

# Round Air Filter (RLF - Series)

The round air filters of the RLF-Series are used as suction filters or as exhaust air filters.

The installation takes place via a flange connection or a pipe socket at the respective system. The size of the connection is determined depending on the performance or selected by the customer by the technical equipment conditions.



The round air filter is made of stainless steel 1.4301 as a standard, but can also be made of other materials.

Individual adaptations to local conditions such as Weather protection cover, bird protection cover, insect screens can be selected if required.

## Functionality

As a **suction filter**, the air required by the system is sucked from the outside atmosphere to the inside through the round air filter, where it is filtered according to the fineness of the cartridge and passed on to the system.

As an **exhaust filter**, the air coming from the system is guided from the inside to the outside through the round air filter. According to the selected fineness of the cartridge, the solid particles are separated before the air is blown out into the atmosphere.

In both applications, the filter material is cleaned or replaced when reaching the maximum degree of contamination.

Depending on the filter material, the filter cartridges can be cleaned by blowing out with compressed air, knocking, shaking, cleaning with steam, cleaning with petrol or by rinsing with water at approx. 60°C and adding commercially available detergents.



## Filter change

Changing the filter cartridges is very easy and fast. By opening a wing nut and lifting the lid, the soiled filter element can be removed and the new filter element installed. After fitting the cover and closing with the wing nut, the circular air filter is already operational again.

## Filter elements

Filter mats of the filter classes G2 to G4 are available as filter inserts. These are 10 to 20 mm thick stockings, which are mounted on the support body of the round air filter.

For higher demands on the purity of the air and special applications, a variety of different filter cartridges is available.

Filter cartridges made of polyester needle felt (also in antistatic design and / or with water-repellent finish), filter cartridges up to filter class H13, filter cartridges for the high temperature range (max 250°C) as well as filter cartridges for the food industry are available.

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## Filter materials and equipment

Filter type	Filter material	Filter class <sup>(3)</sup>	Operating temperature
PE 150 G2	Polyester-Filter mat	G2	max. 120 °C
PE 300 G3	Polyester-Filter mat	G3	max. 120 °C
PE 500 G4	Polyester-Filter mat	G4	max. 120 °C
PE 320 M5 <sup>(1)</sup>	Impregnated polyester needle felt	M5	max. 150 °C
PE 320 AS M5 <sup>(1)</sup>	Impregnated polyester needle felt with antistatic equipment	M5	max. 150 °C
PE 450 F7 <sup>(1)</sup>	Impregnated polyester needle felt	F7	max. 150 °C
PE 500 F8 <sup>(1)</sup>	Impregnated polyester needle felt	F8	max. 150 °C
GP 175 F9	Glass fiber polyester fleece	F9	max. 150 °C
PO 130 E10	Polypropylene fleece	E10	max. 90 °C
AR 350 F7	Impregnated aramid needle felt	F7	max. 200 °C
MF 700 M5	Metal fiber needle felt	M5	max. 250 °C
PV 210 LM F7 <sup>(2)</sup>	Polyester fleece	F7	max. 150 °C
PV 180 LM E11 <sup>(2)</sup>	Polyester fleece with PTFE membrane	E11	max. 120 °C
PV 270 LM H13 <sup>(2)</sup>	Polyester fleece with PTFE membrane	H13	max. 120 °C

- (1) Impregnated polyester needle felt filter cartridges are also available with water repellent finish (A37)  
 (2) The filter cartridges marked LM are suitable for use in the food industry  
 (3) The classifications of the filter materials in the specified filter classes of the standards DIN EN 779:2012 and EN 1822-1:2009 were made on the basis of experience and comparative values

## Performance table

The types listed in the table below are examples only. Due to the large number of materials and possible sizes, a list of all variants is unfortunately not possible.

Filter type	Dimension in mm	Filter area in m <sup>2</sup>	Performance in m <sup>3</sup> /h <sup>(1)</sup>	Initial differential pressure
RLF 5 PE 150 G2	D 300 x 130	0,12	500	40 Pa
RLF 10 PE 300 G3	D 400 x 170	0,21	1.000	45 Pa
RLF 30 PE 500 G4	D 500 x 390	0,61	3.000	50 Pa
RLF 45 PE 320 M5	D 400 x 450	2,84	4.500	10 mbar
RLF 60 PV 210 LM F7	D 450 x 600	4,50	4.800	10 mbar

- (1) The specified performance data are maximum values. All information refers to empirical values. Contaminations during use and subsequent cleaning reduce the performance data or increase the initial differential pressure during reuse.