



TYPE PFN POCKET FILTER



TESTED TO
VDI 6022

Conforms to VDI 6022



Eurovent certification



ATEX construction optional

PFN

PREFILTERS OR FINAL FILTERS IN VENTILATION AND AIR CONDITIONING SYSTEMS

Pocket filters for the separation of fine dust

- Filter groups ePM10 and ePM1 (fine dust filters)
- Performance tested to ISO 16890
- Eurovent certification for fine dust filters
- Meets the hygiene requirements of VDI 6022
- High energy efficiency class according to Eurovent
- NanoWave[®] medium, sewn
- Enlarged filter area due to filter pockets
- NanoWave[®] medium with extremely low initial differential pressure and highest possible dust holding capacity, ideal flow conditions due to wedge-shaped filter pockets
- Different numbers of pockets and pocket depths
- Quick installation and filter changing times due to easy, safe handling
- Fitting into standard cell frames for filter walls (type SIF) or into universal casings (type UCA) for duct installation

Optional equipment and accessories

- Front frame made of plastic or galvanised sheet steel

ATEX construction for protection zones 1 and 2 as well as 21 and 22

General information



Application

- Pocket filter made of NanoWave® medium type PFN for the separation of fine dust
- Fine dust filter: Prefilter or final filter in ventilation systems

Classification

- Eurovent certification for fine dust filters
- Hygiene conformity
- Certificate of conformity for use in areas with a potentially explosive atmosphere

Nominal sizes

- B × H × D [mm]

Filter classes

Filter groups

- ISO ePM10 to ISO 16890
- ISO ePM1 to ISO 16890

Filter classes

- ePM10 60 %
- ePM1 65 %
- ePM1 90 %

Construction

- PLA: Frame made of plastic
- GAL: Frame made of galvanised steel
- EX: Protection zones 1 and 2, as well as 21 and 22 (only in combination with GAL)

Useful additions

- Filter wall (SIF)
- Universal casing (UCA)

Construction features

- Wedge-shaped filter pockets
- Multi-layer filter medium with a prefilter layer and a layer of corrugated extra fine fibres
- Frame depth of construction PLA: 25 mm
- Frame depth of construction GAL: 20, 25 mm
- Number of pockets: 3, 4, 5, 6, 7, 8, 10

Materials and surfaces

- Filter media made of synthetic fibres in corrugated structure
- Frame made of plastic or galvanised sheet steel

Standards and guidelines

- Test according to ISO 16890; international standard for general room air distribution; classification of arrestance efficiency based on the measured fractional arrestance efficiency, which is processed into a reporting system for the fine dust arrestance efficiency (ePM)
- For fine dust filters, the fractional arrestance efficiency of a certain size range is determined by aerosols (DEHS and KCl)
- The filters are classified into filter groups ISO ePM10 and ISO ePM1 depending on the tested values
- Hygiene conformity for construction PLA: VDI 6022, VDI 3803, DIN 1946 Part 4, ÖNORM H 6021 and ÖNORM H 6020, SWKI VA 104-01 and SWKI 99-3, and EN 16798
- Certificate of conformity for correct use in areas with a potentially explosive atmosphere in accordance with Directive 2014/34/EU and compliance with basic health and safety requirements in accordance with EN 80079-36:2016 and EN 80079-37:2016

TECHNICAL INFORMATION

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|--|-----|-----|-----|
| Fractional efficiency ePM10 [%] to ISO 16890 | 60 | – | – |
| Fractional efficiency ePM1 [%] to ISO 16890 | – | 65 | 90 |
| Initial differential pressure [Pa] at nominal volume flow rate | 60 | 80 | 130 |
| Maximum operating temperature [°C] for frames made of plastic | 60 | 60 | 60 |
| Maximum operating temperature [°C] for frames made of galvanised sheet steel | 90 | 90 | 90 |
| final differential pressure [Pa] | 300 | 300 | 300 |

Changing the filter/Final differential pressure

The aim is to find the optimum of the longest possible service life with energetically low differential pressure and safe hygiene. A fixed, recommended value for the final differential pressure can tempt people to insist on keeping to this value, irrespective of its usefulness and today's standards with regard to, for example, energy saving, sustainability or resource conservation. To save costs and energy, we generally recommend the use of technically high-quality filters with low initial differential pressure and a flat differential pressure curve. In addition, the preferred criterion for a filter change should be the differential pressure. For further information, please refer to the installation and maintenance instructions.

Specification text

Pocket filter PFN made of NanoWave® medium as prefilters or final filters for the separation of fine dust in ventilation and air conditioning systems. Wedge-shaped filter pockets ensure ideal airflow conditions. Highest possible dust holding capacity with an extremely low initial differential pressure due to a multi-layer filter medium with a prefilter layer and a layer of corrugated extra fine fibres. Pocket filters made of NanoWave® medium are available in standard sizes with variable numbers of pockets and pocket depth, filter groups ePM10 and ePM1 according to ISO 16890. Pocket filters made of NanoWave® medium are Eurovent-certified and compliant with VDI 6022 in terms of hygiene. The PFN-EX pocket filters with optional EX protection may be used in areas with a potentially explosive atmosphere of zones 1 and 2, as well as zones 21 and 22 (EX II 2G Ex h IIC Gb and EX II 2D Ex h IIIB Db). It is mandatory to connect the filters to the earth potential. All conductive and dissipative parts must be connected together and grounded. Conductive dusts are excluded from the application. Under no circumstances should metallic foreign materials enter the filter.

Ambient temperature range: $-40\text{ °C} \leq T_a \leq +80\text{ °C}$

Materials and surfaces

- Filter media made of synthetic fibres in corrugated structure
- Frame made of plastic or galvanised sheet steel

Construction

- PLA: Frame made of plastic
- GAL: Frame made of galvanised steel
- EX: Protection zones 1 and 2, as well as 21 and 22 (only in combination with GAL)

Sizing data

- Filter group [ISO 16890]
- Efficiency [%]
- Volume flow rate [m^3/h]
- Initial differential pressure [Pa]
- Nominal size [mm]

Life cycle assessment

A life cycle assessment is available for the product series in form of an Environmental Product Declaration (EPD) that has been checked and published by a programme holder.

PFN

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1

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ePM1

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2

-

90 %

|

3

-

PLA

|

4

-

25

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5

/

592 × 592 × 600

|

6

×

10

|

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1 Type

PFN Pocket filters made of NanoWave[®] medium

2 Classification

ePM1 Fractional efficiency ePM1 acc. to ISO 16890

ePM10 Fractional efficiency ePM10 acc. to ISO 16890

3 Separation efficiency

Separation efficiency [%] according to ISO 16890

4 Construction

PLA Plastic frame

GAL Frame made of galvanised sheet steel

EX Frame made of galvanised sheet steel, for zones 1 and 2 as well as 21 and 22 in areas with potentially explosive atmospheres (EX)

5 Frame depth [mm]

20 (construction GAL only)

25

6 Nominal size [mm]

Specify size (width × height × depth)

7 Number of pockets

3, 4, 5, 6, 7, 8, 10