

Automatic filter AF 132 G

with external pressure cleaning
Connection size DN 40 / G1 1/2, cast design

1. Features

Filtration Group automatic backflush filters are suitable for all applications where low or medium-viscosity liquids have to be filtered.

These compact, inline filter systems are designed for automatic cleaning. The system is cleaned by rotating the filter cartridge and backflushing with external or internal pressure media.

Advantages:

- Low lifecycle costs because no filter material is consumed
- Precise separation quality in accordance with the surface filter principle
- Top-quality, asymmetric filter medium made of multiple-sintered stainless steel fleece on a robust inner core
- Efficient filter cleaning assures maximum process stability
- Solid construction and high-quality materials for a long service life
- Minimal liquid loss during cleaning
- Filter cleaned one segment at a time with a high backflush pulse
- Actual filter rating and nominal separation are indicated
- Material options open up a wide range of applications
- Modular Filtration Group Vario system for optimum filter selection
- Optional: Application in Ex zone 1 and 2
- Easy maintenance
- Worldwide distribution



2. Operating principle

The Filtration Group AF 132 G backflush filter belongs to the small Vario series. The compact Filtration Group automatic filter system is used for fine filtration of a variety of low-viscosity liquids.

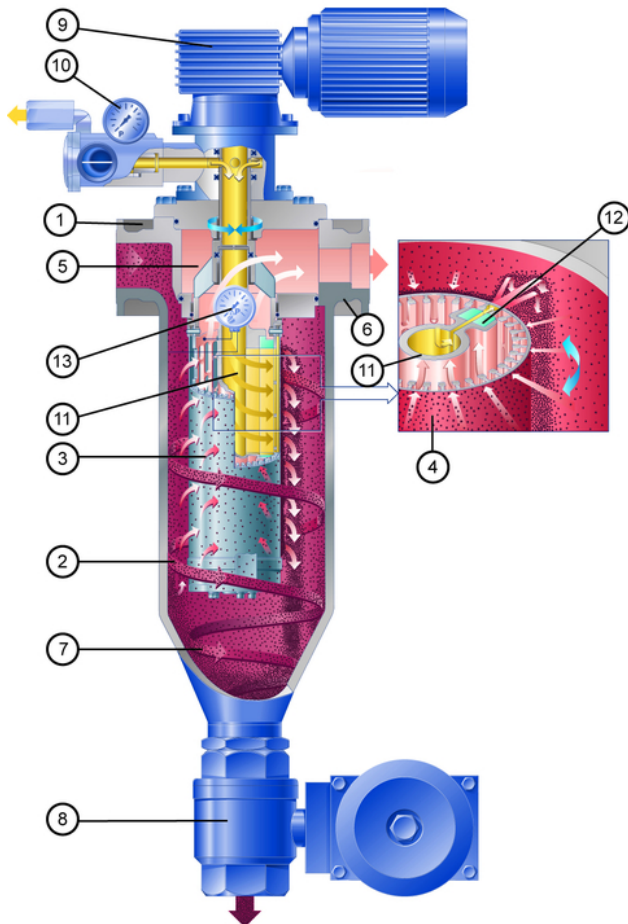
This inline pressure filter consumes no filter material, which means there is also no need for subsequent disposal. The filter can only be cleaned by interrupting operation. The concentrated solids are drained off simply by opening the system for a short time.

The medium to be cleaned is guided into the filter housing under pressure. It flows inward through the Filtration Group segmented element. Particles settle on the surface of the filter medium. Due to the unique design also coarse particles can be backflushed. The filtered fluid exits the filter housing at the top opposite the inlet connection.

The filter is cleaned when a preset differential pressure limit, a set interval or a defined filtered fluid quantity is reached.

The segmented element is turned as the drain and external pressure valves are opened. The segments are then guided one at a time past the pressure channel housing on the inside. This causes them to open and close alternately. The integrated external pressure accumulator is pretensioned during closing, so that when one segment opens, an outward surge cleans the separated particles from the filter material. The particles are catapulted out as a result of this pulse cleaning principle and discharged via the drain valve. One turn suffices to clean all segments.

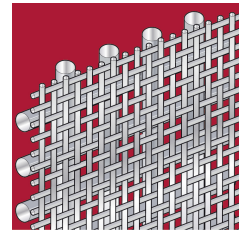
All filters in the Filtration Group Vario series are protected by various patents.



