A

Material number:

R900229554

2: ABZFV-RE2-1X/M-A

Material number:

R900229635

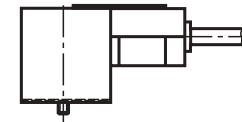
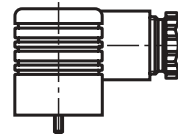
3: Leitungsdose Z14

Material number:

R900058528

Filters and clogging indicators of variants A and B cannot be combined with each other

Plug-in connectors for mounting on electrical clogging indicators, variants A and B

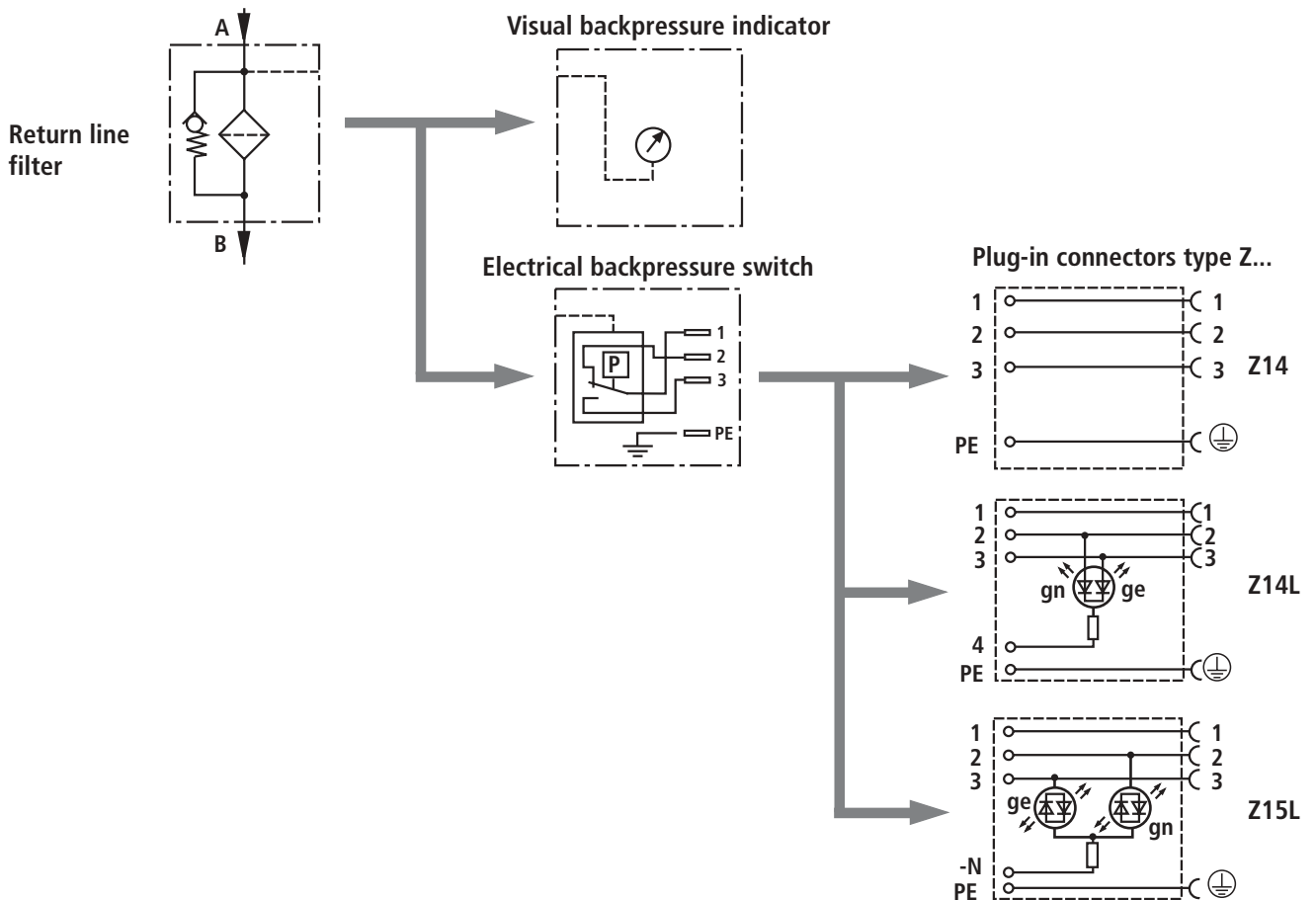


Designation:

