



Conforms to VDI 6022

Pocket Filter

Type MFC



TROX

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TROX Social:



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General information

Application

Mini Pleat filter cell type 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 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

GAL: Frame made of galvanised steel

STA: Frame made of stainless steel

Useful additions

HEPA filter housing for duct installation available as a single unit (KSF, KSFS, DCA) or as a system combination (KSFSSP)

Construction features

- Compact V-design
- Circumferential flat profile seal on the upstream side
- Versions optionally with a test groove seal (filter classes H13, H14) on the upstream side. The flat profile seal can also be arranged on the downstream side

Material 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 optionally made of stainless steel

Special characteristics

Leak test as standard for all HEPA filters of filter classes H13, H14

Construction

Classification

Eurovent Certification for fine dust filters

Hygiene Conformity

Nominal sizes

B × H × D [mm (in.)]

Filter classes

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).

EPA and HEPA according to EN 1822

ePM10 55% [MERV 8]

ePM1 60 % [MERV 12]

ePM1 90 % [MERV 15]

E11

H13

H14

Options

V: Increased volume flow rate

FNU: Flat profile seal on the upstream side

FND: Flat profile seal on the downstream side

TGU: Test groove seal on the upstream side (only for filter classes H13, H14)

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)

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 (**comparable to ASHRAE 52.2 MERV ratings**).
- Testing of particulate filters to EN 1822-1 and ISO 29463-2 up to ISO 29463-5 (EPA, HEPA and ULPA filters): Standards for testing of filtration performance in the factory, based on particle counting method 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 (HEPA)) and ULPA (filter classes U15, U16, U17), according to the values determined for local separation efficiency and integral separation efficiency.
- Hygiene conformity in accordance with VDI 6022, VDI 3803, DIN 1946 Part 4, ÖNORM H 6020, SWKI VA 104-01 and WKI 99-3 as well as EN 16798

Technical data

Fractional efficiency ePM10 [%] to ISO 16890	55	–	–
Fractional efficiency ePM1 [%] to ISO 16890	–	60	90
Estimated ASHRAE 52.2 Rating	MERV 8	MERV 12	MERV 15
Maximum operating temperature [°C (°F)]	80 (176)	80 (176)	80 (176)
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
Maximum operating temperature [°C (°F)]	80 (176)	80 (176)	80 (176)
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. 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.

Optimum pleat position and largest possible filter area allow low initial differential pressures. Mini Pleat filter cells available in usual market sizes, filter groups ISO ePM10, ISO ePM1 (fine dust filters) and EPA, HEPA (particulate filters) (comparable to ASHRAE 52.2 MERV ratings). Mini pleat filter cells are equipped with a circumferential flat profile seal on the upstream side as standard. Optionally available with test groove seal on the upstream side.

Mini Pleat filter cells used as fine dust filters are certified by Eurovent.

Special features

- Leak test as standard for all HEPA filters of filter 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 optionally made of stainless steel

Construction

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

Sizing data

- Filter group [ISO 16890 (MERV)]
- Separation efficiency [%]
- Filter class [EN 1822]
- Volume flow rate [m³/h (cfm)]
- Initial differential pressure [Pa (in. w.g.)]
- Nominal size [mm (in)]

Order code

MFC – H13 – – GAL / 610 × 610 × 292 / S / FNU / OT

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1 Type

MFC Mini Pleat filter cell

2 Classification

ePM1 Fractional efficiency ePM1 according to ISO 16890 (acc. to ASHRAE 52.2)

ePM10 Fractional efficiency ePM10 according to ISO 16890 (acc. to ASHRAE 52.2)

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 MERV, E11, H13, H14)

55% [MERV 8]

60% [MERV 12]

90% [MERV 15]

4 Construction

GAL Frame made of galvanised sheet steel

STA Frame made of stainless steel

5 Nominal size [mm (in.)]

Width × height × depth

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

Type

Classification

Construction variant

Nominal size [mm (in.)]

