Pocket Filter

Type PFN

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General information

Application
- Pocket filter made of NanoWave® medium 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 × T [mm (in.)]

Filter classes
Filter groups
- ISO ePM10 acc. to ISO 16890 (comparable to ASHRAE 52.2 MERV ratings)
- ISO ePM1 acc. to ISO 16890 (comparable to ASHRAE 52.2 MERV ratings)

Filter classes
- ePM10 60 % [MERV 8]
- ePM1 65 % [MERV 13]
- ePM1 90 % [MERV 15]

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 connection 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 (1 in.) mm
- Frame depth of construction GAL: 20 mm (3/4 in.), 25 (1 in.)
- Number of pockets: 3, 4, 5, 6, 7, 8, 10

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

Standards and guidelines
- Tested according to ISO 16890; International standard for general ventilation and air conditioning; classification of separation efficiency based on the measured fractional separation efficiency, which is processed into a reporting system for the fine dust separation efficiency (ePM (MERV)).
- For fine dust filters, the fractional separation efficiency of a certain size range is determined by aerosols (DEHS and KCl)
- Depending on the test values, the filters are classified into filter groups ISO ePM10 and ISO ePM1(comparable to ASHRAE 52.2 MERV ratings).
- Hygienic conformity for PLA version: VDI 6022, VDI 3803, DIN 1946 Part 4, ÖNORM H 6021 and ÖNORM H 6020, SWKI VA 104-01 and SWKI 99-3 as well as EN 16798
- Certificate of conformity for intended use in potentially explosive atmospheres according to Directive 2014/34/EU and compliance with the essential health and safety requirements according to EN 80079-36:2016 and EN 80079-37:2016

Technical data

Fractional efficiency ePM10 [%] according to ISO 16890	60	–	–
Fractional efficiency ePM1 [%] according to ISO 16890	–	65	90
Estimated ASHRAE 52.2 Rating	MERV 8	MERV 13	MERV 15
Initial differe] at nominal volume flow rate	60 (0.24)	80 (0.32)	100 (0.40)
Maximum operating temperature [°C (°F)] for frames made of plastic	60 (140)	60 (140)	60 (140)
Maximum operating temperature [°C (°F)] for frames made of galvanised sheet steel	90 (194)	90 (194)	90 (194)
Final differential pressure [Pa]	300 (120)	300 (1.20)	300 (1.20)

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

This specification text describes the general properties of the product. Texts for variants can be generated with our Easy Product Finder design programme.

Specification text

Pocket filter PFN made of NanoWave® medium as prefilters or final filters for the separation of fine dust in ventilation systems. Wedge-shaped filter pockets ensure ideal airflow conditions. Highest possible dust holding capacity with extremely low initial pressure drop due to multi-layer filter medium with pre-filter layer and a corrugated ultra-fine fibre layer. 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 to each other and to earthed. Conductive dusts are excluded from the application. Make sure that no metal particles can get into the filter. Ambient temperature range: -40 °C ≤ Ta ≤ +80° (-40 °F ≤ Ta ≤ +176 °F).

Material 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 connection with GAL)

Sizing data

- Filter group [ISO 168900 (MERV)]
- Separation efficiency [%]
- Volume flow rate [m³/h (cfm)]
- Initial differential pressure [Pa]
- Nominal size [mm (in.)]

Life cycle assessment

A life cycle assessment is available for the product type in the form of an environmental product declaration (EPD), which has been checked and published by a programme holder.

Order code

PFN – ePM1 – 90 % – PLA – 25 / 592 × 592 × 600 × 10
1 2 3 4 5 6 7

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

ePM10 60 % [MERV 8]
ePM1 65 % [MERV 13]
ePM1 90 % [MERV 15]

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 (in.)]

20 (3/4) (construction GAL only)
25 (1)

6 Nominal size [mm (in.)]

Specify width × height × depth

7 Number of pockets

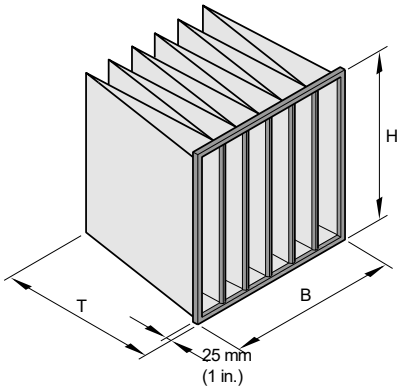
3, 4, 5, 6, 7, 8, 10

PFN–ePM1–90%–PLA–25/592×592×600×10

Classification	ISO ePM1 to ISO 16890 (acc. to ASHRAE 52.2).
Efficiency	90 %
Construction	Plastic frame
Frame depth	25 mm (1 in.)
Nominal size	592 (23 5/16) × 592 (23 5/16) × 600 (23 5/8) mm (in.)
Number of pockets	10