Plug-in connector	DC voltage	AC voltage	Material number	Cable length 5m	Cable length 10m
"Z14" (standard) without circuitry	12 – 240 V		R900001260	R900058528	R900217139
"Z14L" with indicator lamp	24 V		–	R900210635	R900217140
"Z15L" with indicator lamp	24 V		R900545845	–	–
	110 V		R900545847	–	–
	220 V		R900545848	–	–

For technical data and unit dimensions, see data sheet RE 08 006, pages 5 and 6.

Symbols



Function, section

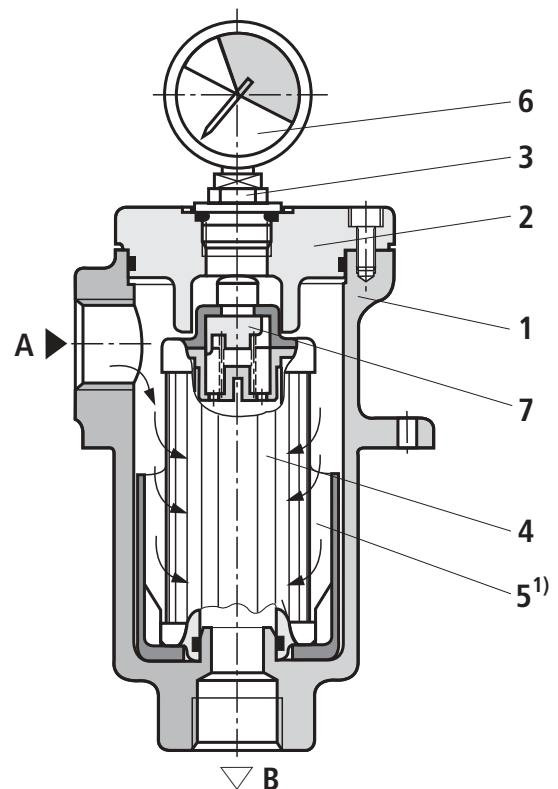
These return line filters are designed to be directly mounted onto the fluid tank.

They basically consist of the filter housing (1), cover (2) with connection for backpressure indicator (3), filter element (4), strainer (5¹⁾) as well as clogging indicator (6) (connection provided as standard). The filter elements comprise by-pass valves (7).

The hydraulic fluid is fed via port A to the filter element (4), where it is filtered in accordance with the relevant filter rating. The dirt particles filtered out settle in the strainer (5¹⁾) and filter element (4). The filtered hydraulic fluid is directed via port B to the tank.

When the filter element (4) is taken out, the strainer (5¹⁾) is pulled out as well, which prevents the settled dirt particles from entering the tank.

¹⁾ Variant A only



Only use filter with the clogging indicator fitted !

Technical data (for applications outside these parameters, please consult us!)

General

Installation position	Vertical				
Direction of flow	Inlet at the side, outlet vertically downwards				
Weight	Series	50	140	450	
	Variant A	kg	1.0	2.1	20.0
	Variant B	kg	2.6	1.1	11.3

Hydraulic

		Variant A	Variant B
Maximum operating pressure	bar	25	25
Cracking pressure of the by-pass valve	bar	3 + 0.5	3.4 ± 0.3
Response pressure of the clogging indicator	bar	2 – 0.2	2.4 ± 0.3
Temperature range	°C	– 30 to + 100	– 43 to + 120

Electrical

Electrical connection to DIN 43 650	Plug-in connection, 3-pin + PE		
Contact load	AC voltage	6 A at 220 V resistive load	
	DC voltage	6 A at 24 V resistive load	
Type of switching	Make-contact or break-contact, switching contacts (changeover contacts)		
Max. switching voltage	V	230	
Type of protection (to DIN 40050)	IP 65 (when using a plug-in connector)		
Max. switching capacity at resistive load	In the case of DC voltage above 24 V provide a spark suppressor to protect the switching contacts. 300 VA; 250 W		

