Tested according to VDI 6022

ATEX construction optional

Mini Pleat filters

MFC

For large volume flow rates and long filter life

Prefilters or final filters for the separation of fine dust and particulate filters for the most critical requirements in ventilation systems

- Filter groups ISO ePM10, ISO ePM1 (fine dust filter) and EPA, HEPA (particulate filter)
- Performance data tested in accordance with ISO 16890 or with EN 1822-1 and ISO 29463-2 to ISO 29463-5
- Eurovent certification for fine dust filters
- 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
- Compact V-design with low installation depths
- Fitting into ducted particulate filters (types KSF, KSFS) and duct casings for particulate filters (type DCA)
- Meets the hygiene requirements of VDI 6022

General information

Application
- Mini Pleat filter cell type MFC 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 with large volume flow rates and the requirement for long filter life
- Fine dust filter: Prefilter or final filter for the separation of fine dust in ventilation systems.
- Particulate filter: Main or final filter used for the most critical requirements of air cleanliness and sterility in areas such as industry, research, medicine, pharmaceuticals, and nuclear engineering

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

Classification
- Eurovent certification for fine dust filters

Nominal sizes
- B × H × D [mm]

Filter classes
Filter groups
- ISO ePM10 to ISO 16890
- ISO ePM1 to ISO 16890
- EPA according to EN 1822
- HEPA according to EN 1822

Filter classes
- ePM10 70%
- ePM1 60%
- ePM1 90%
- E11
- H13
- H14

Options
- Number of filter packs: 3, 5, 6, 10, 12
- HMS: Increased filter area
- 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
- 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)

Construction
- MDF: Frame made of MDF
- GAL: Frame made of galvanised steel
- STA: Frame made of stainless steel

Useful additions
- Ducted particulate filter, available as one unit (KSF, KSFS) or as a filter unit system (KSFSSP)
- Duct casing for particulate filters (DCA)

Construction features
- Compact V-design
- Perimeter flat seal on the upstream side
- 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

Materials and surfaces
- Filter media made of high-quality, moisture-resistant glass fibre papers, pleated
- Spacers provide a uniform spacing of the pleats
- Joint sealing compound made of permanently elastic two-component polyurethane adhesive
- Frame made of either MDF, galvanised sheet steel, or stainless 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
- Testing of particulate filters to EN 1822-1 and ISO 29463-2 to ISO 29463-5 (EPA, HEPA and ULPA filters): standards for the testing of filtration performance in the factory, particle counting method using a liquid test aerosol
- Uniform classification of particulate filters according to efficiency, using a test aerosol whose average particle size lies within the minimum efficiency (MPPS)
- Particulate filters are classified according to the values determined for the local filtration efficiency and the overall filtration efficiency as EPA (filter classes E10, E11, E12), HEPA (filter classes H13, H14) or ULPA (filter classes U15, U16, U17)
- Hygiene conformity in accordance with VDI 6022, VDI 3803, DIN 1946 Part 4, ÖNORM H 6020, SWKI VA 104-01 and SWKI 99-3 as well as EN 16798

Technical data

Fractional efficiency ePM10 [%] to ISO 16890	55	–	–
Fractional efficiency ePM1 [%] to ISO 16890	–	60	90
Initial differential pressure [Pa] at nominal volume flow rate	90	110	140
Final differential pressure [Pa]	300	300	300
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	250
Final differential pressure [Pa]	300	600	600
Maximum operating temperature [°C]	80	80	80
Maximum relative humidity [%]	100	100	100

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

Mini Pleat filter cells MFC 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. . Use as fine dust filters, i.e. as prefilters or final filters in ventilation systems; or as particulate filters, i.e. main or final filters for the most critical requirements of air cleanliness and sterility in areas such as industry, research, medicine, pharmaceuticals, and nuclear engineering. Compact depth V-design, suitable for systems with high volume flow rates and a requirement for long filter life. The filter medium is made of high-quality, moisture-resistant glass fibre papers, with spacers. Low initial differential pressure due to ideal pleat position and largest possible filter area. Mini Pleat filter cells available in market sizes, filter groups ISO ePM10, ISO ePM1 (fine dust filters) and EPA, HEPA (particulate filters). As standard, Mini Pleat filter cells are fitted with a perimeter flat seal on the upstream side. Some constructions are available with an optional foamed continuous seal on one or both sides, with a test groove seal on the upstream side. Mini Pleat filter cells used as fine dust filters are certified by Eurovent.

Special features

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

Materials and surfaces

- Filter media made of high-quality, moisture-resistant glass fibre papers, pleated
- Spacers provide a uniform spacing of the pleats
- Joint sealing compound made of permanently elastic two-component polyurethane adhesive
- Frame made of either MDF, galvanised sheet steel, or stainless steel

Construction

- MDF: Frame made of MDF
- GAL: Frame made of galvanised steel
- STA: Frame made of stainless steel

Sizing data

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

Order code

MFC – H13 – – GAL / 610 × 610 × 292 – 10 / HMS / FNU / OT
1 2 3 4 5 6 7 8 9

1 Type
MFC Mini Pleat filter cell

2 Classification
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
MDF Frame made of MDF
GAL Frame made of galvanised sheet steel
STA Frame made of stainless steel

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

6 Number of filter packs
3, 5, 6, 10, 12

7 Filter pack
No entry: standard
HMS increased filter area

8 Seal
WS without seal
FNU Flat seal on the upstream side
FND Flat seal on the downstream side, airflow from the rear
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, airflow from the rear
CSB Continuous seal on both sides