Dimensions

Dimensional drawing of PFN-…



Product-specific data

NS						Number of pockets	Filter class		Nominal volume flow			Initial differential pressure		Filter area		Weight	
B		H		T					q_v			Δp_A					
[mm]	[in]	[mm]	[in]	[mm]	[in]				[l/s]	[m³/h]	[cfm]	[Pa]	[in. w.g.]	[m²]	[sqft]	[kg]	[lb]
592	23 5/16	592	23 5/16	600	23 5/8	6	ePM 10 60 %	MERV 8	944	3400	2001	70	0.28	4,4	47.3	1,5	3.3
490	19 5/16	592	23 5/16	600	23 5/8	5	ePM 10 60 %	MERV 8	778	2800	1648	70	0.28	3,7	39.8	1,3	2.9
287	11 5/16	592	23 5/16	600	23 5/8	3	ePM 10 60 %	MERV 8	472	1700	1000	70	0.28	2,2	23.7	0,9	2.0
592	23 5/16	490	19 5/16	600	23 5/8	6	ePM 10 60 %	MERV 8	778	2800	1648	70	0.28	3,6	38.7	1,4	3.1
592	23 5/16	287	11 5/16	600	23 5/8	6	ePM 10 60 %	MERV 8	472	1700	1000	70	0.28	2,1	22.6	0,9	2.0
287	11 5/16	287	11 5/16	600	23 5/8	3	ePM 10 60 %	MERV 8	236	850	500	70	0.28	1,1	11.8	0,5	1.1
592	23 5/16	892	35 1/8	600	23 5/8	6	ePM 10 60 %	MERV 8	1417	5100	3002	70	0.28	6,6	71.0	2	4.4
490	19 5/16	892	35 1/8	600	23 5/8	5	ePM 10 60 %	MERV 8	1167	4200	2472	70	0.28	5,5	59.2	1,6	3.5
287	11 5/16	892	35 1/8	600	23 5/8	3	ePM 10 60 %	MERV 8	708	2550	1501	70	0.28	3,3	35.5	1,1	2.4
592	23 5/16	592	23 5/16	600	23 5/8	6	ePM 1 65 %	MERV 13	944	3400	2001	80	0.32	4,4	47.3	1,5	3.3
490	19 5/16	592	23 5/16	600	23 5/8	5	ePM 1 65 %	MERV 13	778	2800	1648	80	0.32	3,7	39.8	1,3	2.9
287	11 5/16	592	23 5/16	600	23 5/8	3	ePM 1 65 %	MERV 13	472	1700	1000	80	0.32	2,2	23.7	0,9	2.0
592	23 5/16	490	19 5/16	600	23 5/8	6	ePM 1 65 %	MERV 13	778	2800	164 8	80	0.32	3,6	38.7	1,4	3.1
592	23 5/16	287	11 5/16	600	23 5/8	6	ePM 1 65 %	MERV 13	472	1700	1000	80	0.32	2,1	22.6	0,9	2.0
287	11 5/16	287	11 5/16	600	23 5/8	3	ePM 1 65 %	MERV 13	236	850	500	80	0.32	1,1	11.8	0,5	1.1
592	23 5/16	892	35 1/8	600	23 5/8	6	ePM 1 65 %	MERV 13	1417	5100	3002	80	0.32	6,6	71.0	2	4.4
490	19 5/16	892	35 1/8	600	23 5/8	5	ePM 1 65 %	MERV 13	1167	4200	2472	80	0.32	5,5	59.2	1,6	3.5
287	11 5/16	892	35 1/8	600	23 5/8	3	ePM 1 65 %	MERV 13	708	2550	1501	80	0.32	3,3	35.5	1,1	2.4
592	23 5/16	592	23 5/16	600	23 5/8	8	ePM 1 90 %	MERV 15	944	3400	2001	100	0.40	5,9	63.5	2	4.4
490	19 5/16	592	23 5/16	600	23 5/8	7	ePM 1 90 %	MERV 15	778	2800	1648	100	0.40	5,1	54.9	1,7	3.7
287	11 5/16	592	23 5/16	600	23 5/8	4	ePM 1 90 %	MERV 15	472	1700	1000	100	0.40	2,9	31.2	1,1	2.4
592	23 5/16	490	19 5/16	600	23 5/8	8	ePM 1 90 %	MERV 15	778	2800	1648	100	0.40	4,9	52.7	1,7	3.7
592	23 5/16	287	11 5/16	600	23 5/8	8	ePM 1 90 %	MERV 15	472	1700	1000	100	0.40	2,8	30.1	1,1	2.4
287	11 5/16	287	11 5/16	600	23 5/8	4	ePM 1 90 %	MERV 15	236	850	500	100	0.40	1,4	15.1	0,6	1.3
592	23 5/16	892	35 1/8	600	23 5/8	8	ePM 1 90 %	MERV 15	1417	5100	3002	100	0.40	8,8	94.7	2,4	5.3
490	19 5/16	892	35 1/8	600	23 5/8	7	ePM 1 90 %	MERV 15	1167	4200	2472	100	0.40	7,7	82.9	2,2	4.8
287	11 5/16	892	35 1/8	600	23 5/8	4	ePM 1 90 %	MERV 15	708	2550	1501	100	0.40	4,4	47.3	1,4	3.1