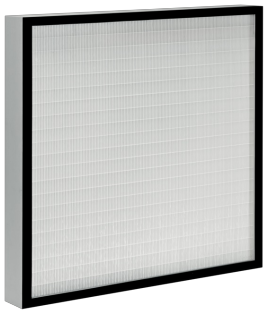


TESTED TO
VDI 6022

Conforms to VDI 6022

MINI PLEAT FILTER
PANELS, TYPE MFP,
CONSTRUCTION ALZ

MFP

FOR THE MOST DEMANDING REQUIREMENTS OF AIR CLEANLINESS AND STERILITY

Prefilters or final filters for the separation of fine dust and suspended particles. Used for industrial, research, medical, pharmaceutical, and nuclear engineering applications.

- Filter groups ISO ePM10, ISO ePM1 (fine dust filter) and EPA, HEPA (particulate filter)
- Performance data tested according to ISO 16890 or to EN 1822-1 and ISO 29463-2 to ISO 29463-5
- Eurovent certification for fine dust filters
- Meets the hygiene requirements of VDI 6022
- Filter media for special requirements, glass fibre papers with spacers made of thermoplastic hot-melt adhesive
- Low initial differential pressure due to ideal pleat position and largest possible filter area
- Perfect adjustment to individual requirements due to different pleat depths, filter frame made of various materials
- Fitting into ceiling mounted or wall mounted particulate filters (types TFC, TFW, TFM, TFP), ducted particulate filters (types KSF, KSFS), duct casings for particulate filters (type DCA), or operating theatre ceilings
- Automatic filter scan test for all filters from filter class H14

General information

Application

- Mini pleat filter panel type MFP for the separation of fine dust and suspended particles such as aerosols, toxic dusts, viruses, bacteria from the supply and extract air in ventilation and air-conditioning systems with large volume flow rates and long filter service lives.

- Fine dust filter: Prefilter or final filter for the separation of fine dust in ventilation and air conditioning systems.
- Particulate filter: Main or final filter used for the most critical requirements of air cleanliness and sterility in areas such as production, research, medicine, pharmaceuticals industry, and nuclear engineering

Special characteristics

- Leakage test is standard for all particulate filters of classes H13, H14

Classification

- Eurovent certification for fine dust filters
- Hygiene conformity for constructions ALN, ALZ, ALY, ALU, ALV

Nominal sizes

- B × H × D [mm]

Options

- FT: Pleat depth
- PU: Protection grid on the upstream side
- PD: Protection grid on the downstream side
- PB: Protection grid on both sides
- FNU: Flat seal on the upstream side
- FND: Flat seal on the downstream side
- FNB: Flat seal on both sides
- TGU: Test groove seal on the upstream side (only for filter classes H13, H14)
- CSU: Continuous seal on the upstream side
- CSD: Continuous seal on the downstream side
- CSB: Continuous seal on both sides
- GPU: Fluid seal (only for ALU/ALV)
- WS: Without seal
- OT: Oil mist test (only for filter classes H13, H14)
- OTC: Oil mist test with certificate (only for filter classes H13, H14)
- ST: Scan test (only for filter classes H13, H14)

Construction

- PLA: Frame made of plastic (depth 48, 96 and 150 mm)
- MDFF: Frame made of MDF, with header frame (depth 60 mm)
- MDF: Frame made of MDF (depth 60, 78, 150 and 292 mm)
- GAL: Frame made of galvanised steel (depth 60, 150 and 292 mm)
- STA: Frame made of stainless steel (depth 60, 150 and 292 mm)
- ALN: Frame made of extruded aluminium sections (depth 30 mm)
- ALZ: Frame made of extruded aluminium sections (depth 78 mm)
- ALY: Frame made of extruded aluminium sections (depth 150 mm)
- ALU: Frame made of extruded aluminium sections (depth 91 mm)
- ALV: Frame made of extruded aluminium sections (depth 85 mm)