Filter element

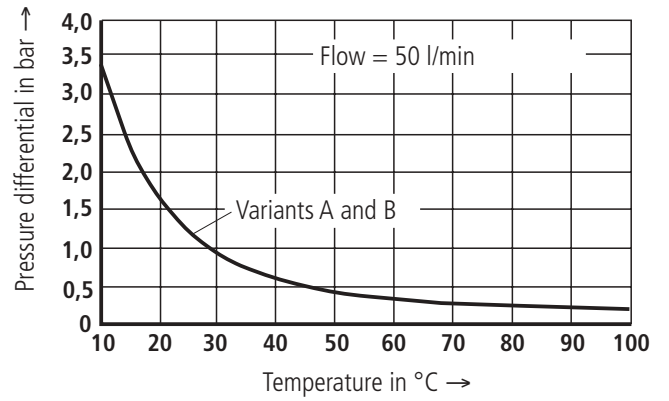
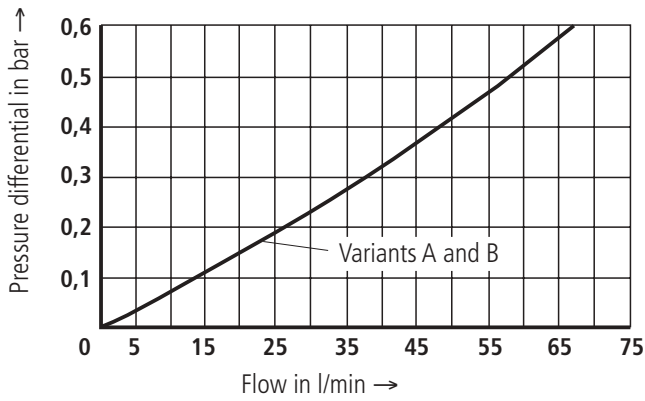
Filter element	Disposable element based on inorganic fibre				
Retention rate	Variant A	$\beta_{10} \geq 200$ to $\Delta p = 15$ bar			
	Variant B	$\beta_{10} \geq 200$ to $\Delta p = 4$ bar			
Permissible pressure differential	Variant A	bar	25		
	Variant B	bar	20		
Weight	Series	50	140	450	
	Variant A	kg	0.264	0.536	1.991
	Variant B	kg	0.25	0.4	1.1

Hydraulic fluids

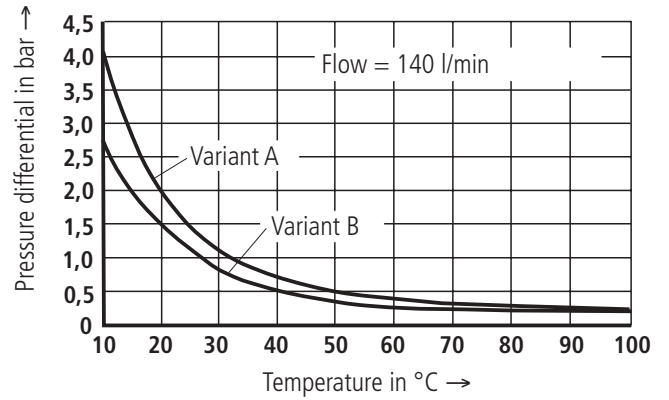
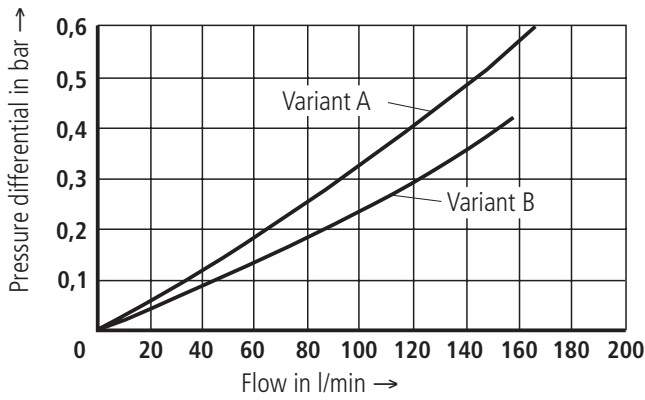
			Variant A	Variant B
Mineral oils				
Mineral oil	HL/HLP	to DIN 51524	M	M
Hardly inflammable hydraulic fluids				
Emulsions	HFA-E	to DIN 24320	M	M
Synthetic aqueous solutions	HFA-S		1)	1)
Viscosity-adjusted HFA fluids	HFA-V		V	V
Aqueous solutions	HFC	to VDMA 24317	M	M
Phosphate esters	HFD-R	to VDMA 24317	V	1)
Organic esters	HFD-U	to VDMA 24317	V	1)
Fast bio-degradable hydraulic fluids				
Triglycerides (rape seed oil)	HETG	to VDMA 24568	V	1)
Synthetic esters	HEES	to VDMA 24568	V	1)
Polyglycols	HEPG	to VDMA 24568	V	1)