Seal

Testing

Category Volume flow rate

Width and depth cannot be changed

Height

287 (11 5/16), 490 (19 5/16), 592 (23 5/16) or 305 (12), 610 (24), 762 (30)

6 Category Volume flow rate

S Standard

M medium

X high

7 Seal

WS without seal

FNU Flat seal on the upstream side

TGU Test groove seal on the upstream side

FND Flat seal on the downstream side

8 Testing

No registration: without leakage test

OT Oil mist test (only H13, H14)

OTC Oil mist test with certificate (only H13, H14)

MFC – Mini Pleat filter cell

Filter class H13 according to EN 1822 [HEPA]

Frame made of galvanised sheet steel

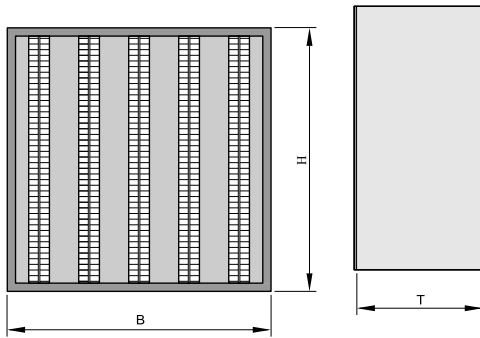
Width 610, height 610, depth 292

Flat seal on the upstream side

Oil mist test

Standard

Dimensions



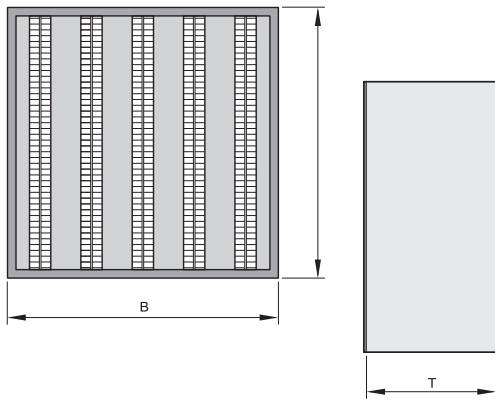
Product-specific data MFC-...-GAL/STA-...

1						Filter class		Category Volume flow rate	2			3		4		5	
B		H		T					qv			ΔpA		Area		Mass	
[mm]	[in]	[mm]	[in]	[mm]	[in]				[l/s]	[m³/h]	[cfm]	[Pa]	[in. w.g.]	[m²]	[sqft]	[kg]	[lb]
592	23	287	11	292	11	ePM10 55	MERV 8	S	556	2000	1177	90	0.36	7,2	77.5	6,1	13.4
	5/16		5/16		1/2	%											
592	23	490	19	292	11	ePM10 55	MERV 8	S	944	3400	2001	90	0.36	12,4	133.5	10,1	22.3
	5/16		5/16		1/2	%											
592	23	592	23	292	11	ePM10 55	MERV 8	S	1146	4125	2428	90	0.36	15	161.5	12,2	26.9
	5/16		5/16		1/2	%											
592	23	287	11	292	11	ePM1 60	MERV 12	S	556	2000	1177	110	0.44	7,2	77.5	6,2	13.7
	5/16		5/16		1/2	%											
592	23	490	19	292	11	ePM1 60	MERV 12	S	944	3400	2001	110	0.44	12,4	133.5	10,3	22.7
	5/16		5/16		1/2	%											
592	23	592	23	292	11	ePM1 60	MERV 12	S	1146	4125	2428	110	0.44	15	161.5	12,5	27.6
	5/16		5/16		1/2	%											
592	23	287	11	292	11	ePM1 90	MERV 15	S	556	2000	1177	140	0.56	7,2	77.5	6,2	13.7
	5/16		5/16		1/2	%											
592	23	490	19	292	11	ePM1 90	MERV 15	S	944	3400	2001	140	0.56	12,4	133.5	10,3	22.7
	5/16		5/16		1/2	%											
592	23	592	23	292	11	ePM1 90	MERV 15	S	1146	4125	2428	140	0.56	15	161.5	12,5	27.6
	5/16		5/16		1/2	%											
592	23	287	11	292	11	E11	EPA	S	278	1000	589	125	0.50	8,6	92.6	6,6	14.6
	5/16		5/16		1/2												
592	23	287	11	292	11	E11	EPA	X	444	1600	942	125	0.50	13,7	147.5	6,9	15.2
	5/16		5/16		1/2												
592	23	490	19	292	11	E11	EPA	S	464	1670	983	125	0.50	14,7	158.2	11	24.3
	5/16		5/16		1/2												
592	23	490	19	292	11	E11	EPA	X	757	2725	1604	125	0.50	23,5	253.0	11,5	25.4
	5/16		5/16		1/2												
592	23	592	23	292	11	E11	EPA	S	563	2025	1192	125	0.50	17,8	191.6	13,2	29.1
	5/16		5/16		1/2												
592	23	592	23	292	11	E11	EPA	X	917	3300	1942	125	0.50	28,4	305.7	13,9	30.6
	5/16		5/16		1/2												
592	23	287	11	292	11	H13	HEPA	S	444	1600	942	250	1.00	14,4	155.0	6,9	15.2
	5/16		5/16		1/2												
592	23	287	11	292	11	H13	HEPA	M	514	1850	1089	250	1.00	17,1	184.1	7,1	15.7
	5/16		5/16		1/2												
592	23	287	11	292	11	H13	HEPA	X	647	2330	1371	400	1.60	13,7	147.5	6,8	15.0
	5/16		5/16		1/2												
592	23	490	19	292	11	H13	HEPA	S	757	2725	1604	250	1.00	24,7	265.9	11,4	25.1
	5/16		5/16		1/2												
592	23	490	19	292	11	H13	HEPA	M	889	3200	1883	250	1.00	29,4	316.5	11,7	25.8
	5/16		5/16		1/2												
592	23	490	19	292	11	H13	HEPA	X	1111	4000	2354	400	1.60	23,5	253.0	11,3	24.9
	5/16		5/16		1/2												
592	23	592	23	292	11	H13	HEPA	S	917	3300	1942	250	1.00	29,9	321.8	13,7	30.2
	5/16		5/16		1/2												
592	23	592	23	292	11	H13	HEPA	M	1078	3880	2284	250	1.00	35,5	382.1	14,2	31.3
	5/16		5/16		1/2												