Useful additions

- Filter wall (SIF)
- Universal casing (UCA)
- Ducted particulate filter, available as one unit (KSF, KSFS) or as a filter unit system (KSFSSP)
- Duct casing for particulate filters (DCA)
- Ceiling mounted particulate filter (TFC)
- Wall mounted particulate filter (TFW)
- Particulate filter module (TFM)
- Pharmaceutical clean room terminal filter (TFP)

Construction features

- Perimeter flat seal on the upstream side for constructions MDF, GAL, STA, ALN, ALZ and ALY
- Some constructions with optional foamed continuous seal or with a test groove seal (filter classes H13, H14) on the upstream side; the flat section or continuous seal can also be fitted on the downstream side or on both sides
- As standard, constructions ALU/ALV are fitted with a fluid seal
- Protection grid made of expanded metal, can be fitted on the downstream or upstream side or both sides as required

Materials and surfaces

- Filter media made of high-quality, wet-strength glass fibre papers, pleated
- Spacers provide a uniform spacing of the pleats
- Sealing compound made of permanently elastic two-component polyurethane adhesive
- Frame made of either plastic, MDF, galvanised sheet steel, stainless steel, or extruded aluminium sections

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)
- 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
- Testing of particulate filters according to EN 1822-1 and ISO 29463-2 to ISO 29463-5 (EPA, HEPA and ULPA particulate filters): Standards for testing the filtration performance in the factory, based on particle counting methods using a liquid test aerosol.
- Uniform classification of particulate filters according to separation efficiency, using a test aerosol with an average particle size within the minimum separation efficiency (MPPS)
- Particulate filters are classified into the filter groups EPA (filter classes E10, E11, E12), HEPA (filter classes H13, H14) and ULPA (filter classes U15, U16, U17), according to the values determined for local separation efficiency and integral separation efficiency.
- Hygienic conformity for versions ALN, ALZ, ALY, ALU, ALV: VDI 6022, VDI 3803, DIN 1946 Part 4, ÖNORM H 6020, SWKI VA 104-01 and SWKI 99-3 as well as EN 16798

TEKNISK INFORMATION

Technical data, Specification text, Order code

Fractional efficiency ePM10 [%] to ISO 16890	55	–	–
Fractional efficiency ePM1 [%] to ISO 16890	–	65	90
Initial differential pressure [Pa] at nominal volume flow rate	90	110	150
Final differential pressure [Pa]	450	450	450
Maximum operating temperature [°C]	80	80	80
Maximum relative humidity [%]	100	100	100

Filter class according to EN 1822	E11	H13	H14
Efficiency [%] according to EN 1822	> 95	> 99.95	> 99.995
Initial differential pressure [Pa] at nominal volume flow rate	125	250	120/140
Final differential pressure [Pa]	300	600	300
Maximum operating temperature [°C]	80	80	80
Maximum relative humidity [%]	100	100	100

Specification text

Mini pleat filter panels MFP for the separation of fine dust and suspended particles such as aerosols, toxic dusts, viruses and bacteria from the supply and extract air in ventilation systems. Used as fine dust filters, prefilters or final filters in AHU units; or as particulate filters, main or final filters for highest requirements of air purity and sterility, in areas such as industry, research, medicine, pharmaceuticals, and nuclear technology. Low installation depth due to compact V-design, for systems with high volume flow rates and long filter service lives. Filter media made of high-quality, wet-strength glass fibre papers, with spacers made of thermoplastic hot-melt adhesive. Ideal pleat position and largest possible filter surface allow low initial differential pressure. Mini-Pleat filter panels available in standard and special sizes, in variable pleat depths, filter groups ISO ePM10, ISO ePM2.5, ISO ePM1 (fine dust filters) and EPA, HEPA, ULPA (particulate filters). Depending on the frame design, Mini Pleat filter panels are fitted as standard without seal, with a flat seal on the upstream side, or with a fluid seal. Versions optionally available with foamed continuous seal on one or both sides, with a test groove seal on the upstream side, or with a protection grid, positioned as required. Mini Pleat filter panels used as fine dust filters are certified by Eurovent. Constructions with a frame made of extruded aluminium sections meet the hygiene requirements of VDI 6022.