1) Enquiry stating the hydraulic fluid

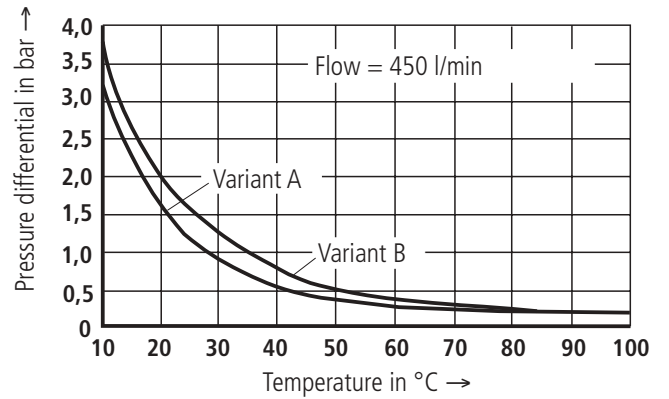
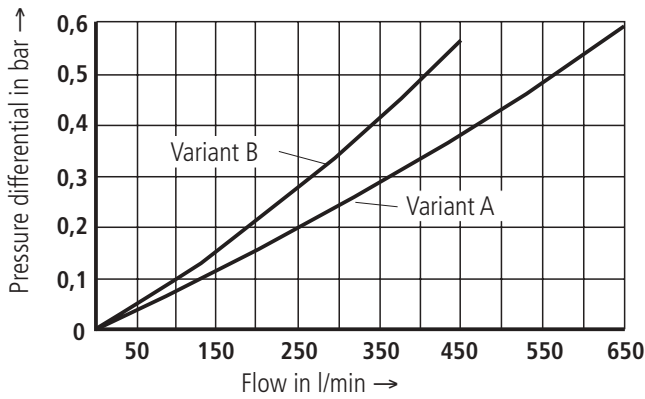
ABZFR-S0050-10-1X/M-A



