

## **Vacuum Filters**



# Vacuum filters

Technical data

FESTO

## Filters ESF

### Function




Note

for suction grippers ESG, between suction cup and suction cup holder

→ Internet: esg

-  - Temperature range  
0 ... +60 °C

-  - Operating pressure  
-0.95 ... +4 bar



General technical data			
Holder size	3	4A	4B
Assembly position	Any		
Type of mounting	In-line installation with threaded connection		
Vacuum connection	M4x0.7	M6x1	
Grade of filtration [µm]	10		
Flow rate <sup>1)</sup> [l/min]	100	260	270

1) At a vacuum pressure of -0.75 bar

Operating and environmental conditions			
Holder size	3	4A	4B
Operating pressure [bar]	-0.95 ... +4		
Ambient temperature [°C]	0 ... +60		
Corrosion resistance class CRC <sup>1)</sup>	1		

1) Corrosion resistance class 1 as per Festo standard 940 070

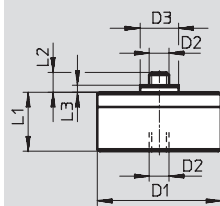
Components requiring low corrosion resistance Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Materials	
Housing	Aluminium, nickel-plated brass
Filters	Polyvinylfluoride
Seals	Nitrile rubber
Material note	Free of copper and PTFE

Weights [g]			
Holder size	3	4A	4B
ESF- ...	9	19	19

### Dimensions and ordering data

Download CAD data → [www.festo.com](http://www.festo.com)



D1 Ø	D2	D3 Ø	L1	L2	L3	Part No.	Type
25	M4x0.7	7.8	10.5	4.5	3.1	191 202	ESF-3
25	M6x1	8.8	10.5	5.5	3.9	191 203	ESF-4A
40	M6x1	8.8	14	5.5	3.9	191 204	ESF-4B

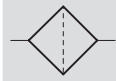
# Vacuum filters

Technical data

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## Vacuum filters VAF-PK


### Function



Note

The vacuum suction filter may only be used in open vacuum systems.

-  - Temperature range  
0 ... +40 °C

-  - Operating pressure  
-0.9 ... 0 bar

The vacuum suction filter serves for filtering dirt in the direction of suction.  
It is inserted in the tubing as an inline filter.



### General technical data

Size	PK-3	PK-4	PK-6
Operating medium	Atmospheric air		
Mounting position	Any		
Type of mounting	In-line installation		
Pneumatic connection	PK-3 with locknut	PK-4 with locknut	PK-6 with locknut
Grade of filtration [µm]	50		
Vacuum filter flow [l/min]	50.8	70	210
Nominal size [mm]	2	3	4.6
Ejector pulse possibility [bar]	≤8		

1) At vacuum pressure = -0.75 bar

### Operating and environmental conditions

Size	PK-3	PK-4	PK-6
Operating pressure [bar]	-0.95 ... 0		
Ambient temperature [°C]	0 ... +40		

### Materials

Housing	Polyamide
Filter	Mesh / Polyamide
Union nut	Polyacetate
Note on materials	RoHS-conform

### Weights [g]

Size	PK-3	PK-4	PK-6
VAF- ...	4	6	10

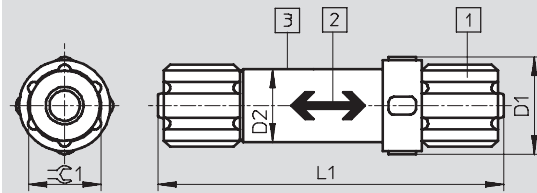
# Vacuum filters

Technical data

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## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)



- 1 Quick connectors for plastic tubing
- 2 Flow direction indicated with arrow
- 3 Degree of contamination visible through the transparent housing

Type	D1 Ø	D2 Ø	L1	≅ 1
VAF-PK-3	16	12	50.8	8
VAF-PK-4	16	12	57	12
VAF-PK-6	24	19	64	14

## Ordering data

Pneumatic connection	Part No.	Type
PK-3	535 883	VAF-PK-3
PK-4	15 889	VAF-PK-4
PK-6	160 239	VAF-PK-6

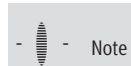
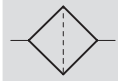
# Vacuum filters

Technical data

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## Vacuum filters VAF-DB

### Function



Note

The vacuum filter must only be used in open vacuum systems.

- - Temperature range  
-5 ... +50 °C

- - Operating pressure  
-0.95 ... 0 bar

The vacuum filter is used to remove particles in the direction of suction. The filter cartridge is located in a transparent bowl in order to identify the degree of contamination of the filter cartridge. The filter cartridge can be replaced.