Used Filtration Group filter cartridges in the AF 132 G backflush filter:

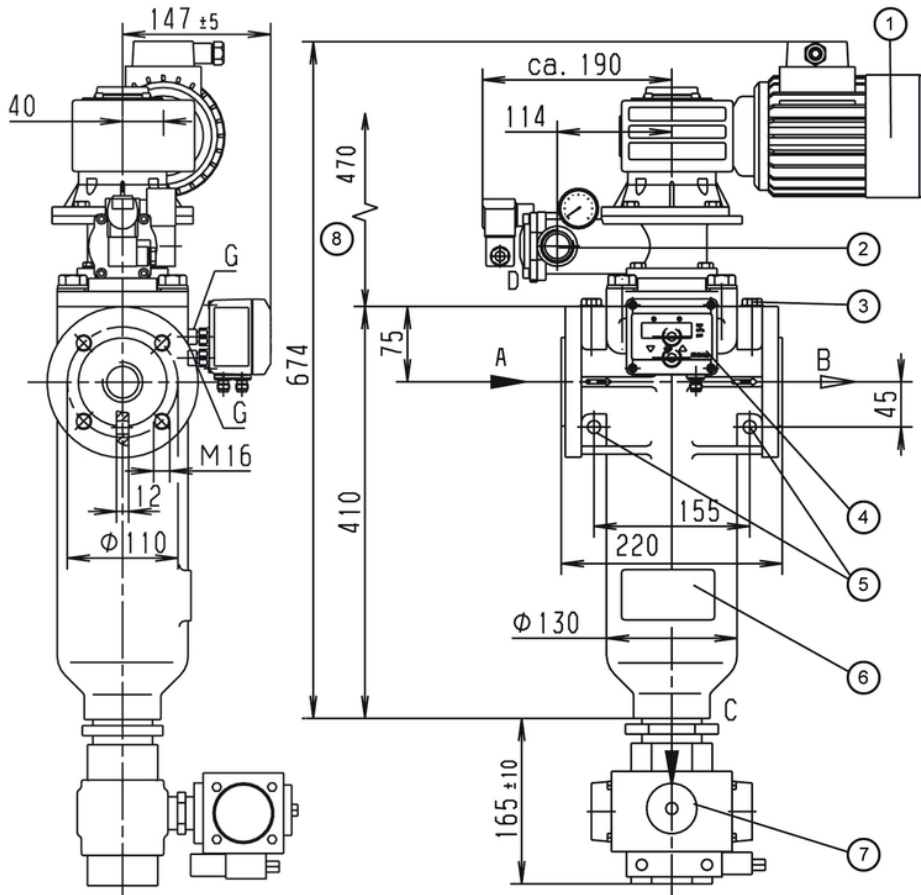
Filtration Group topmesh cartridges (standard):

- Good cleanability due to asymmetric design
- Large effective filter surface
- Defined particle retention
- Several material combinations possible



- 1 Tangential inlet connection
- 2 Inlet plenum
- 3 Filtration Group segmented element
- 4 Filtration Group filter material
- 5 Plenum for filtered fluid
- 6 Outlet connection for filtered fluid
- 7 Residue collection cone
- 8 Drain valve
- 9 Drive motor
- 10 External pressure connection, external pressure and check valves and gauge P_i
- 11 External pressure accumulator
- 12 External pressure nozzle
- 13 Differential pressure contact gauge

3. Technical data



- 1 Cleaning drive: The motor can be mounted at each 90° position
- 2 External pressure valve
- 3 Vent screw G1/4
- 4 Optional: Differential pressure indicator/switch
- 5 Mounting holes Ø13
- 6 Name-plate
- 7 Optional: Automatic drain valve
- 8 Clearance required = 470 mm