ABZFR-S0140-10-1X/M-A



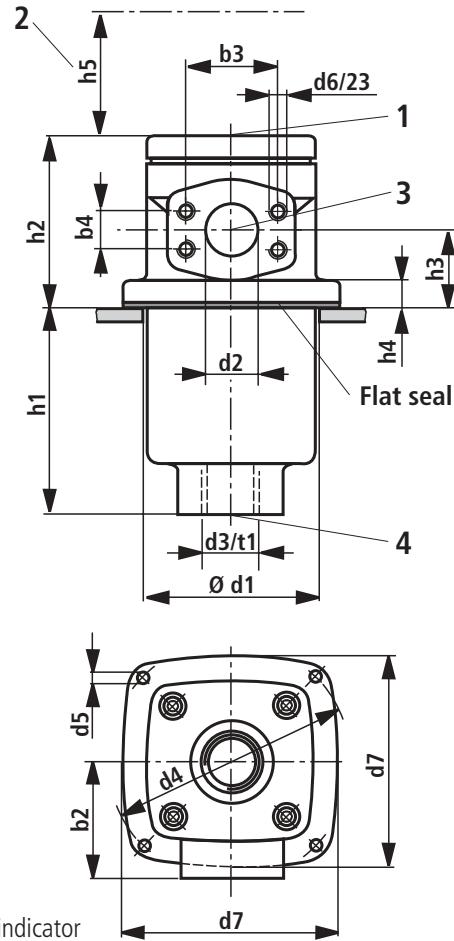
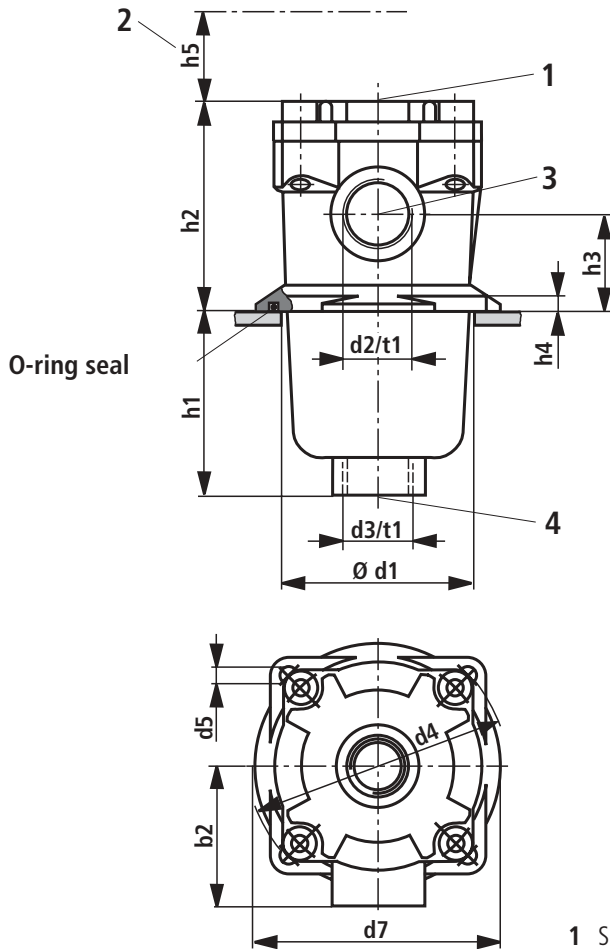
ABZFR-S0450-10-1XM-A



Variant A

ABZFR-S0050-10-1X/..-A
ABZFR-S0140-10-1X/..-A

ABZFR-S0450-10-1X/..-A



- 1 Space for clogging indicator
- 2 Minimum space required to remove element
- 3 Inlet
- 4 Outlet

Type	b2	b3	b4	Ød1 ⁴⁾	Ød2	Ød3	Ød4	d5 ³⁾
ABZFR-S0050-10-1X/..-A	55	–	–	78 ⁺²	G 3/4 ¹⁾	G 3/4 ¹⁾	100	M5
ABZFR-S0140-10-1X/..-A	72	–	–	104 ⁺²	G 1 1/4 ¹⁾	G 1 1/4 ¹⁾	135	M6
ABZFR-S0450-10-1X/..-A	110	106.4	61.9	173 ⁺²	SAE 3"2)	G 3"1)	220	M12

Type	d6	d7	h1	h2	h3	h4	h5	t1
ABZFR-S0050-10-1X/..-A	–	Ø96	130	88	44	6	154	17
ABZFR-S0140-10-1X/..-A	–	Ø126	150	108	54	6	183	20
ABZFR-S0450-10-1X/..-A	M16	196	243	168	83	13	320	32