### General technical data

Pneumatic connection	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$
Operating medium	Atmospheric air		
Mounting position	Vertical		
Type of mounting	In-line installation With wall/surface bracket		
Vacuum port	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$
Grade of filtration [μm]	80		
Ejector pulse suitability [bar]	≤7		
Max. tightening torque [Nm]	8.7	15.3	20.5

1) At vacuum = -0.75 bar

### Operating and environmental conditions

Pneumatic connection	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$
Operating pressure [bar]	-0.95 ... 0		
Ambient temperature [°C]	-5 ... +50		

### Materials

Housing	Reinforced polypropylene		
Bowl	Polyamide		
Filter	Polyethylene		
Seals	Nitrile rubber		
Note on materials	RoHS-compliant Contains PWIS (paint-wetting impairment substances)		

### Weights [g]

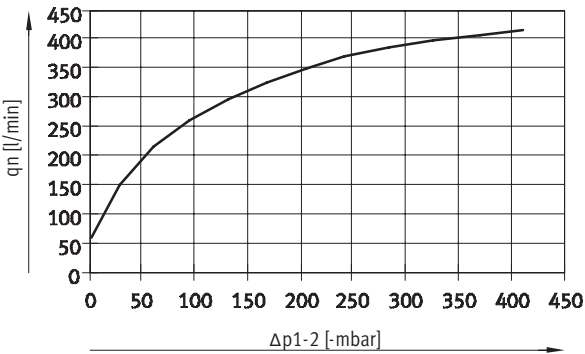
Pneumatic connection	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$
VAF-DB- ...	71	156	162

# Vacuum filters

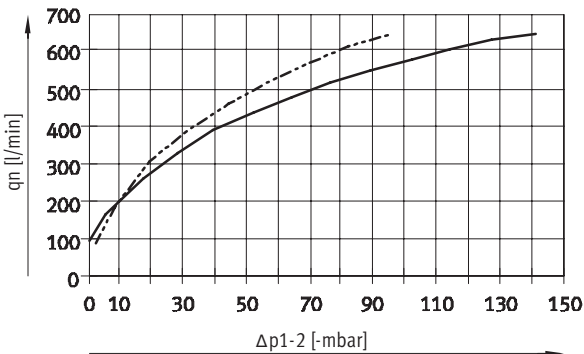
Technical data



Standard flow rate  $q_n$  as a function of differential pressure  $\Delta p_{1-2}$

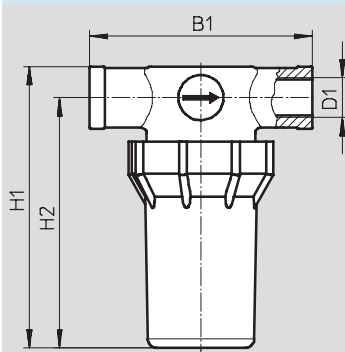


— VAF-DB- 1/4



— VAF-DB- 3/8  
 - - - VAF-DB- 1/2

Dimensions and ordering data Download CAD data → [www.festo.com](http://www.festo.com)



Connection D1	B1	H1	H2	Part No.	Type
1/4	75	94.5	84.5	547 261	VAF-DB- 1/4
3/8	90.5	125	113	553 140	VAF-DB- 3/8
1/2	90.5	129	115	553 141	VAF-DB- 1/2

## Vacuum filters

Accessories

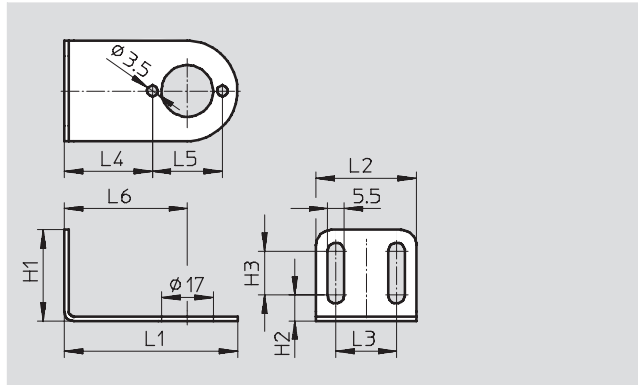
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### Mounting bracket VAF-DB-HR for vacuum filter VAF-DB

Type of mounting: Threaded  
Max. tightening torque: 0.63 Nm

Material:  
High-alloy stainless steel

Note on materials:  
RoHS-compliant  
Contains PWIS (paint-wetting  
impairment substances)



Dimensions and ordering data											
L1	L2	L3	L4	L5	L6	H1	H2	H3	CRC <sup>1)</sup>	Weight [g]	Part No. Type
57	33	20	29	23	40.5	30	8.5	14.5	2	27	553 144 VAF-DB-HR-1/8-1/4
80	53	35	37	33	53.5	50	13.5	24.5	2	92	553 145 VAF-DB-HR-3/8-1/2

- 1) Corrosion resistance class 2 according to Festo standard 940 070  
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

### Filter cartridge VAF-DB-P for vacuum filter VAF-DB

Type of mounting: Plug-in

Material: Polyethylene

Note on material:  
RoHS-compliant  
Contains PWIS (paint-wetting  
impairment substances)



Ordering data		
	Part No.	Type
Filter cartridge	553 142	VAF-DB-P-1/8-1/4
	553 143	VAF-DB-P-3/8-1/2



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