9 Testing
No entry: no leakage test
OT Oil mist test (only H13, H14)
OTC Oil mist test with certificate (only H13, H14)

Order example: MFC-ePM1-90%-GAL/610×610×292/FNU/4250

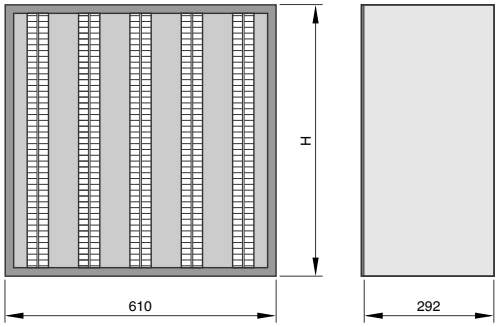
Type	MFC
Classification	Fractional efficiency ePM1 to ISO 16890
Efficiency	90%
Construction	Frame made of galvanised steel
Nominal size [mm]	Width 610, height 610, depth 292
Seal	Flat seal on the upstream side
Test	No leakage test
Volume flow rate [m³/h]	4250

Order example: MFC-H13-GAL/610×610×292/FNU/OT/4000

Type	MFC
Classification	Filter class H13 according to EN 1822
Efficiency	-
Construction	Frame made of galvanised steel
Nominal size [mm]	Width 610, height 610, depth 292
Seal	Flat seal on the upstream side
Test	Oil mist test
Volume flow rate [m³/h]	4000

Dimensions

Dimensional drawing of MFC-…



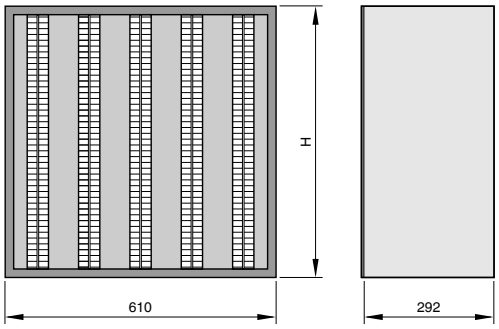
Number of filter packs: B = 203 mm : 3; B = 305 mm : 5; B = 610 mm : 10; B = 762 mm : 12

Product-specific data MFC-...-MDF-...

1					2		3	4	5
W	H	D	Number of filter packs	Filter class	qv [l/s]	qv [m³/h]	ΔpA [Pa]	m²	kg
305	610	292	3	ePM10 55 %	590	2125	90	9.2	7.5
610	610	292	6	ePM10 55 %	1181	4250	90	18.4	15
305	610	292	3	ePM1 60 %	590	2125	110	9.2	7.5
610	610	292	6	ePM1 60 %	1181	4250	110	18.4	15
305	610	292	3	ePM1 90 %	590	2125	140	9.2	7.5
610	610	292	6	ePM1 90 %	1181	4250	140	18.4	15
305	610	292	3	E11	306	1100	125	10.1	7.5
305	610	292	5	E11	417	1500	125	16.1	9
610	610	292	6	E11	611	2200	125	20.2	15
610	610	292	10	E11	833	3000	125	32.2	18
762	610	292	12	E11	1042	3750	125	38.6	21.6
203	610	292	3	H13	242	870	250	9.7	7.2
305	610	292	3	H13	306	1100	250	10.1	7.5
305	610	292	5	H13	417	1500	250	16.1	9
610	610	292	6	H13	611	2200	250	20.2	15
610	610	292	10	H13	833	3000	250	32.2	18
762	610	292	12	H13	1042	3750	250	38.6	21.6
305	610	292	5	H14	367	1320	250	16.1	9
610	610	292	10	H14	733	2640	250	32.2	18
762	610	292	12	H14	881	3170	250	38.6	21.6

1 Nominal size, 2 Nominal volume flow, 3 Initial pressure difference, 4 Filter area, 5 Weight

Dimensional drawing of MFC-…



Number of filter packs: B = 203 mm : 3; B = 305 mm : 5; B = 610 mm : 10; B = 762 mm : 12

Product-specific data MFC-...-GAL/STA-...

1						2		3	4	5
W	H	D	Number of filter packs	Filter class	Filter pack	qv [l/s]	qv [m³/h]	ΔpA [Pa]	m²	kg
305	610	292	3	ePM10 55 %		590	2125	90	9.8	9
610	610	292	6	ePM10 55 %		1181	4250	90	19.5	15
305	610	292	3	ePM1 60 %		590	2125	110	9.8	9
610	610	292	6	ePM1 60 %		1181	4250	110	19.5	15
305	610	292	3	ePM1 90 %		590	2125	140	9.8	9
610	610	292	6	ePM1 90 %		1181	4250	140	19.5	15
305	610	292	3	E11		347	1250	125	10.7	7.7
305	610	292	5	E11		472	1700	125	17.6	9.2
610	610	292	6	E11		694	2500	125	21.5	15.3
610	610	292	10	E11		944	3400	125	35.1	18.4
762	610	292	12	E11		1181	4250	125	42.1	22.1
305	610	292	3	H13		347	1250	250	9.8	7.4
305	610	292	5	H13		472	1700	250	17.6	9.2
610	610	292	6	H13		694	2500	250	21.5	15.3
610	610	292	10	H13		944	3400	250	35.1	18.4
762	610	292	12	H13		1181	4250	250	42.1	22.1
203	610	292	3	H13	HMS	320	1150	250	11	7.5
305	610	292	5	H13	HMS	556	2000	250	18.1	9.5
610	610	292	10	H13	HMS	1111	4000	250	36.2	19
762	610	292	12	H13	HMS	1389	5000	250	43.4	22.8
305	610	292	5	H14		417	1500	250	17.6	9.2
610	610	292	10	H14		833	3000	250	35.1	15.3
762	610	292	12	H14		1000	3600	250	42.1	22.1

1 Nominal size, 2 Nominal volume flow, 3 Initial pressure difference, 4 Filter area, 5 Weight