Special features

- Leakage test is standard for all particulate filters of classes H13, H14

Materials and surfaces

- Filter media made of high-quality, wet-strength glass fibre papers, pleated
- Spacers provide a uniform spacing of the pleats
- Sealing compound made of permanently elastic two-component polyurethane adhesive
- Frame made of either plastic, MDF, galvanised sheet steel, stainless steel, or extruded aluminium sections

Construction

- PLA: Frame made of plastic (depth 48, 96 and 150 mm)
- MDFF: Frame made of MDF, with header frame (depth 60 mm)
- MDF: Frame made of MDF (depth 60, 78, 150 and 292 mm)
- GAL: Frame made of galvanised steel (depth 60, 150 and 292 mm)
- STA: Frame made of stainless steel (depth 60, 150 and 292 mm)
- ALN: Frame made of extruded aluminium sections (depth 30 mm)
- ALZ: Frame made of extruded aluminium sections (depth 78 mm)
- ALY: Frame made of extruded aluminium sections (depth 150 mm)
- ALU: Frame made of extruded aluminium sections (depth 91 mm)
- ALV: Frame made of extruded aluminium sections (depth 85 mm)

Sizing data

- Filter group [ISO 16890]
- Efficiency [%]
- Filter class [EN 1822]
- Volume flow rate [m³/h]
- Initial differential pressure [Pa]
- Nominal size [mm]

MFP	–	H13	–		–	MDF	/	610 × 610 × 78	×	50	/	PD	/	FNU	/	ST
1		2		3		4		5		6		7		8		9

1 Type
MFP Mini Pleat filter panel

2 Filter class
ePM1 Fractional efficiency ePM1 acc. to ISO 16890
ePM10 Fractional efficiency ePM10 acc. to ISO 16890
E11 Filter class E11 according to EN 1822
H13 Filter class H13 according to EN 1822
H14 Filter class H14 according to EN 1822

3 Separation efficiency
Specify separation efficiency [%] according to ISO 16890 (not for E11, H13, H14)

4 Construction
PLA Plastic frame
MDF Frame made of MDF
MDFF Frame made of MDF, with top frame
GAL Frame made of galvanised sheet steel
STA Frame made of stainless steel
ALN Frame made of extruded aluminium sections (depth 30 mm)
ALZ Frame made of extruded aluminium sections (depth 78 mm)
ALV Frame made of extruded aluminium sections (depth 85 mm)
ALU Frame made of extruded aluminium sections (depth 91 mm)
ALY Frame made of extruded aluminium sections (depth 150 mm)

5 Nominal size [mm]
Specify width × height × depth

6 Pleat depth [mm]
Specify pleat depth

7 Protection grid
No entry: without protection grid
PU Protection grid on the upstream side
PD Protection grid on the downstream side (with construction ALN as standard)
PB Protection grid on both sides

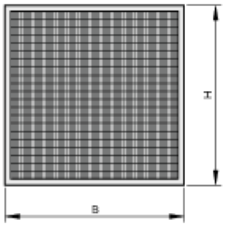
8 Seal
WS without seal
FNU Flat seal on the upstream side
FND Flat seal on the downstream side
FNB Flat seal on both sides
TGU Test groove seal on the upstream side
CSU Continuous seal on the upstream side
CSD Continuous seal on the downstream side
CSB Continuous seal on both sides
GPU Fluid seal (constructions ALU and ALV only)

9 Testing
No entry: no leakage test
OT Oil mist test (filter classes H13 and H14 only)
OTC Oil mist test with certificate (filter classes H13 and H14 only)
ST Scan test (filter classes H13 and H14 only)Order example: MFP-H13-MDF/610×610×78×50/PD/FNU/ST

Type	MFP
Filter class	Filter class H13 according to EN 1822
Separation efficiency	-
Construction	Frame made of MDF
Nominal size ´[mm]	Width 610, height 610, depth 78
Pleat depth [mm]	50
Protection grid	Protection grid on the downstream side
Seal	Flat seal on the upstream side
Testing	scan test

Dimensions

MFP-...-PLA



Seal option