MFC Dimensions

1						Filter class		Category Volume flow rate	2			3		4		5	
B		H		T					qv			ΔpA		Area		Mass	
[mm]	[in]	[mm]	[in]	[mm]	[in]				[l/s]	[m³/h]	[cfm]	[Pa]	[in. w.g.]	[m²]	[sqft]	[kg]	[lb]
592	23	592	23	292	11	H13	HEPA	X	1347	4850	2855	400	1.60	28,4	305.7	13,6	30.0
	5/16		5/16		1/2												
592	23	287	11	292	11	H14	HEPA	S	389	1400	824	250	1.00	15,4	165.8	7	15.4
	5/16		5/16		1/2												
592	23	287	11	292	11	H14	HEPA	X	514	1850	1089	320	1.28	17,1	184.1	7,1	15.7
	5/16		5/16		1/2												
592	23	490	19	292	11	H14	HEPA	S	667	2400	1413	250	1.00	26,4	284.2	11,5	25.4
	5/16		5/16		1/2												
592	23	490	19	292	11	H14	HEPA	X	889	3200	1883	320	1.28	29,4	316.5	11,7	25.8
	5/16		5/16		1/2												
592	23	592	23	292	11	H14	HEPA	S	808	2910	1713	250	1.00	32	344.4	13,9	30.6
	5/16		5/16		1/2												
592	23	592	23	292	11	H14	HEPA	X	1078	3880	2284	320	1.28	35,5	382.1	14,2	31.3
	5/16		5/16		1/2												