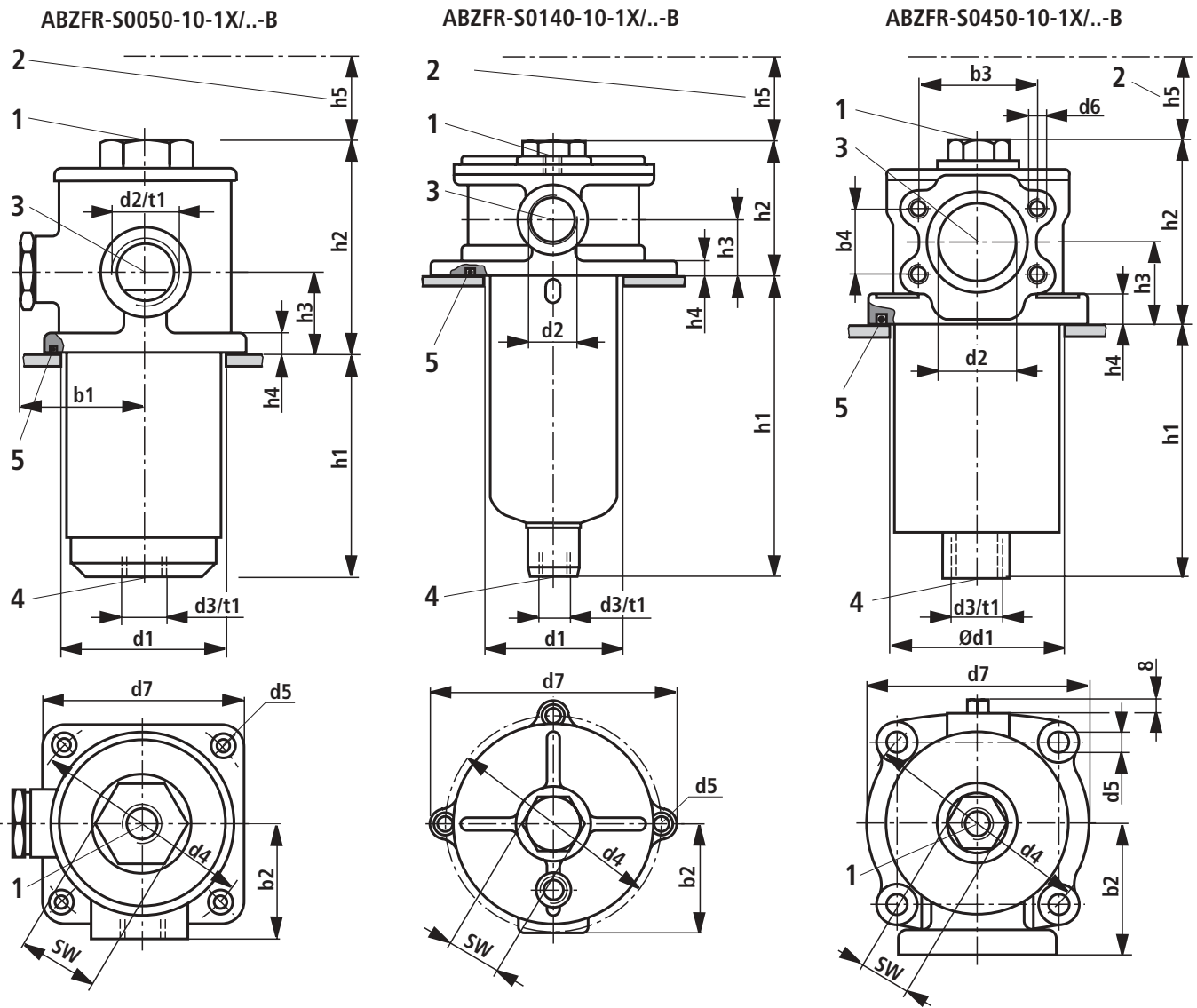
¹⁾ Threaded connection to ISO 228

²⁾ Standard pressure series

³⁾ Drilling for fixing screws

⁴⁾ Tank opening

Variant B



- 1 Space for clogging indicator
- 2 Minimum space required to remove element
- 3 Inlet
- 4 Outlet
- 5 O-ring seal

Type	b1	b2	b3	b4	Ød1 ⁵⁾	Ød2 ¹⁾	Ød3	Ød4	d5 ⁴⁾
ABZFR-S0050-10-1X/..-B	60	52	–	–	71 ⁺¹	G 3/4 ²⁾	R 1 ¹⁾	100	M5
ABZFR-S0140-10-1X/..-B	–	70	–	–	105.5 ^{+0,5}	G 1 ²⁾	G 3/4 ²⁾	140	M8
ABZFR-S0450-10-1X/..-B	–	86	77.8	42.9	116 ⁺²	SAE 2 ³⁾	G 1 1/4 ²⁾	148.2	M12