Filterdaten

- Max. operating pressure: 16 bar
 Max. operating temperature: 100 °C
- Materials:
- Housing and cover: Nodular cast iron
 - Internals: Nodular cast iron, St. 1.4301
 - Bearing bushes: PTFE based
 - Seals: FPM
 - Segmented element: 1.4571 or 1.4571/Al (Δp max. 10 bar)
 - Pressure channel housing: PPS-GF40
- Cover fastening: 4 x M16 hexagon screws
- Connections and nominal diameters:
- A-inlet, B-outlet: G1 1/2, flange DN 40 / PN 25
 - C-drain: G2
 - D-external pressure: G1 (air: must be reduced to G1/2 by the customer)
 - G-indicator: G1/8
 - All threaded holes acc. to DIN 3852 form Z
 - Flanges acc. to EN 1092-1
- Drive shaft seal: Lip seal with O-ring
- Outside coating: Synthetic resin primer, blue acc. to RAL 5007

Motor data

Worm gear motor
 Multi-range winding

V	Hz	kW	rpm	A
Δ 230 \pm 10%	50	0.18	17	1.2
λ 400 \pm 10%	50	0.18	17	0.7
Δ 266 \pm 10%	60	0.22	21	1.2
λ 460 \pm 10%	60	0.22	21	0.7

Protection class: IP55; insulation class F; output torque: 52 Nm

Optional:

- Ex protection acc. to ATEX 2014/34/EU
- Electrical design in Ex II 2G T3
- Mechanical design in Ex II 2G c T3
- Worm gear motor Ex, output torque: 52 Nm

Weight: 52 kg

Volume: 4 l

Differential pressure stability


Segmented element with topmesh: 10 bar

Other types available on request!

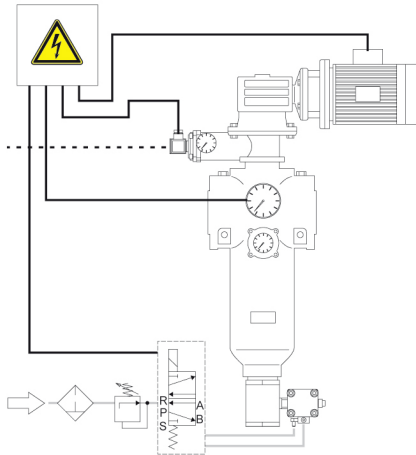
Technical data is subject to change without notice

4. Design and application

Cartridge type (see section 6)	Total surface in cm ²	Gap width in μm / effective filter surface in cm ²							
		10	20	30	40	60	80	100	
AF 170XX4	437	310	310	310	310	310	310	310	310

 Recommended design

Cleaning and emptying



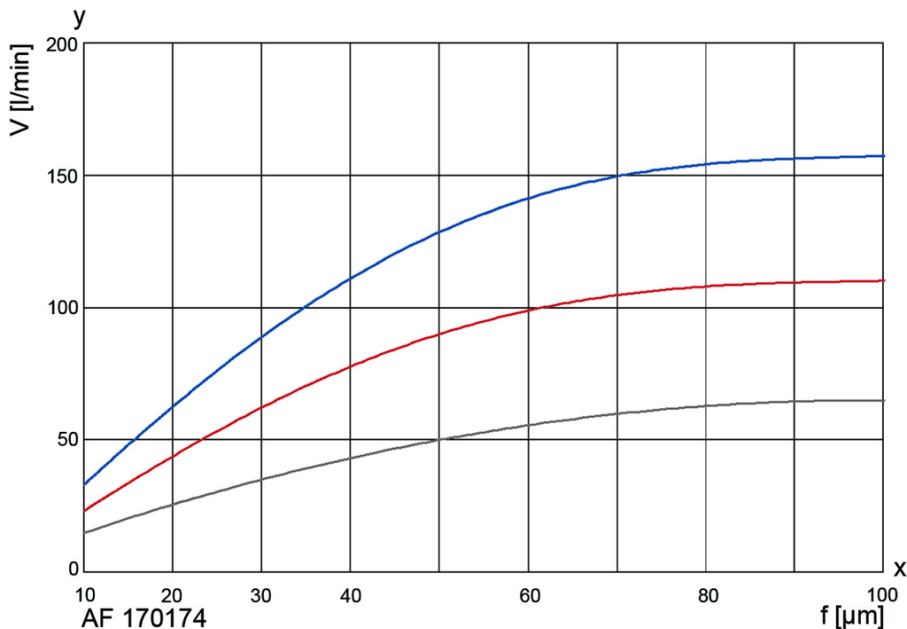
Fully automatic operation:

Filtration usually takes place under pressure. The filter is cleaned after a programmed time or a preset number of cycles or according to the differential pressure. We recommend cleaning the system at a differential pressure of approximately 0.5 to 0.7 bar. The cleaning motor is operated for around 4 s (about one turn of the filter cartridge). The external pressure and drain valves remain open for this period. This suffices to clean the filter thoroughly.