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



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

1						Filter class		Volume flow rate	2			3		4		5	
B		H		T					qv			ΔpA		Area		Mass	
[mm]	[in]	[mm]	[in]	[mm]	[in]				[l/s]	[m³/h]	[cfm]	[Pa]	[in. w.g.]	[m²]	[sqft]	[Kg]	[lb]
610	24	305	12	292	11	ePM10 55 %	MERV 10	S	590	2125	1251	90	0.36	7.7	82.9	6.5	14.3
					1/2												
610	24	610	24	292	11	ePM10 55 %	MERV 10	S	1181	4250	2501	90	0.36	15.4	165.8	12.9	28.4
					1/2												
610	24	762	30	292	11	ePM10 55 %	MERV 10	S	1472	5300	3119	90	0.36	19.3	207.7	16.1	35.5
					1/2												
610	24	305	12	292	11	ePM1 60 %	MERV 13	S	590	2125	1251	110	0.44	7.7	82.9	6.6	14.6
					1/2												
610	24	610	24	292	11	ePM1 60 %	MERV 13	S	1181	4250	2501	110	0.44	15.4	165.8	13.3	29.3
					1/2												
610	24	762	30	292	11	ePM1 60 %	MERV 13	S	1472	5300	3119	110	0.44	19.3	207.7	16.6	36.6
					1/2												
610	24	305	12	292	11	ePM1 90 %	MERV 15	S	590	2125	1251	140	0.56	7.7	82.9	6.6	14.6
					1/2												
610	24	610	24	292	11	ePM1 90 %	MERV 15	S	1181	4250	2501	140	0.56	15.4	165.8	13.3	29.3
					1/2												
610	24	762	30	292	11	ePM1 90 %	MERV 15	S	1472	5300	3119	140	0.56	19.3	207.7	16.6	36.6
					1/2												
610	24	305	12	292	11	E11	EPA	S	347	1250	736	125	0.50	10.9	117.3	7	15.4
					1/2												
610	24	305	12	292	11	E11	EPA	X	472	1700	1000	125	0.50	14.6	157.1	7.4	16.3
					1/2												
610	24	610	24	292	11	E11	EPA	S	694	2500	1471	125	0.50	22	236.8	14.1	31.1
					1/2												
610	24	610	24	292	11	E11	EPA	X	944	3400	2001	125	0.50	29.3	315.4	14.7	32.4
					1/2												
610	24	762	30	292	11	E11	EPA	S	875	3150	1854	125	0.50	27.5	296.0	17.6	38.8
					1/2												
610	24	762	30	292	11	E11	EPA	X	1181	4250	2501	125	0.50	36.7	395.0	18.4	40.6
					1/2												

MFC Dimensions

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

1						Filter class	Volume flow rate	2			3		4		5		
B		H		T				qv			ΔpA		Area		Mass		
[mm]	[in]	[mm]	[in]	[mm]	[in]			[l/s]	[m³/h]	[cfm]	[Pa]	[in. w.g.]	[m²]	[sqft]	[Kg]	[lb]	
610	24	305	12	292	1/2	H13	HEPA	S	472	1700	1000	250	1.00	15.3	164.7	7.3	16.1
610	24	305	12	292	1/2	H13	HEPA	M	556	2000	1177	250	1.00	18.2	195.9	7.5	16.5
610	24	305	12	292	1/2	H13	HEPA	X	694	2500	1471	400	1.60	14.6	157.1	7.2	15.9
610	24	610	24	292	1/2	H13	HEPA	S	944	3400	2001	250	1.00	30.8	331.5	14.6	32.2
610	24	610	24	292	1/2	H13	HEPA	M	1111	4000	2354	250	1.00	36.6	394.0	15.1	33.3
610	24	610	24	292	1/2	H13	HEPA	X	1389	5000	2943	400	1.60	29.3	315.4	14.5	32.0
610	24	762	30	292	1/2	H13	HEPA	S	1181	4250	2501	250	1.00	38.5	414.4	18.2	40.1
610	24	762	30	292	1/2	H13	HEPA	M	1389	5000	2943	250	1.00	45.8	493.0	18.8	41.4
610	24	762	30	292	1/2	H13	HEPA	X	1736	6250	3679	400	1.60	36.7	395.0	18.1	39.9
610	24	305	12	292	1/2	H14	HEPA	S	417	1500	883	250	1.00	16.4	176.5	7.4	16.3
610	24	305	12	292	1/2	H14	HEPA	X	556	2000	1177	320	1.28	18.2	195.9	7.5	16.5
610	24	610	24	292	1/2	H14	HEPA	S	833	3000	1766	250	1.00	33	355.2	14.8	32.6
610	24	610	24	292	1/2	H14	HEPA	X	1111	4000	2354	320	1.28	36.6	394.0	15.1	33.3
610	24	762	30	292	1/2	H14	HEPA	S	1000	3600	2119	250	1.00	41.2	443.5	18.4	40.6
610	24	762	30	292	1/2	H14	HEPA	X	1389	5000	2943	320	1.28	45.8	493.0	18.8	41.4

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