Type	d6	d7	h1	h2	h3	h4	h5	t1	A/F
ABZFR-S0050-10-1X/..-B	–	90	137	95	36	9	200	11,6	36
ABZFR-S0140-10-1X/..-B	–	162	234	88	37	17	220	19	36
ABZFR-S0450-10-1X/..-B	M12	146	463	121	54	17	437	22	36

1) Threaded connection to ISO 7

2) Threaded connection to ISO 228

3) Standard pressure series

4) Drilling for fixing screws

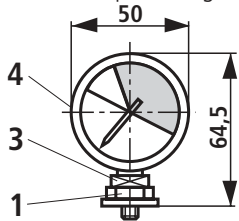
5) Tank opening

Clogging indicator

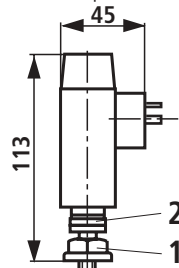
(Dimensions in mm)

Variant A

Visual backpressure indicator (pressure gauge)



Electrical backpressure indicator

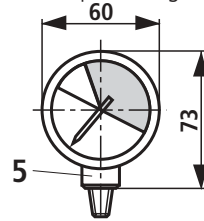


- 1 A/F 19, maximum tightening torque $M_{T \max} = 30 \text{ Nm}$
- 2 A/F 19, maximum tightening torque $M_{T \max} = 15 \text{ Nm}$
- 3 A/F 12, maximum tightening torque $M_{T \max} \leq 15 \text{ Nm}$

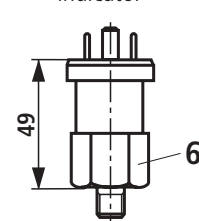
Note: Adjust and fix using only the spanner flats provided. The specified tightening and adjustment torques must not be exceeded.

Variant B

Visual backpressure indicator (pressure gauge)



Electrical backpressure indicator



- 4 Pressure gauge can be rotated through ca. 45° for alignment.
- 5 A/F 14, maximum tightening torque $M_{T \max} = 54 \text{ Nm}$
- 6 A/F 1", maximum tightening torque $M_{T \max} = 54 \text{ Nm}$

Spare parts

Filter element

ABZ F E-R -10-1X/ -

Rexroth plant construction accessories

Filter

Filter element

Filter element for return line filter = R

Size (flow)

Series 50	= 0050
Series 140	= 0140
Series 450	= 0450

A =
B =

Variant A
Variant B

Hydraulic fluid

See table (page 4)
See table (page 4)

Series 1X

1X = Series 10 to 19
(10 to 19; unchanged installation and connection dimensions)

10 = **Filter element** (rating in micron)

Variant A (filter element)

Material no.

ABZFE-R0050-10-1X/M-A	R900229746
ABZFE-R0140-10-1X/M-A	R900229747
ABZFE-R0450-10-1X/M-A	R900229749

Variant B (filter element)

Material no.

ABZFE-R0050-10-1X/M-B	R900229642
ABZFE-R0140-10-1X/M-B	R900229764
ABZFE-R0450-10-1X/M-B	R900229765

Seal kits

ABZ F Z-D -R-1X/ -

Rexroth plant construction accessories

Filter

Accessories/miscellaneous

Seal kit = D

Size (flow)

Series 50	= 0050
Series 140	= 0140
Series 450	= 0450

A =
B =

Variant A
Variant B

Hydraulic fluid

See table (page 4)
See table (page 4)

Series 1X

1X = Series 10 to 19
(10 to 19; unchanged installation and connection dimensions)

R = **Return line filter**

Variant A¹⁾ (seal kit)

Material no.

ABZFE-D0050-R-1X/M-A	R900229758
ABZFE-D0140-R-1X/M-A	R900229759
ABZFE-D0450-R-1X/M-A	R900229760

Variant B²⁾ (seal kit)

Material no.

ABZFE-D0050-R-1X/M-B	R900229659
ABZFE-D0140-R-1X/M-B	R900229660
ABZFE-D0450-R-1X/M-B	R900229661

¹⁾ The seal kit consists of three O-rings for the element, cover and clogging indicator and a tank seal.

²⁾ The seal kit consists of two O-rings for the cover and clogging indicator and a tank seal.

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