Refer to the Instruction manual for further information.




Filtration Group's team of specialists will be pleased to assist in any way. Tests can be carried out in the absence of reliable evaluation criteria.

5. Efficiency curves



The curves indicate the volume flow through the complete filter system (filter housing including cartridge) and are referred to a differential pressure of 0.3 bar. Specific process information is essential to guarantee reliable operation of an automatic filter.

Viscosity in mm²/s

-  1 mm²/s
-  33 mm²/s
-  100 mm²/s

y = Volume flow V [l/min]
x = Gap width f [μm]

6. Type number key

Type number key with selection example for AF 13243-221-43200/G2												
Size												
AF 1324	1	x	65x230	No. of steps x diameter x length [mm]								
Cleaning drive												
	3	Gear motor 230/400 V, 50 Hz or 266/460 V, 60 Hz										
	4	Gear motor 230/400 V, 50 Hz Ex II 2G T3										
Inlet and outlet connections												
	2	DN 40 with G1 1/2										
Permissible operating pressure in bar (housing/cover)												
	2	PN 16										
Material Seal FPM, bearing PTFE												
	1	Cover and housing nodular cast iron, internals steel, aluminium										
	3	Cover and housing nodular cast iron, internals stainless steel 1.4301/1.4571										
	6	Housing and cover nodular cast iron with delta seal coating, internals stainless steel 1.4301										
Differential pressure indicator and gauge												
	1	PiS 3076, switching level at 1.2 bar, static 63 bar, aluminium/FPM										
	2	PiS 3076, switching level at 0.7 bar, static 63 bar, aluminium/FPM										
	4	PiS 3170, digital Δp gauge, 2 switching levels settable from 0 to 16 bar										
Valves and control throttles												
	3	External pressure valve G1 for liquid, 24 V										
	4	External pressure valve G1 for liquid, 230 V										
Drain valve												
	2	valve, electropneumatic 24 V										
	3	Ball valve, electropneumatic 230 V										
	4	Ball valve, electric 24 V										
	5	Ball valve, electric 230 V										
Cleaning valve												
	0	Without/special version										
Optional features												
	0	Without/special version										
AF 1324	3	-	2	2	1	-	4	3	2	0	0	-XXXX (end number for special version)/G2*

*end number completion:

G2 cast iron, Version 2

End number	Special version
3001	Standard complete inner assembly, without housing or drive
3002	Standard complete inner assembly, without housing, with drive
3700	PTFE seals
Other numbers	On request

Type number key with selection example for coiled or welded cartridges for AF 170

Series

AF 170 Segmented element with topmesh (10 µm bis 100 µm)

Material	Inner core	Filter medium	Clamp rings
----------	------------	---------------	-------------

Segmented element

17	Al	1.4571	St
20	Al/hc	1.4571	1.4571

Overall length Diameter x length in mm

4 65 x 230

Gap width/rating in µm (see 4. Design and application)

001	10 µm	004	40 µm	010	100 µm
002	20 µm	006	60 µm		
003	30 µm	008	80 µm		

Other filter ratings on request

AF 170 17 4 -006

7. Spare parts

Position	Designation	No.	
		FPM/C steel	PTFE/VA
1	Bush kit		76351514
2	Seal kit (complete)	70320685	
3	Pressure channel mould		76351209
4	Filter cartridge	See name-plate	

Please contact us for detailed technical information, any open questions about options, accessories and for general expert advice. Completion of the relevant questionnaire would facilitate in the coordination of all important parameters.

Comprehensive documentation on our filter range, filter elements and accessories can be provided. About installation and operation, please refer to the Instruction Manual.

Filtration Group GmbH
 Schleifbachweg 45
 D-74613 Öhringen
 Phone +49 7941 6466-0
 Fax +49 7941 6466-429
 sales@filtrationgroup.com
 www.filtrationgroup.com
 70360054.11/2016